



OFFICE OF THE MAYOR
MAYOR'S OFFICE FOR INTERNATIONAL AFFAIRS

New York City Council Committees on Governmental Operations and Civil Service & Labor

Proposed Legislation – Creating a nuclear disarmament and nuclear weapons-free zone advisory committee (Intro 1621-2019)

Tuesday, January 28, 2020, 1:00PM

Testimony Presented by Mayor's Office for International Affairs Commissioner Penny Abeywardena

Good morning, Chair Cabrera, Chair Miller, and members of the committees. I am Penny Abeywardena, Commissioner of the Mayor's Office for International Affairs. I would like to thank the Council for the opportunity to testify regarding Intro 1621, which would create a nuclear disarmament and nuclear weapons-free zone advisory committee.

The New York City Mayor's Office for International Affairs is responsible for fostering positive relations and encouraging collaborations between the international community and New York City's agencies and local neighborhoods. Our work involves sharing New York City's policies and best practices globally and maximizing the benefits that New Yorkers get from having the United Nations and largest diplomatic corps in the world present within our city boundaries. We created and continue to run the NYC Junior Ambassadors program, bringing youth across the five boroughs into the UN and the UN to their neighborhoods. In 2018, we also led the effort to make New York City the first City in the world to report directly to the United Nations on the Sustainable Development Goals (SDGs.) In addition, my office works diligently to ensure that our City remains a strong voice around the world, showcasing the importance of subnational leadership on issues that matter to the City of New York and to New Yorkers.

Locally, we respond to requests from foreign governments, the United Nations, and the United States Department of State. International Affairs also advises City agencies on diplomatic and consular matters, and provides guidance to the diplomatic and consular community on City-related issues. With the Department of Finance, International Affairs administers the City of New York / United States' Department of State Diplomatic and Consular Parking Program.

I would now like to acknowledge our strong support for nuclear disarmament and nuclear nonproliferation. As I am sure you are aware, in July of 2017 the United Nations General Assembly passed the Treaty on the Prohibition of Nuclear Weapons and in that same year, the Norwegian Nobel Committee awarded the Nobel Peace Prize to the



OFFICE OF THE MAYOR
MAYOR'S OFFICE FOR INTERNATIONAL AFFAIRS

International Campaign to Abolish Nuclear Weapons. My office has not been involved with this work, but they are certainly both important advancements that we applaud.

While we are supportive of the goal of a nuclear-weapons-free New York City, we have strong concerns about the proposed bill as currently constituted and our ability to meet the requirements. As we understand it, the legislation proposes that I Chair an Advisory Committee whose function would be to "examine nuclear disarmament and issues related to recognizing and reaffirming New York City as a nuclear weapons-free zone."

This bill would also require the Advisory Committee to 1.) Conduct a comprehensive review of New York City's current stance on nuclear weapons and the process for recognizing and reaffirming the city as a nuclear weapons free zone, 2.) Establish a working definition for how a nuclear weapons-free zone might be defined in New York City; 3.) Recommend mechanisms for encouraging and increasing community input with regard to education related to the nuclear-weapons-free zone; and 4.) Recommend or host discussions, public programs and other educational initiatives.

These activities are primarily focused on the specific context of New York City and its stance on, need for, and current status vis-à-vis nuclear weapons. The presence of nuclear weapons in New York City is not an international issue. The *use* of nuclear weapons is generally thought of as a matter of foreign policy and national security considered by the federal government and foreign countries. Cities where weapons might be located would not have jurisdiction or involvement in this decision-making process.

The *presence* of nuclear weapons in New York City, is also not a matter of cooperation between New York City and foreign governments. Where and how such weapons are stored is instead an intergovernmental question between local, state and federal officials. International Affairs would not expect to be involved in any decision as to whether nuclear weapons are purchased or stored in New York City. Further, we don't have staff members with nuclear expertise or experience in the topic area. As such International Affairs is not best positioned to take stock of New York City's nuclear status as it currently exists, nor to make suggestions regarding how best to interface with stakeholders to negotiate a nuclear-weapons-free zone moving forward. The mandate of this bill as currently stated, would require strong interagency and public coordination capacities that International Affairs does not possess due to the scope of our office's remit.

While International Affairs is not best suited to effectuate the requirements of this bill, we continue to share the Council's commitment to ensuring that New York City is a nuclear weapons free zone.



OFFICE OF THE MAYOR
MAYOR'S OFFICE FOR INTERNATIONAL AFFAIRS

Thank you for the opportunity to testify on today's topic. I'm happy to answer any questions you may have.



funnels this money into channels that both destabilize the planet, and further embed the economic foundations of the United States in arms production and military imperialism.

A key reason that divestment in nuclear weapons production is essential is that damage is done to human beings, to communities and to ecosystems simply through the production, testing, and deployment of these weapons, even if they are never used in warfare. During the Cold War, the United States tested over 1,000 nuclear weapons and spread radiation across the Pacific Ocean and the continental United States. Whole atolls of the Republic of the Marshall Islands are no longer habitable because of the residual radiation that still contaminates those atolls today. Whole communities were forcibly removed from their homes and suffered radiation sickness from US testing. Countless American service personnel and downwinders have suffered radiation exposures because of testing in Nevada, the site that has seen the most nuclear weapon detonations of any location on Earth. The thousands of tons of spent nuclear fuel generated from the manufacture of plutonium for US weapons have sat for up to 75 years at Hanford, Washington and at the Savannah River Site in South Carolina, contaminating the ecosystems of those communities. Nuclear weapons take a terrible toll on human beings and on the ecosystem merely through their production, and long before their actual use in warfare. This happens even if deterrence is "successful."

In this age of growing awareness of the tragic consequences of treating the environment as if it is a dumping ground for our emissions, and the radionuclides of our nuclear weapons, the only moral stance to take is one of opposition to these weapons as a part of the larger movement to reduce our destruction of the Earth. New York City, the center of the American nuclear imaginary since the day after the nuclear attack on Hiroshima should be the ground zero of this political response to federal government's plans to divert \$1.5 trillion tax dollars into further nuclear weapon spending. I whole heartedly support this resolution and bill. As I walk home through downtown Hiroshima after work today I will applaud the efforts of the New York City Council.

Sincerely,

Robert Jacobs, PhD
jacobs@hiroshima-cu.ac.jp
Hiroshima Peace Institute
Graduate School of Peace Studies
Hiroshima City University



20 January 2020

Members of the Committee on Governmental Operations and the Committee on Civil Service and Labor,
New York City Council
via email: <hearings@council.nyc.gov>

Dear Council and Committee members,

Re: Legislation Resolution 0976-2019 on nuclear disarmament;
and INT1621-2019, a bill to create a nuclear disarmament and nuclear weapons-free zone advisory committee

I am writing to you in my capacity as a professor and historian of nuclear history at the Hiroshima Peace Institute and Graduate School of Peace Studies at Hiroshima City University. As an American working and teaching in the city of Hiroshima, the first city to suffer a direct nuclear attack, I am well aware of the devastation of the use of nuclear weapons in warfare. Beyond the immense scale of blast and heat from nuclear weapons, the various forms of radiation that are part of such attacks continue the suffering and traumatization of a nuclear attack long beyond the actual attack, and even genetically into future generations.

I have written and curated an exhibition of media depictions of nuclear attacks on the United States from 1945 to beyond 2001. When government officials, artists, civil defense planners and even video game creators imagine a nuclear attack on the United States, they imagine that attack being carried out in New York City. In my co-curated exhibition, *Nuke York, New York* the first image that we found depicting a nuclear attack on New York City was published in the New York City daily newspaper, *PM*, on August 7, 1945. The day after the nuclear attack on Hiroshima, cartoonists at New York City newspapers were imagining that it was likely to be NYC that would suffer an attack if the US were to be engaged in nuclear war. Similarly, the August 1950 *Collier's* magazine cover article titled, "Hiroshima U.S.A." was filled with images of Manhattan devastated by multiple nuclear weapons painted by Chesley Bonestell (1).

I specifically support the proposal to divest from financial mechanisms that profit from the manufacture of nuclear weapons. I believe that the financial incentives of nuclear weapon production, deployment and maintenance were key factors to the almost comical levels of nuclear weapons built by the United States during the Cold War. I feel that the proposed investment in "modernization" of these useless weapons produce less security in the lives of Americans (and thus New Yorkers) by shifting valuable public funds away from programs that would provide actual security, such as affordable health care or secure retirement, and instead

1. These can all be seen in, Robert Jacobs and Mick Broderick, "Nuke York, New York: Nuclear Holocaust in the American Imagination from Hiroshima to 9/11," *The Asia-Pacific Journal* volume 10, issue 11, number 6 (2012): <<https://apjff.org/2012/10/11/Robert-Jacobs/3726/article.html>>

**NYC Council Hearing
January 28th, 2020**

**Testimony by Rosemarie Pace, Director of Pax Christi Metro New York
in support of Int 1621 and Res 0976**

My name is Rosemarie Pace. I am Director of Pax Christi Metro New York, a region of the international Catholic Peace Movement. I thank you very much for this opportunity to speak in support of Int 1621 and Res 0976. Since I represent the Catholic peace movement, my testimony is rooted in Catholic social teaching. Pretty much since the development of nuclear weapons, the Catholic Church has opposed them, recognizing them to be weapons of mass destruction capable of destroying all life, all of God's creation.

Just this past November, Pope Francis visited Hiroshima and Nagasaki, Japan where, in August 1945, the United States of America dropped the only nuclear weapons ever used. Much of my testimony will be the words of Pope Francis that he delivered on his historic trip.

In Hiroshima, Pope Francis stated, in part:

Here, in an incandescent burst of lightning and fire, so many men and women, so many dreams and hopes, disappeared, leaving behind only shadows and silence. In barely an instant, everything was devoured by a black hole of destruction and death. From that abyss of silence, we continue even today to hear the cries of those who are no longer. They came from different places, had different names, and some spoke different languages. Yet all were united in the same fate, in a terrifying hour that left its mark forever not only on the history of this country, but on the face of humanity.

He continued:

With deep conviction I wish once more to declare that the use of atomic energy for purposes of war is today, more than ever, a crime not only against the dignity of human beings but against any possible future for our common home. The use of atomic energy for purposes of war is immoral, just as the possessing of nuclear weapons is immoral.... We will be judged on this.... How can we speak of peace even as we build terrifying new weapons of war? How can we speak about peace even as we justify illegitimate actions by speeches filled with discrimination and hate?

...Indeed, if we really want to build a more just and secure society, we must let the weapons fall from our hands.... A true peace can only be an unarmed peace.

...That is why we are called to journey together with a gaze of understanding and forgiveness, to open the horizon to hope and to bring a ray of light amid the many clouds that today darken the sky. Let us open our hearts to hope, and become instruments of reconciliation and peace.

In Nagasaki, Pope Francis was even more specific. He said:

We must never grow weary of working to support the principal international legal instruments of nuclear disarmament and non-proliferation, including the Treaty on the Prohibition of Nuclear Weapons.... May prayer, tireless work in support of agreements and insistence on dialogue be the most powerful “weapons” in which we put our trust and the inspiration of our efforts to build a world of justice and solidarity that can offer an authentic assurance of peace.

He then went on to address political leaders directly:

Convinced as I am that a world without nuclear weapons is possible and necessary, I ask political leaders not to forget that these weapons cannot protect us from current threats to national and international security. We need to ponder the catastrophic impact of their deployment, especially from a humanitarian and environmental standpoint, and reject heightening a climate of fear, mistrust and hostility fomented by nuclear doctrines.

Along with Pope Francis and his predecessors, Pax Christi has made nuclear weapons abolition a cornerstone of its work since its beginning 75 years ago. In that context, I call on the NYC Council to pass Int 1621 and Res 0976 to create a nuclear disarmament and nuclear weapons-free zone advisory committee and to divest from nuclear weapons production and maintenance, to recommit to being a Nuclear Weapons Free Zone, to joining the ICAN Cities Appeal, and to pressure the U.S. to sign and ratify the Treaty on the Prohibition of Nuclear Weapons.

The time is long past ripe for this law and this resolution. We are on the brink of a nuclear holocaust. The U.S. has been withdrawing from existing treaties and threatens to allow others to expire. U.S. tensions with Iran and North Korea are high. The U.S. is investing well over a trillion dollars to upgrade our nuclear weapons arsenal over the next 30 years. This is our tax dollars at work to the detriment of health care, affordable housing, living wages, quality education, environmental protections, infrastructure across the country, and other means to real security.

While we may not be able to refute all that the U.S. is doing, we can, at the very least, do everything in our power as one of the largest, most powerful cities of the U.S. to pass Int 1621 and Res 0976. There is no time to lose.

January 28, 2020

**Testimony by Michael Lent, Chief Investment Officer, Veris Wealth Partners, LLC.
Regarding Res. 976 and INT 1621**

Thank you to the NYC Council Committee on Civil Service and Labor for inviting me to present on the Nuclear Disarmament Legislation. Please accept this testimony in regards to Res. 976 & INT 1621

My name is Michael Lent. I am the Chief Investment Officer and Founding Partner of Veris Wealth Partners (Veris). Veris is an independent national wealth management firm providing impact investing solutions for endowments, foundations and families. I have been a wealth manager providing positive social and environmental portfolios for my clients since 1993. I was the Chair of the Board of US SIF, the Forum for Sustainable and Responsible Investment. US SIF is the largest membership organization of private banks, wealth management firms, mutual fund companies, investment management companies and research firms practicing impact or social and environmental investing.

For the past 26 years a significant number of my clients have been excluding the largest nuclear weapons components and systems manufacturers from their portfolios often in combination with other exclusion screens. It has made little or no difference in the returns they have received versus traditional portfolios that include manufacturers of nuclear weapons. The reason for this is that the number of securities excluded is small, and their impact on portfolio returns is insignificant.

One measure of the impact of exclusions on portfolio risk and return is the impact of "tracking error" on removing nuclear weapons manufacturers from a broad stock market index. Tracking error is a measure of variance of a portfolio versus a standard stock market index. One global index that we use is the MSCI All Country World Index (ACWI). It is one of the broadest indices totaling 2800 stocks representing 85% of all stocks of 23 developed market countries and 26 emerging market countries. From proprietary research recently conducted we know that tracking error created by excluding military weapons manufacturers, a larger cohort of holdings, causes less than a .03% tracking error or variance from the ACWI index. Since nuclear weapons manufacturers are a smaller group, the tracking error created would be much smaller. From the standpoint of risk and return this is a very small impact.

Another issue that I would like to address is the issue of what impact does divestment have on the behavior of corporations. I would argue that the level of impact is a function of the ability of institutional investors, such as the New York City Pension Fund to be a part of broadening the effort by example to other investors. The New York City Pension Fund will not be the first to divest. Two of the top five global pension funds have divested as have 21 other institutional investors.

We know from several experiences with Divestment Movements such as the South Africa Divestment Campaign in the 1980s, the Nike sweatshop campaign and most recently the Fossil Fuel Divestment Campaign that they can create reputational and business risk for companies that do not change their business strategies.

I urge New York City to adopt this resolution and contribute to a Nuclear Free Future.

The information contained herein is provided by Veris Wealth Partners (the "firm") solely for informational purposes, reflects only a summary of the topics covered, and should not be construed as the provision of personalized investment advice or an offer to sell or the solicitation of any offer to buy any securities. Rather, the contents simply reflect the opinions and views of the author. All expressions of opinion reflect the judgment of the author as of the date of publication and are subject to change without notice. Additionally, this document contains information derived from third party sources. Although we believe these third-party sources to be reliable, the firm makes no representation as to the accuracy or completeness of any information derived from such third-party sources and takes no responsibility therefore. Past performance is not an indication of or a guarantee of future results.

Testimony at the NY City Council's Government Operations Committee Jan. 28, 2020

Submitted by Tom Gogan, Interim Chair, U.S. Labor Against the War / NYC Chapter

In support of Res. 1976/ 2019 and Int. 1621

Thank you, Committee Chair, ^{x CADUSA} Dromm and your fellow Committee Members, for this chance to speak in support of this very important legislative package, which when passed will profoundly deepen New York City's longstanding commitment to a nuclear-free city and a more peaceful world.

My name is Tom Gogan. I am Interim Chair of U.S. Labor Against the War's NYC Chapter and a member of the National Writers Union, UAW Local 1981. USLAW is a national network of unions opposed to the recent counterproductive wars our country has conducted or abetted over the past couple of decades. Our affiliates here in New York City include public and private sector unions, most notably 1199SEIU and the Professional Staff Congress at CUNY.

USLAW has long opposed massive U.S. spending on nuclear weapons and war. Every post World War II war has not only wreaked vast death and destruction but has utterly failed to bring about worker-friendly democracy anywhere. Worse still, many U.S. military leaders urge the use of nuclear weapons. The Pentagon now has contingency plans for so-called "limited" or "tactical" use of nuclear weapons. This is militarist insanity.

Thousands of our soldiers have died or suffered lifelong injury in these avoidable wars. Their families and communities of course are casualties of war too. In fact, all of us pay a price, in cutbacks at home to pay for war abroad: we have already wasted well over three trillion dollars on those wars. Care of our veterans will bring the tab to at least \$6 trillion and likely more. And we should not forget that millions of civilians in the Middle East, Africa and Central Asia have suffered displacement and death, while their homes and countries have been decimated in these wars.

As the wars rage on, planetary nuclear disaster looms ever larger. The Bulletin of Atomic Scientists just this month re-set its nuclear Doomsday Clock to only 100 seconds before midnight. We are in an incredibly dangerous moment in the history of the entire human race and of our planet.

The USA holds by far the largest arsenal of nuclear weapons, the biggest nuclear cudgel. Therefore, it is up to us Americans to lead the world out of this nuclear morass. Yet we do the opposite! While scores of countries have voted to ban the bomb, our country leads the other major nuclear weapons holders by refusing to sign on. We simply MUST reverse course!

It's been FIFTY YEARS since our leaders signed the nuclear Non-Proliferation Treaty. And yet here we are today: the weapons makers, the financiers and our Federal government itself all work in tandem to continue the nuclear weapons madness. Nuclear war quickly followed by nuclear winter will be the inevitable result, if we don't soon find a way to reverse course.

It's beyond sad to realize that Nobel Peace Prize winner Barack Obama missed that opportunity. Instead he chose to greatly expand our nuclear arsenals, asking for \$100 billion more over thirty years to "upgrade" U.S. nuclear weapons. President Trump has convinced Congress to add even more.

We in New York are in a unique position to insist on a different course. Our massive City pension funds should be used to send a powerful signal that we will no longer stand for this nuclear madness. Divesting our public pension funds from companies profiting from nuclear weaponry will be a great start. Resolution 1976 and Introduction 1621 should be passed immediately.

When we do it, others will follow. No one, and certainly no city, wants to be reduced to nuclear rubble. Investing in nuclear weapons must be stopped in its tracks, and we New Yorkers must soon also challenge Federal nuclear spending as well. We must instead invest public resources in vigorous, creative diplomacy, fair trade relations, people-to-people exchanges and much more.

New York is a major world communications nexus and we must broadcast our commitment to peaceful approaches far and wide. Instead of "mutually assured destruction," let's have "mutually assisted construction and collaboration"! Our children's and grandchildren's lives depend on it.

This is not a pipe dream. It's an existential necessity. It's happened in other spheres already. We have collaborated with our foreign competitors in space. We work across borders for mutual public health benefit. In its better moments, we do it in the U.N.

Globally AND locally, we need to build up, not tear down. Peace and nuclear disarmament start at home, city by city and country by country. We must squarely challenge the myth that atomic militarism builds anything but a world at more war, and more deadly war at that.

Let's begin, here in NYC, a strategic withdrawal from this deadly enterprise. Let's respect other peoples' right to exist and to find their own path. Let's divest NYC pension funds from nukes now!

And then let's set our sights even higher: let's move the money from war to our communities! Let's save humanity and build us all up, not tear us all down.

Thank you.



Good afternoon. Thank you Councilmembers for your interest in this important issue.

I am Maura Keaney, a first vice president at Amalgamated Bank.

Amalgamated is a nearly 100 year old financial institution, formed here in New York City in 1923 by the Amalgamated Clothing Workers Union. At that time, workers were unable to bank at the big commercial banks. Not that it was an unpleasant experience – their money was not accepted, they couldn't open accounts.

So the union formed a bank, giving members and their family members a way to save, to build credit, to send money home to their families, and borrow when they decided to build their own small business.

As the labor movement and those union members grew, so did the Bank. While we are still headquartered in NYC, and chartered by NYS, we are national in our client profile, with clients in 48 states.

We bank for progressive individuals, offering consumer savings and checking accounts and home mortgages. On the commercial side, we specialize in banking for and lending to socially responsible businesses and non-profit organizations. We are proud to count as our clients Planned Parenthood, the Sierra Club, Color of Change, the National Domestic Workers Alliance, SEIU, the Service Employees Union, Rock the Vote, Habitat for Humanity, the Transgender Legal Defense and Education Fund, and hundreds of other service providers, advocacy organizations and labor unions. We bank much of the Democratic party, including the DNC, most of the Democratic presidential candidates, and many NYC candidates and elected officials.

While we are now publicly traded, the union that formed us is still our largest single shareholder. We take our commitment to corporate responsibility seriously – we were the first bank to pay all of our employees \$15 an hour, now \$20 a hour. We were the first bank to sign on to accepting IDNYC as identification in account opening. We are the largest B corp bank in the US, the first bank in the United States to endorse the United Nation's Principles for Responsible Banking, and the first non-institutional investor (NYC being one of the institutional investors) to use our shareholder power to push corporations to ensure their boards are diverse, including women and people of color but also LGBTQ individuals and people with disabilities.

And Amalgamated bank is committed to using our position as a financial institution to end financial support for companies involved in firearms and weapon production and distribution.

Amalgamated does not bank or lend to firearms manufacturers or for weapons production companies.

On the investment front, the bank does not invest any of its own money in weapons manufacturers. We offer our investment management clients, both individual consumer and commercial businesses and organizations, the opportunity to ensure their money is not invested in defense companies or gun sellers.

Some of the big banks conduct business with firearms and weapons manufacturers and distributors: by banking them, lending to them, and managing their investments or investing in them – something we do not do.

When NYC pension funds are invested broadly, without consideration to weapons, you are supporting, with those dollars, the operations of these businesses.

As a NYC resident, and a former City employee with a city managed 401K and hopefully someday, a City pension (I have only a few years to get vested, so I'll be a City employee someday again!), I don't want my money backing up these destructive businesses.

But beyond my personal interest, NYC has an abiding interest, and even a responsibility, to ending violence and war. It's not good for our citizens or our economy or our environment. As the capital of the world, we are under constant terrorist threat. We have a responsibility to work for world peace, because war directly affects us as a constant target.

Our responsibility to our citizens too, requires action. So many New Yorkers who have come here escaping war, from the Jewish immigrants who we recognized in yesterday's 75th anniversary of the liberation of Auschwitz to today's Syrian refugees, escaping a current genocide. Those New Yorkers know the pain of war, and know the need to end the financing of weapons production.

New York's history as a leader in using shareholder action to pursue what's right, further encourages us to act. From the McBride principals to South African divestment, NY has used its massive pension power to make social change before. We can continue to be a leader in pushing other governments to use their power to make corporations behave responsibly.

From a purely fiduciary perspective, investing in this industry is not especially lucrative or low risk. In fact, similar to carbon, we see portfolios with weapons screened out performing as well, or better, than those without the screening. NYC's fiduciary responsibility to its employees, current, future and retired, can easily continue to be met without investing in companies involved in weapons production or maintenance.

Amalgamated Bank encourages you to pass Reso 976 and Intro 1621. Thank you for your consideration.

Maura Keaney

First Vice President, Amalgamated Bank
(212) 895-4584

MauraKeaney@AmalgamatedBank.com



New York Office:
220 East 49th St, New York, NY 10017, USA
Phone: +1 646-289-5170

Prague Office:
Lipanska 4, Prague 3. Czech Republic 130 00
Phone: +420 773 638 867
info@nuclearweaponsmoney.org

Move the Nuclear Weapons Money testimony to the New York City Council on Initiative 1621 and Resolution 976.

Presenters:

Mr Jonathan Granoff (Manhattan), *President of the Global Security Institute.*
Ms Susanna Choe (Brooklyn), *Executive Director, Move the Nuclear Weapons Money Project, ICV Investment Group.*

Introduction:

Move the Nuclear Weapons Money is an international campaign to cut nuclear weapons budgets, encourage divestment from companies manufacturing nuclear weapons and their delivery systems, and reallocate these budgets and investments to meet economic, social and environmental need.

The participating organizations in **Move the Nuclear Weapons Money** commend the New York City Council for deciding to take action on the issue of nuclear risk reduction and disarmament.

On January 23, 2020, the Bulletin of Atomic Scientists set the Doomsday Clock to *100 Seconds to Midnight* indicating the dual risks of climate change and nuclear weapons to human civilisation. These issues are too important to leave to federal governments, which so far have failed to take effective action due in large part to their national security straight-jackets and the lobbying power of the nuclear weapons and fossil fuel industries. Cities and civil society, working cooperatively and investing wisely, can help forge common security and global cooperation to ensure we have a future.

As such, **Move the Nuclear Weapons Money** is working in cooperation with Mayors for Peace, a global network of over 8000 member cities to engage cities in nuclear disarmament and climate action, including through divestment of city-managed funds from the nuclear weapons and fossil fuel industries.

In November 2019, New York based participants in the **Move the Nuclear Weapons Money** campaign sent a joint letter to the New York City Council supporting [Initiative 1621](#) and [Resolution 976](#) and commending the Council for your decision in 2018 to divest the NYC \$189bn pension funds from fossil fuel companies within five years. We welcome this opportunity to expand on some of the points made in the joint letter, which is attached as an appendix.

Move the Nuclear Weapons Money is an international campaign to cut nuclear weapons budgets, encourage divestment from companies manufacturing nuclear weapons and their delivery systems, and reallocate these budgets and investments to meet economic, social and environmental need.
Move the Nuclear Weapons Money is a joint project of the Basel Peace Office, Global Security Institute, ICV Investment Group, International Peace Bureau, Parliamentarians for Nuclear Non-proliferation and Disarmament, Peace Accelerators, UNFOLD ZERO, World Federalist Movement, World Future Council and the Abolition 2000 Working Group on Economic Dimensions of Nuclearism. Peace Accelerators serves as the US coordinator for the project.

Initiative 1621:

Initiative 1621 seeks to reaffirm and implement the decision taken by the New York City Council in 1983 to declare the city a nuclear-weapon-free zone. We commend the City Council for taking this decision in 1983, a decision that helped prevent the establishment of a planned nuclear naval base on Staten Island.

Those of us New Yorkers who have been active since the height of the Cold War in the early 1980s know how close we came to a nuclear war many times back then, and recognise the danger signs that have returned today.

Twice in 1983 we nearly had a nuclear war by accident and miscalculation – once in September when faulty signals from Soviet satellites falsely indicated to the Soviet nuclear command centre that nuclear-armed ballistic missiles had been launched against Moscow, and again in November when Soviet command believed that the US/NATO war games exercise called Able Archer were in reality preparations for a disabling first strike against the Soviet Union.

New York City bravely stood up in 1983 for sanity and against the US and Soviet policies of Mutually Assured Destruction – or MADness. New York City, in adopting Resolution 365, rejected the MAD policy and highlighted the alternative of peace, international law and common security, including through the United Nations which is hosted in this great city.

We had hoped that this policy of MAD would have dissolved with the end of the Cold War, but unfortunately there was only a short reprieve. It has returned in full force with the USA and Russia maintaining policies to threaten and use nuclear weapons in a wide range of situations, and being joined in this by seven other countries, with possibly more waiting in the wings.

The good news is that non-nuclear countries, cities, legislators and civil society are taking action to build a cooperative global order, utilising direct communication, cooperation and the United Nations to build peace and advance disarmament irrespective of the action – or inaction - of the leaders of the nuclear armed States.

This is what makes Initiative 1621 so important. New York, as the host of the UN and as one of the key financial, cultural and political centres of the world, has a duty and an opportunity to lead. Establishing a public committee to develop an action program for New York City is exactly what is needed.

We would recommend that such a committee combine a local approach, such as the initiative to divest NYC pension funds from nuclear weapons corporations; with a national approach, such as active involvement in the US Conference of Mayors resolutions on nuclear disarmament; with an international approach, such as joining Mayors for Peace and participating in UN nuclear disarmament forums and initiatives.

We would also recommend that the composition of the committee include representation from those experienced in nuclear disarmament advocacy in the United States and internationally, along with fresh voices and approaches of youth. It's composition should include representation from the arts/cultural/entertainment/sports world in order to attract wide visibility, plus representation from business/finance and inter-faith which are two very important constituencies in New York and globally. And there should be gender balance on the committee.

Finally, we recommend that the approach of the advisory committee should be positive, forward looking and solutions oriented. Mere criticism of the policies of the nuclear-armed States will do little to change them. Providing realistic security alternatives to the current reliance on nuclear weapons, including those provided by the United Nations, will be more effective.

Thank you

Resolution 976

Move the Nuclear Weapons Money commends the New York City Council for your decision in 2018 to divest the NYC \$189bn pension funds from fossil fuel companies and for considering now to divest NYC pension funds from the nuclear weapons industry.

Divestment is a very important process to shift incentives and to impact policies in both of these critical arenas. With regard to nuclear weapons, the corporations manufacturing the weapons and their delivery systems have vested financial interests in increasing the massive \$60 billion annual US nuclear weapons budget and the global \$100 billion nuclear weapons budget. These corporations are lobbying the congresses, parliaments and governments of the nuclear-armed States to finance destabilising and unnecessary weapons. These corporations are also they are supporting think tanks, academic institutions and media services that promote nuclear deterrence and robust nuclear weapons systems as the response to conflicts. They are stimulating a dangerous nuclear arms race that could lead by accident, miscalculation or intent to a catastrophic nuclear war. Public funds should not support this destabilising nuclear arms race and the corporations that are behind it.

Participating organisations and experts in Move the Nuclear Weapons Money have considerable experience in both fossil fuel and nuclear weapons divestment. We have led divestment decisions and actions by city, regional and federal parliaments of a number of countries including Germany, Lichtenstein, New Zealand, Norway and Switzerland – and have provided expertise and support for divestment decisions in other countries including Austria, USA and the UK. In addition we have brought pension fund managers and investors together to share experiences in nuclear weapons and fossil fuel divestment.

From this experience we would like to share some key points to help guide and implement a decision by NY City to divest from the nuclear weapons industry.

Firstly: We would argue that nuclear weapons divestment is now required by international law.

The threat or use of nuclear weapons was affirmed as illegal by the **International Court of Justice (ICJ)** in 1996. In 2017, the United Nations adopted a **Treaty on the Prohibition of Nuclear Weapons** which is supported by most non-nuclear countries in the world, and which prohibits actions which aid the production of nuclear weapons. This treaty is of course not binding on the US or other countries that do not sign it. But it is an indication of the growing global momentum against nuclear weapons and in favour of international diplomacy, law and common security. And in 2018, the **United Nations Human Rights Committee** affirmed that the threat or use of nuclear weapons is in violation of the Right to Life and could indeed amount to an international crime. Both the ICJ and the Human Rights committee based their decisions on customary international law that is binding on all countries including the United States.

In September 2017 the **UN Global Compact** adopted new guidelines for investment which would exclude investments in '*companies involved in the sale, production, manufacturing, possession, distribution and/or transport of nuclear, chemical or biological weapons.*' Nearly 14,000 financial institutions and related organisations in 160 countries are members of the UN Global Compact.

Secondly: We would like to point out that divestment from nuclear weapons is administratively very easy – much easier than divestment from the fossil fuel industry, which NYC is already undertaking. There are only 30 public corporations (or shared public/state corporations) which are involved in the manufacture of nuclear weapons or their dedicated delivery systems. It is not difficult for a pension fund manager to identify these 30 corporations and exclude them from the investment portfolio.

Finally: We would like to encourage NYC to employ an ESG (Environment, Social and Governance) impact investment policy with regard to the NYC pension funds that will be divested should you adopt this resolution. Such a policy would guide the re-investment of these funds divested from the nuclear weapons and fossil fuel industries into Green Bonds and other investments to help create a sustainable world. We stand ready to support and assist NYC in such an ESG and impact investment process.

Thank you

About the presenters

Mr Jonathan Granoff is President of the Global Security Institute, Chair of the Task Force on Nuclear Non-proliferation of the International Law Section of the American Bar Association, Senior Advisor and United Nations Representative of the Permanent Secretariat of the World Summits of Nobel Peace Laureates, Board Member of Parliamentarians for Nuclear Non-proliferation and Disarmament, and Ambassador for Peace, Security and Nuclear Disarmament of the Parliament of the World's Religions.

Ms Susanna Choe is Executive Director of the Move the Nuclear Weapons Money Project for the ICV Investment Group, Co-founder of Peace Accelerators youth initiative and was Coordinator of the Count the Nuclear Weapons Money action which took place in October 2019.

List of Annexes:

1. List of corporations involved in the manufacture of nuclear weapons and/or their dedicated delivery systems;
2. Sample list of cities, states and federal governments that have adopted nuclear weapons divestment policies;
3. U.S. Conference of Mayors resolution on *Nuclear risk reduction, diplomacy and redirection of nuclear weapons spending to meet human needs and environmental challenges*, adopted June 26, 2017
4. Federal nuclear weapons divestment – Norway
5. Nuclear weapons divestment and ESG investment – Switzerland
6. UN Global Compact Integrity Policy and nuclear weapons
7. UN Human Rights Committee General Comment 36: Excerpt on nuclear weapons
8. Open letter to New York City Council supporting Initiative 1621 and Resolution 976
9. New York: A City of Global Leadership: Nuclear Weapons in Context

Annexes:

1. List of corporations involved in the manufacture of nuclear weapons and/or their dedicated delivery systems (as at January 1, 2019).

France: Constructions Industrielles de la Méditerranée, Safran, Thales

India: Larsen & Toubro, Bharat Electronics, Walchandnagar Industries

Italy: Leonardo Finmeccanica

Netherlands: Airbus

Russia: United Aircraft Corporation, Makeyev Design Bureau

United Kingdom: BAE Systems, Rolls Royce, Serco

United States: AECOM, Aerojet Rocketdyne, Bechtel, Boeing, BWX Technology (Babcock and Wilcox), Charles Stark Draper Lab, Fluor, General Dynamics, Honeywell International, Huntington Ingalls Industries, Jacobs Engineering, Leidos, Lockheed Martin, Moog, Northrop Grumman, Orbital ATK, Raytheon, Textron.

Sources:

- *Norway Government Pension Fund Global list of company exclusions based on involvement in nuclear weapons industry*, <https://www.nbim.no/en/the-fund/responsible-investment/exclusion-of-companies/>;
- *Move the Nuclear Weapons Money*, www.nuclearweaponsmoney.org/corporations;
- *Private companies and the nuclear weapons industry*, PAX Netherlands, 2019. Accessible online at www.dontbankonthebomb.com/2019_producers-report-final
- *Nuclear Ban US*, www.nuclearban.us/companies

2. Sample list of cities, states and federal governments that have adopted nuclear weapons divestment policies;*

Governments:

Lichtenstein, New Zealand, Norway, Switzerland

States/Regions – Germany:

Baden-Württemberg, Berlin (Bundesland), North Rhine-Westphalia, Lower Saxony

Cities: Germany

Bremen, Göttingen, Münster, Oldenburg, Stuttgart, Hannover

Cities: USA

Cambridge (MA), Charlottesville (VA); Northampton (MA); Oakland (CA); Takoma Park (MA)

* Policy summaries and city resolutions are accessible at www.nuclearweaponsmoney.org/legislation

3. Nuclear risk reduction, diplomacy and redirection of nuclear weapons spending to meet human needs and environmental challenges.

Resolution adopted by the 85th Annual meeting of the United States Conference of Mayors, Miami Beach, Florida, June 26, 2017

Summary:

The resolution calls on the US President and the US Congress to, amongst other things:

- *reduce nuclear weapons spending to the minimum necessary to assure the safety and security of the existing weapons as they await disablement and dismantlement;*
- *cut military spending and redirect funding to meet human and environmental needs;*
- *reverse federal spending priorities and to redirect funds currently allocated to nuclear weapons and unwarranted military spending to restore full funding for Community Block Development Grants and the Environmental Protection Agency, to create jobs by rebuilding our nation's crumbling infrastructure, and to ensure basic human services for all, including education, environmental protection, food assistance, housing and health care.*

The resolution also calls on 'U.S. member cities to get actively involved by establishing sister city relationships with cities in other nuclear-armed nations, and by taking action at the municipal level to raise public awareness of the humanitarian and financial costs of nuclear weapons, the growing dangers of wars among nuclear-armed states, and the urgent need for good faith U.S. participation in negotiating the global elimination of nuclear weapons.'

Full text of the resolution:

CALLING ON PRESIDENT TRUMP TO LOWER NUCLEAR TENSIONS, PRIORITIZE DIPLOMACY, AND REDIRECT NUCLEAR WEAPONS SPENDING TO MEET HUMAN NEEDS AND ADDRESS ENVIRONMENTAL CHALLENGES

WHEREAS, the Bulletin of the Atomic Scientists has moved the hands of its "Doomsday Clock" to 2.5 minutes to midnight – the closest it's been since 1953, stating, "Over the course of 2016, the global security landscape darkened as the international community failed to come effectively to grips with humanity's most pressing existential threats, nuclear weapons and climate change," and warning that, "Wise public officials should act immediately, guiding humanity away from the brink"; and

WHEREAS, Derek Johnson, executive director of Global Zero has stated, "This is an unprecedented moment in human history. The world has never faced so many nuclear flashpoints simultaneously. From NATO-Russia tensions, to the Korean Peninsula, to South Asia and the South China Sea and Taiwan — all of the nuclear-armed states are tangled up in conflicts and crises that could catastrophically escalate at any moment"; and

WHEREAS, on May 5, 2017, Global Zero launched the Nuclear Crisis Group, comprised of retired diplomats, generals and national security experts from key countries including the United States, Russia, China, South Korea, India, Japan, Pakistan and Poland, to engage in high-level efforts to prevent these flashpoints from escalating to the use of nuclear weapons; and

WHEREAS, nearly 15,000 nuclear weapons, most an order of magnitude more powerful than the U.S. atomic bombs that destroyed Hiroshima and Nagasaki, over 90% held by the United States and Russia, continue to pose an intolerable threat to humanity and the biosphere; and

WHEREAS, "Mindful that no national or international response capacity exists that would adequately respond to the human suffering and humanitarian harm that would result from a nuclear weapon explosion in a populated area, and that such capacity most likely will never exist," 127 countries have endorsed the Humanitarian Pledge to "stigmatise, prohibit and eliminate nuclear weapons"; and

WHEREAS, the United States is engaged in programs to modernize its nuclear bombs, warheads and delivery systems, including in some cases, giving them vastly improved targeting capability, and Russia, China, France, the United Kingdom, India, Israel and Pakistan are engaged in nuclear weapons modernization programs of their own; and

WHEREAS, It is not the intention of this resolution to suggest that the United State is the instigator of nuclear proliferation; and

WHEREAS, Dr. Martin Luther King Jr. in his prophetic speech, *Beyond Vietnam; A Time to Break Silence*, 50 years ago, warned: "A nation that continues year after year to spend more money on military defense than on programs of social uplift is approaching spiritual death"; and

WHEREAS, The United States Conference of Mayors in 2016 called on the next President of the United States "in good faith, to participate in or initiate.... multilateral negotiations for the elimination of nuclear weapons as required by the 1970 Nuclear Nonproliferation Treaty"; and

WHEREAS, over the objections of the United States, Russia and the other nuclear-armed states, the 2016 United Nations General Assembly adopted, by a large majority, a resolution deciding "to convene in 2017 a United Nations conference to negotiate a legally binding instrument to prohibit nuclear weapons, leading towards their total elimination"; and

WHEREAS, Mayors for Peace, which calls for the global elimination of nuclear weapons by 2020, has grown to 7,295 cities in 162 countries and regions, with 210 U.S. members, representing in total over one billion people.

NOW, THEREFORE BE IT RESOLVED, that The United States Conference of Mayors (USCM) calls on the United States Government, as an urgent priority, to do everything in his power to lower nuclear tensions though intense diplomatic efforts with Russia, China, North Korea and other nuclear-armed states and their allies, and to work with Russia to dramatically reduce U.S. and Russian nuclear stockpiles; and

BE IT FURTHER RESOLVED, that The United States Conference of Mayors welcomes the historic negotiations currently underway in the United Nations, involving most of the world's countries, on a treaty to prohibit nuclear weapons, leading to their total elimination; and

BE IT FURTHER RESOLVED, that The United States Conference of Mayors deeply regrets that the United States and the other nuclear-armed states are boycotting these negotiations; and

BE IT FURTHER RESOLVED, that The United States Conference of Mayors calls on the United States to support the ban treaty negotiations as a major step towards negotiation of a comprehensive agreement on the achievement and permanent maintenance of a world free of nuclear arms, and to initiate, in good faith, multilateral negotiations to verifiably eliminate nuclear weapons within a timebound framework; and

BE IT FURTHER RESOLVED, that The United States Conference of Mayors welcomes the [*Restricting First Use of Nuclear Weapons Act of 2017*](#), introduced in both houses of Congress, that would prohibit the President from launching a nuclear first strike without a declaration of war by Congress; and

BE IT FURTHER RESOLVED, that The United States Conference of Mayors calls for the Administration's new Nuclear Posture Review to reaffirm the stated U.S. goal of the elimination of nuclear weapons, to lessen U.S. reliance on nuclear weapons, and to recommend measures to reduce nuclear risks, such as de-alerting, improving lines of communication with other nuclear-armed states, and ending nuclear sharing, in which Belgium, Germany, Italy, Netherlands, and Turkey host U.S. nuclear bombs; and

BE IT FURTHER RESOLVED, that The United States Conference of Mayors calls on the President and Congress to reduce nuclear weapons spending to the minimum necessary to assure the safety and security of the existing weapons as they await disablement and dismantlement; and

BE IT FURTHER RESOLVED, that The United States Conference of Mayors welcomes resolutions adopted by cities including New Haven, CT, Charlottesville, VA, Evanston, IL, New London, NH, and West Hollywood, CA urging Congress to cut military spending and redirect funding to meet human and environmental needs; and

BE IT FURTHER RESOLVED, that The United States Conference of Mayors calls on the President and Congress to reverse federal spending priorities and to redirect funds currently allocated to nuclear weapons and unwarranted military spending to restore full funding for Community Block Development Grants and the Environmental Protection Agency, to create jobs by rebuilding our nation's crumbling infrastructure, and to ensure basic human services for all, including education, environmental protection, food assistance, housing and health care,

BE IT FURTHER RESOLVED, that The United States Conference of Mayors urges all U.S. mayors to join Mayors for Peace in order to help reach the goal of 10,000 member cities by 2020, and encourages U.S. member cities to get actively involved by establishing sister city relationships with cities in other nuclear-armed nations, and by taking action at the municipal level to raise public awareness of the humanitarian and financial costs of nuclear weapons, the growing dangers of wars among nuclear-armed states, and the urgent need for good faith U.S. participation in negotiating the global elimination of nuclear weapons.

4. Federal nuclear weapons divestment – Norway

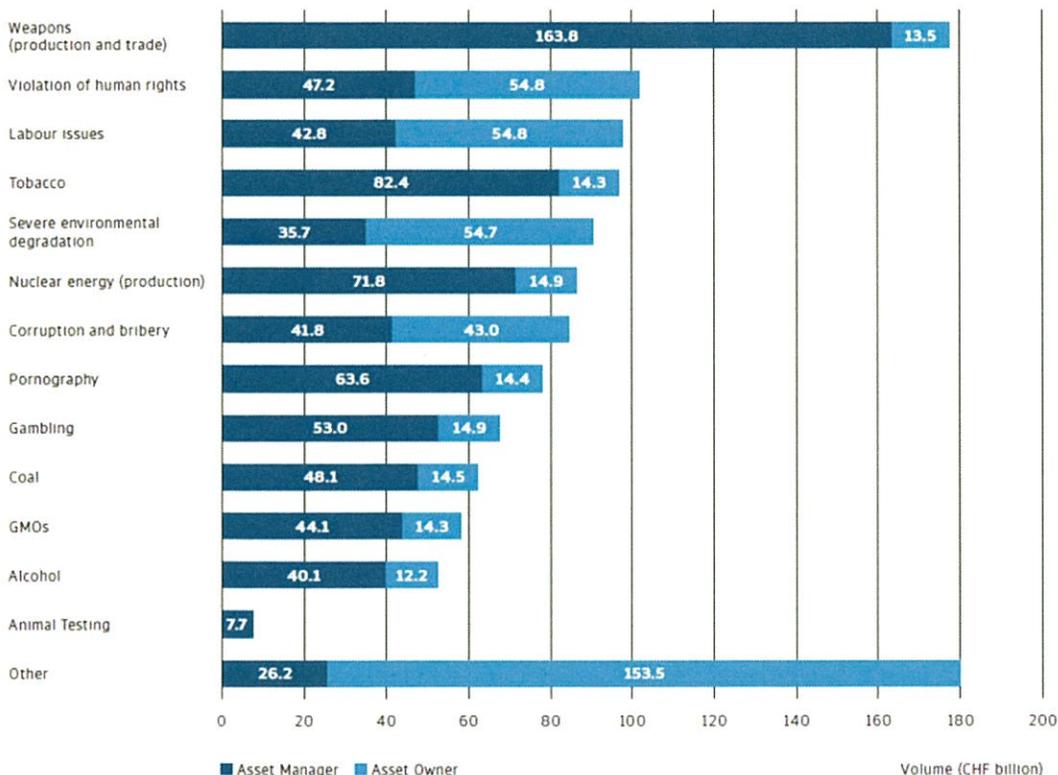
In 2003 the Norwegian parliament established an Advisory Council on Ethics to examine the application of the UN Global Compact investment principles and the OECD Guidelines for Corporate Governance and for Multinational Enterprises, to the investment practices and portfolio of the Norway Pension Fund (now called the *Norway Government Pension Fund Global*). The Advisory Council recommended investment guidelines which excluded, amongst other things, investment in the nuclear weapons industry. These guidelines have been implemented by the fund since 2006. The full list of companies which have been excluded from the fund's investment portfolio, and the reason for exclusion, is publicly available at www.nbim.no/en/the-fund/responsible-investment/exclusion-of-companies/.

5. Nuclear weapons divestment and ESG investment – Switzerland

On March 16, 2012, the Swiss parliament adopted amendments to the Swiss War Materials Act which added prohibitions on the direct financing (and indirect if used to circumvent direct financing) of the development, manufacture or acquisition of prohibited war materials (Article 8b WMA). Prohibited War material is defined in the act as including nuclear, chemical and biological weapons as well as cluster munitions and anti-personnel landmines.

Since then, financial asset managers of pension funds, banks and insurance companies and other investment portfolios in Switzerland, have been divesting their assets from companies involved in the development, manufacture or control of these weapons systems. Some have also divested their assets from companies involved in the international arms trade. And many are integrating these policies into broader ESG (Environment, Social, Governance) investment policies which also exclude the nuclear energy, tobacco and/or fossil fuel industries and companies involved in serious human rights violations, excessive damage to the environment and/or corruption.

APPLIED EXCLUSION CRITERIA FOR COMPANIES (IN CHF BILLION) (n=43)



Source Swiss Sustainable Investment Market Study 2019, *Swiss Sustainable Finance*, June 2019

According to a recent study by Swiss Sustainable Finance and the University of Zurich, at least 31 % of the total assets managed by Swiss pension funds and insurance companies are **reported** as following ESG investment guidelines (the actual figure is probably 1/3 higher) and that the value of assets invested according to ESG principles is growing at phenomenal speed with more than 150% growth in ESG investments annually. The study observes that the practice of integrating social and environmental sustainability aspects into investment processes is no longer a niche activity, but has moved into the mainstream.

The total value of investment assets now excluded (divested) from the arms industry is reported as \$177billion. See the table: *Applied Exclusion Criteria for Companies*, above. This is by far the highest category value of exclusions (the next highest being companies involved in serious violation of human rights at \$102billion of assets excluded), indicating that exclusion of controversial weapons systems is firmly integrated into ESG practice in Switzerland.

Source: *Swiss Sustainable Investment Market Study 2019*, Published by Swiss Sustainable Finance and the University of Zurich, Zurich, June 2019. pages 8 and 25.

6. UN Global Compact Integrity Policy and nuclear weapons

The UN Global Compact is a network of nearly 14,000 companies (including investment companies), business associations, cities, unions, relevant NGOs and academic institutions dedicated to implementing United Nations ESG (Environment, Social and Governance) investment principles. These include the [Ten Principles](#) on human rights, labour, environment and anti-corruption; and the broader [UN Sustainable Development Goals](#).

The UN Global Compact Board adopts exclusionary criteria which determine categories of organisations and institutions that cannot be participants in the Global Compact and would be excluded from recommended investments.

In September 2017, these criteria were updated to exclude '*companies involved in the sale, production, manufacturing, possession, distribution and/or transport of nuclear, chemical or biological weapons*'. However, following pressure from powerful pro-nuclear interests, the UN Global Compact later amended these criteria replacing the exclusion of companies involved in nuclear, chemical and biological weapons with those involved in '*controversial weapons*'. The compact has interpreted this to refer only to anti-personnel landmines and cluster bombs. Their website now lists the exclusions as

'Organisations and institutions:

- *Subject to a UN sanction*
- *Listed on the UN Ineligible Vendors List for ethical reasons*
- *Derive revenue from the production, sale and/or transfer of antipersonnel landmines or cluster bombs*
- *Derive revenue from the production and/or manufacturing of tobacco.'*

(See <https://www.unglobalcompact.org/participation/join/who-should-join> and scroll down to **Exceptions**).

7. UN Human Rights Committee General Comment 36: Excerpt on nuclear weapons

On October 30, 2018, the UN Human Rights Committee adopted a new [General comment No. 36 \(2018\) on article 6 of the International Covenant on Civil and Political Rights \(ICCPR\), on the right to life](#), which concludes that the threat or use of nuclear weapons is incompatible with the Right to Life and may amount to a crime under international law.

The General Comment is extremely significant because of the comprehensive legal condemnation it provides on threat, use, production and possession of nuclear weapons and other WMD (see full text below), and because the States Parties to the Covenant include most of the nuclear armed States (including the United States) and their allies under extended nuclear deterrence doctrines. They are therefore obliged to adhere to this decision of the Human Rights Committee.

The full text of General Comment 36, para 66 on nuclear weapons and other WMD:

'The threat or use of weapons of mass destruction, in particular nuclear weapons, which are indiscriminate in effect and are of a nature to cause destruction of human life on a catastrophic scale is incompatible with respect for the right to life and may amount to a crime under international law.

States parties must take all necessary measures to stop the proliferation of weapons of mass destruction, including measures to prevent their acquisition by non-state actors, to refrain from developing, producing, testing, acquiring, stockpiling, selling, transferring and using them, to destroy existing stockpiles, and to take adequate measures of protection against accidental use, all in accordance with their international obligations.

They must also respect their international obligations to pursue in good faith negotiations in order to achieve the aim of nuclear disarmament under strict and effective international control and to afford adequate reparation to victims whose right to life has been or is being adversely affected by the testing or use of weapons of mass destruction, in accordance with principles of international responsibility.'

Paragraph 66, General Comment No 36 on article 6 of the ICCPR

The Right to Life is binding even during time of armed conflict:

According to the General Comment (paragraph 3), the Right to Life, as codified in Article 6 of the Covenant, is an *'entitlement of individuals to be free from acts and omissions that are intended or may be expected to cause their unnatural or premature death, as well as to enjoy a life with dignity'*, and that this is a *'supreme right from which no derogation is permitted even in situations of armed conflict and other public emergencies which threatens the life of the nation.'* This right is *'the prerequisite for the enjoyment of all other human rights.'*

During times of armed conflict, the Right to Life is expressed more fully in international humanitarian law, which holds that civilians cannot be the targets of combat, and that methods of warfare that would cause indiscriminate harm including to civilians is prohibited. General Comment 36 reaffirms and strengthens the general prohibition against the threat or use of nuclear weapons that was affirmed by the International Court of Justice in 1996.

8. Open Letter to NY City Council



New York Office:

220 East 49th St, New York, NY 10017, USA

Phone: +1 929 216-3653

Prague Office:

Lipanska 4, Prague 3. Czech Republic 130 00

Phone: +420 773 638 867

www.nuclearweaponsmoney.org

info@nuclearweaponsmoney.org

New York City: Thank you for divesting from fossil fuels. Time to divest from nuclear weapons

An open letter to the NY City Council from Move the Nuclear Weapons Money, a global campaign to cut nuclear weapons budgets, end investments in the nuclear weapon and fossil fuel industries, and re-invest in socially responsible and impact investment for a peaceful and sustainable world.

Dear New York City Councillors,

The organisations and individuals endorsing **Move the Nuclear Weapons Money** listed below* commend the New York City Council for your decision in 2018 to divest the NYC \$189bn pension funds from fossil fuel companies within five years.

We call on the Council to adopt draft [Resolution 976](#) which would enjoin New York City to divest also from nuclear weapons companies, and [Initiative 1621](#) to reaffirm New York City as a nuclear weapons-free zone and establish an advisory committee to implement this status.

The nuclear weapons corporations have vested financial interests in increasing the massive \$100 billion nuclear weapons budget, and they are stimulating a dangerous nuclear arms race that could lead by accident, miscalculation or intent to a catastrophic nuclear war. Public funds should not be invested in weapons which pose such a risk to humanity.

Indeed, such investments run counter to international law and to emerging investment practice which considers Environmental, Social and Governance (ESG) guidelines in investment decisions.

The threat or use of nuclear weapons have been affirmed as illegal by the **International Court of Justice (ICJ)** in 1996 and as a violation of the Right to Life by the **United Nations Human Rights Committee** in 2018. To reach these decisions, the ICJ and Human Rights Committee applied law that is binding on all countries including the United States.

In addition, the United Nations has adopted a **Treaty on the Prohibition of Nuclear Weapons** which is supported by most non-nuclear countries in the world, and which prohibits actions which aid the production of nuclear weapons.

In light of the above, the **UN Global Compact** in September 2017 adopted new guidelines for investment which would exclude investments in 'companies involved in the sale, production, manufacturing, possession, distribution and/or transport of nuclear, chemical or biological weapons.' Over 12,000 financial institutions in 160 countries are members of the UN Global Compact.

A number of federal, state and city governments, as well as other financial institutions and investors globally, have already taken the step to divest funds under their management from the 26 companies that have a significant involvement in the nuclear weapons industry. We call on New York City to join them.

Yours sincerely

Rose Asaf
NYC Coordinator for CODEPINK

Jude Beecher
Actress/Producer, Beecher Productions

Racquel Borromeo
Classical pianist, Co-founder Duo Dimeo

Jacqueline Cabasso
North American Coordinator, Mayors for Peace

Susanna Choe
Co-founder, Peace Accelerators

Walter Goodman
New York City War Resisters League

Arnold Gore
New York Citizen

Holger Güssefeld
World Future Council

Jeffery Huffines
Senior Advisor, UN2020. CIVICUS: World Alliance for Citizen Participation

Sally Jones
Chair, Peace Action New York State

Rev. Dr. Emma Jordan-Simpson
Executive Director, Fellowship of Reconciliation USA, Executive Pastor of the Concord Baptist Church of Christ, Brooklyn

Nydia Leaf, Ms.Ed.
Granny Peace Brigade, NYC

John Liebmann
Member of the All Souls Nuclear Disarmament Task Force

Dr. Mary Lutz
Prof. Emeritus, the City College of New York

Linda Novenski
Member of Veterans for Peace, Chapter 34, NYC

Rosemarie Pace
Pax Christi Metro New York

Michele Peppers
The Ribbon International Committee

Margaret Perkins and Monica Weiss
On behalf of the steering committee for 350NYC.org

Guy Quinlan
President, Lawyers Committee on Nuclear Policy Chair, All Souls Nuclear Disarmament Task Force

Shazia Z. Rafi
President, AirQualityAsia

Betty A. Reardon
Founding Director, Emeritus, International Institute on Peace Education.

Christopher Salata
Co-founder, Peace Accelerators

Xander Schultz
Entrepreneur

Yasmeen Silva
Beyond the Bomb

Robert Smith
President, ICV Group, Inc.

Chrissy Stonebraker-Martinez
Co-Director, InterReligious Task Force On Central America and Colombia. UN Representative, International Fellowship of Reconciliation

June Tano
The Ribbon International

Rick Ulfik
Founder and Board Chairman, We, The World

Alyn Ware
Member, World Future Council Global Coordinator, Parliamentarians for Nuclear Non-proliferation and Disarmament

Monica Willard
United Religions Initiative (URI) United Nations NGO Representative

Dennis Wong
Co-founder, Rotarian Action Group for Peace

** Individuals and organisations are either New York City based or have strong membership in New York City*

9. New York: A City of Global Leadership: Nuclear Weapons in Context

Testimony Before New York City's City Council on Behalf of Move the Nuclear Money

January 28, 2020, New York City

Jonathan Granoff, *President Global Security Institute*

UN Representative of Permanent Secretariat of the World Summits of Nobel Peace Laureates

www.gs institute.org www.nobelpeacesummit.com

“The unleashing of the power of the atom bomb has changed everything except our mode of thinking, and thus we head toward unparalleled catastrophes.”

Albert Einstein

We are the first generation that must decide whether to be the last. We are faced with existential threats to human survival. We simply must protect the global commons, the living systems upon which civilization depends – oceans, rainforests, and climate – and eliminate nuclear weapons before they eliminate us. Every nation, city and person lives under clouds of destruction of our own doing. Every nation, city and person has a duty to clear the skies, now.

New York City in 1983 demonstrated global responsibility in its declaration that has made New York City a Nuclear Weapons Free Zone. Today more than then the spirit and meaning of that declaration is critically important.

In these notes below I shall contextualize our plea to divest funds under the City's control away from enterprises engaged in profit making from operationalizing the destruction of the future and creating a Special Committee to educate, advocate and help advance policies and programs that address minimizing and ending threats posed by nuclear weapons.

Context:

Thinking clearly and bringing morally grounded practical policies into action is necessary to avoid catastrophe. Presidents Ronald Reagan and Mikhail Gorbachev did just that when they met in Geneva, Switzerland in 1985. The two leaders put in motion enormous social change by applying common sense to humanity's greatest existential threat. They stated clearly the need for cooperation to make the world safer and avoid nuclear war.

<https://www.reaganlibrary.gov/research/speeches/112185a>

In their Nov. 21, 1985 Joint Statement they stated:

“The sides, having discussed key security issues, and conscious of the special responsibility of the USSR and the U.S. for maintaining peace, have agreed that a nuclear war cannot be won and must never be fought. Recognizing that any conflict between the USSR and the U.S. could have catastrophic consequences, they emphasized the importance of preventing any war between them, whether nuclear or conventional. They will not seek to achieve military superiority.”

That statement arose because the city of Geneva invited the two leaders to meet and address the issue. One city in that instance made an enormous contribution to world security.

This statement helped to create the dynamic that ended the Cold War. Since 1985 the arsenals of these two nations have gone from over 65,000 nuclear warheads to less than 15,000 today. That is not an insignificant accomplishment. But much more work needs to be done. We remain too close to destruction.

Today, Russia keeps asking to reaffirm the principle of the unacceptability of nuclear war and gets no answer from the US Administration. This is simply outrageous. In fact it is worse than that, it is terrifying in its implications.

<https://www.newsweek.com/russia-ask-us-no-nuclear-weapons-1443464>

Despite its being ignored by the public, the existing US policy rejects the insights of Geneva and seems to contemplate actual use of nuclear weapons in war.

The Joint Chiefs of Staff of the US Military in its recent Joint Publication 3-72 Nuclear Operations June 11, 2019 states:

“Integration of nuclear weapons into a theater of operations requires the consideration of multiple variables. Using nuclear weapons could create conditions for decisive results and the restoration of strategic stability. Specifically, the use

of a nuclear weapon will fundamentally change the scope of a battle and create conditions that affect how commanders will prevail in conflict.”

“Prevail in conflict” means winning by using nuclear weapons. Such an aspiration is stimulating a new immeasurably dangerous and expensive global nuclear arms race.

Silence in the face of such irrationality is complicity in madness. Such a policy is based on mythical thinking and such dreaming could lead to a global nightmare. We are committed to stopping it.

We believe that if the public really understood what the use of nuclear weapons will do, the level of threat under which the people of New York live daily, the outrageous downward spiral in thinking and behavior of the nations with nuclear weapons, it would demand change for the better.

Nuclear weapons exist in a global context which should be recognized. The Nobel Peace Laureates addressed this fact:



Three Questions to Fulfill Our Duty to the Next Generation
8th Nobel Peace Laureate Summit
December 13-15, 2007

Today, the world is interconnected as never before. Decisions made today will have permanent consequences. Humanity’s global footprint must be guided by appropriate thinking, policy, and actions. No longer can we afford to think locally and act globally.

Three significant issues require new levels of international cooperation based on the rule of law and universal norms. No state, or even a powerful group of states, can succeed alone. Because these issues impact us all, we must all be concerned.

We must effectively address crushing poverty and adequately organize ourselves to protect the global commons, such as the oceans, the climate, and the rainforest – living systems on which civilization depends. Because the promotion of global cooperation is distorted by the possession of nuclear weapons by some, and our security increasingly risked by their spread, we must ensure the elimination of nuclear weapons before they eliminate us.

If we are to fulfill our responsibility to leave a sustainable future to the next generation, we must make sure our political leaders have answers to these critical questions:

- 1. What are your plans to address crushing poverty?**
- 2. What are your plans to protect the environment?**
- 3. What are your plans to eliminate nuclear weapons?**

We, as Nobel Peace Laureates and Laureate Organizations have a duty to demand answers to these questions and we commit to continue to press political candidates and all world leaders for responses. We encourage citizens, especially youth who will be most affected by the answer to these questions, to energetically pursue them also. Further, we expect the press to insist that candidates and leaders articulate their plans to ensure a sustainable and just future.

Nobel Peace Laureates and Laureates Organizations: His Holiness the Dalai Lama, Mikhail Gorbachev, Mairead Corrigan Maguire, Muhammad Yunus, Lech Walesa, Betty Williams, Institut de Droit International, American Friends Service Committee, Amnesty International, International Labor Organization, International Peace Bureau, International Physicians for the Prevention of Nuclear War, International Campaign to Ban Landmines, Medecins Sans Frontieres, Pugwash Conferences on Science and World Affairs, Red Cross Italy, United Nations, United Nations Children’s Fund, United Nations High Commissioner for Refugees



PERMANENT SECRETARIAT
OF NOBEL PEACE LAUREATES SUMMITS

www.nobelforpeace-summits.org - info@nobelforpeace-summits.org

Prologue: The Nuclear Predicament

The Mayor of Nagasaki pleads with us to understand the human dimensions of one relatively small atomic bomb:

The explosion of the atomic bomb generated an enormous fireball, 200 meters in radius, almost as though a small sun had appeared in the sky. The next instant, a ferocious blast and wave of heat assailed the ground with a thunderous roar. The surface temperature of the fireball was about 7,000 degrees C, and the heat rays that reached the ground were over 3,000 degrees C. The explosion instantly killed or injured people within a two-kilometer radius of the hypocenter, leaving innumerable corpses charred like clumps of charcoal and scattered in the ruins near the hypocenter. In some cases, not even a trace of the person's remains could be found. A wind (over 680 miles per hour) slapped down trees and demolished most buildings. Even iron-reinforced concrete structures were so badly damaged that they seemed to have been smashed by a giant hammer. The fierce flash of heat meanwhile melted glass and left metal objects contorted like strands of taffy, and the subsequent fires burned the ruins of the city to ashes. Nagasaki became a city of death where not even the sound of insects could be heard.

After a while, countless men, women and children began to gather for a drink of water at the banks of the nearby Urakami River, their hair and clothing scorched and their burnt skin hanging off in sheets like rags. Begging for help, they died one after another in the water or in heaps on the banks. Then radiation began to take its toll, killing people like a scourge (of) death expanding in concentric circles from the hypocenter. Four months after the atomic bombing, 74,000 people were dead and 75,000 had suffered injuries, that is, two thirds of the city population had fallen victim to this calamity that came upon Nagasaki like a preview of the Apocalypse.

George Kennan, the distinguished American diplomat who originated the Cold War containment policy toward the Soviet Union, not associated with moral admonitions, warns us:

The readiness to use nuclear weapons against other human beings – against people we do not know, whom we have never seen, and whose guilt or innocence is not for us to establish – and, in doing so, to place in jeopardy the natural structure upon which all civilization rests, as though the safety and perceived interests of our own generation were more important than everything that has taken place or could take place in civilization: this is nothing less than a presumption, a blasphemy, an indignity – an indignity of monstrous dimensions – offered to God!

General George Lee Butler, who as former Commander-in-Chief of U.S. Strategic Air Command (1991-92) and U.S. Strategic Command (1992-94), who was responsible for all nuclear forces in the U.S. Air Force and Navy, stated forcefully:

Despite all the evidence, we have yet to fully grasp the monstrous effect of these weapons, the consequences of their use defy reason, transcend time and space, poisoning the Earth and deforming its inhabitants. Nuclear weapons are inherently dangerous, hugely expensive and militarily inefficient.

Former US Secretary of Defense Robert McNamara in the May/June 2005 issue of Foreign Policy, wrote:

This in a nutshell is what nuclear weapons do: They indiscriminately blast, burn, and irradiate with a speed and finality that are almost incomprehensible. This is exactly what countries like the United States and Russia, with nuclear weapons on hair-trigger alert, continue to threaten every minute of every day in this new 21st century.

I have worked on issues relating to U.S. and NATO nuclear strategy and war plans for more than 40 years. During that time, I have never seen a piece of paper that outlined a plan for the United States or NATO to initiate the use of nuclear weapons with any benefit for the United States or NATO. I have made this statement in front of audiences, including NATO defense ministers and senior military leaders, many times. No one has ever refuted it. To launch weapons against a nuclear-equipped opponent would be suicidal. To do so against a nonnuclear enemy would be militarily unnecessary, morally repugnant, and politically indefensible. The fact that more than a decade after the end of the Cold War there are more than 25,000 nuclear weapons, with the US and Russia still squaring off with over 96% of the arsenals and thousands still on launch on warning hair trigger alert, should cause any prudent person alarm. The wakeup call is being heard on protecting the environment, since climate change cannot be ignored and the Millennium Development Goals ring a hopeful note that poverty in our lifetime could become history. My belief is that without progress in the arena of cooperative security these other critical challenges will remain unmet and our collective future uncertain. For that reason I urge you to reflect deeply on the Axis of Responsibility.

Responsibility for Our Common Future

The world is interconnected as never before. It is not only connected presently but decisions made today will have permanent consequences long into the future. If our decisions today are flawed we cannot say how long the future will last. This is unique in human history. We are the first generation, which on several issues must ensure consciously and intentionally that we are not the last. Moreover, our most critical challenges require new levels of holistic creative thinking and governance that can integrate local concerns with global responsibility. The dangers that used to hang over only a few now hang over the heads of all. Wisdom to understand the interconnectedness of the dangers is now also required. No longer can we afford to think locally and act globally. Humanity's global footprint must be met with appropriate thinking and policies.

There is an Axis of Responsibility

Three issues, amongst others, require global cooperation, the rule of law, and universal norms. Whether we effectively address crushing poverty, adequately organize ourselves to protect the global commons such as the oceans, the climate, and the rainforest—living systems upon which civilization depends—and eliminate nuclear weapons before they eliminate us, defines whether we pass on a sustainable future. If we attain appropriate levels of cooperation and clarity of purpose to address these three issues correctly others will fall into place. Our capacity to address cyber-security, the health of the oceans, preventing an arms race in space, ending terrorism, and preventing pandemic diseases will be much improved, to say the least.

No state, nor even a powerful group of states, can succeed alone. Universal coordinated approaches using our highest values, culture, and the arts of law and diplomacy are needed. Those who know, as never before, simply must educate the public that apathy is not acceptable. Publics will not empower leaders with the political room to create necessary changes unless they are made aware. All too often the media exploits the pornography of the trivial.

We simply cannot allow any hurdle to constrain what we know to be critical – creating the political passion and will to act now. We have a duty to constrain greed and the pursuit of power with a culture of peace, law, justice, morality and reason. If fear or greed continue to guide us, these tools will continue to fail us. Leaders such as yourselves can bring hope, but only when vision and analysis are clear.

To do so, we simply must make these global concerns part of personal, domestic and local agendas.

Priorities must be recalibrated; our collective survival is at stake. This will cost money everywhere, enormous economic adjustments, and changes in values and lifestyles.

We know short-term economic opportunities might have to give way to long-term environmental responsibility. At the outset, let me thus place before your minds a question to hold as I set forth the nodes of the Axis of Responsibility: Will we achieve the necessary cooperation in a world with nuclear weapons in the hands of a few who claim the privilege of superior security interests?

Protecting Global Commons

No nation can be secure when the living systems upon which everyone depends are at risk. Global warming will lead to radical changes in food production and increase the likelihood of disease pandemics. Climate change will cause population displacements leading to instability and conflict. Rainforest destruction -- whether in Brazil, Canada, or anywhere—destroys the lungs of the planet and thus the air we all need to breathe. If one country can dump in the oceans, all can dump toxic chemicals and life destroying waste through that country's flag. We must protect the oceans biodiversity and fishing stocks.

In fact, the phytoplankton, which depends on the health of the oceans, provides the majority of our oxygen and has a positive impact in the absorption of carbon. Global warming will change the oceans and we do not know how it will impact our third lung, phytoplankton. We do not have the luxury of experimenting with a system handed to us by a loving divine mystery. Changing the earth's climate is putting more at risk than we currently even comprehend. Is there anyone so naive as to think that global warming will exempt any country from its destructive forces?

Can we survive a world where vast millions lack a simple glass of clean water? A world, where half of the population lives on less than \$2.50 per day, cannot be sustained. It is both immoral and impractical to ignore such suffering when we know there are solutions achievable at low cost. The Marshall Plan worked well, helping to build a post WWII security system with trading partners. The same principles can now be applied between the developed and developing communities. The Sustainable Development Goals set forth an excellent map (see appendices)

Crushing poverty is an injustice that breeds the instabilities and suffering wherein hopelessness turns to terrorism. Immigration becomes a problem because people cannot sustain their families by staying home. The world is now our collective home. We have to make every room in the home hospitable. And again there is traction and public awareness to pursue a sustainable development agenda.

In this regard, we recommend simply fulfilling commitments made in the Sustainable Development Goals and disarmament commitments made pursuant to the Nuclear Nonproliferation Treaty, demanded by the decision of the International Court of Justice and embodied in initiatives such as the Ban Treaty.

Nuclear Disarmament

On this issue, we are in a unique situation. The enormity of the crisis is being overlooked. Today, thousands of nuclear weapons are on long-term high alert status, just as they were during the Cold War. There are 14,930 of these devices in existence. The nine states (China, Democratic People's Republic of Korea, France, Israel, India, Pakistan, Russia, United Kingdom, and the United States), which possess them, are either modernizing, or expanding their arsenals, or doing both.

Under the Nuclear Nonproliferation Treaty (NPT) and pursuant to the unanimously ruling of the International Court of Justice, there is a legal duty to negotiate the universal and verifiable elimination of nuclear weapons. Nevertheless, negotiations amongst the nuclear weapons states to achieve this goal are not taking place because of a failure of both public knowledge and political will.

Every moment of every day, thousands of personnel stand ready, willing, and able to annihilate the future. Billions of dollars have been and will be spent on this mad venture.

Recent studies show that if less than 1 percent of the arsenals were to be exploded, then the debris would rise into the stratosphere will affect the climate of the planet, terminating agriculture as we know it, and ending civilization.

The core bargain of the NPT is threatened by the ad hoc approach of the most powerful states, which want to sacrifice the core bargain of the non-proliferation regime of only rewarding those who eschew proliferation while seeking to constrain those who would proliferate.

Simply, we cannot sustain a world where the security for some is valued more than for others. But the greatest present disequilibrium in the quest for common security is the fact of nuclear weapons apartheid. It is a central litmus test of our time – to succeed we must change a variety of relationships and to fail on this issue is not acceptable.

Nuclear weapons are unworthy of civilization and the only security against their spread and use is their universal, legally verifiable elimination.

Every step towards the elimination of nuclear weapons must reduce threats, enhance security, and promote the rule of law. Nuclear weapons themselves are unacceptably dangerous in anyone's hands. Ronald Reagan and Mikhail Gorbachev knew ever so clearly how nuclear weapons threaten civilization. The threat has not disappeared.

President Reagan called for the abolition of "all nuclear weapons" which he considered to be "totally irrational, totally inhumane, good for nothing but killing, possibly destructive of life on Earth and civilization".

His call has recently been echoed by Henry Kissinger, George Schultz, William Perry and Sam Nunn in a January 7, 2007 Wall Street Journal oped. They correctly argue that we do not live in a static world. Their call for progress based purely on political realism was amplified by President Mikhail Gorbachev's response of in the Wall Street Journal on January 31, 2007:

We must put the goal of eliminating nuclear weapons back on the agenda, not in a distant future but as soon as possible. It links the moral imperative – the rejection such weapons from an ethical standpoint—with the imperative of assuring security. It is becoming clearer that nuclear weapons are no longer a means of achieving security; in fact, with every passing year, they make our security more precarious.

Without clear commitment to the vision of disarmament, and a passion to achieve it, the inequities of the current order cannot be self-sustaining. Our choice is a sustainable nonproliferation regime with movement toward disarmament, or a denial of the inequities and ever more dangerous counter proliferation adventures, like Iraq. We cannot think the status quo will hold.

We must either accept ever more violent counter proliferation efforts or get on with nuclear disarmament. There is insufficient public traction on this axis. The other two in fact depend upon this issue.

Nuclear Weapons Free Zones (NWFZs)

We are delighted that the majority of states, over 114 states, belong to nuclear weapons free zones (NWFZs), zones that are defined as specific regions in which states commit themselves not to manufacture, acquire, test, or possess nuclear weapons.

Five such zones exist today, with four of them making the entire Southern Hemisphere nuclear weapons free. The regions currently covered under NWFZ agreements include: Latin America (the 1967 Treaty of

Tlatelolco), the South Pacific (the 1985 Treaty of Rarotonga), Southeast Asia (the 1995 Treaty of Bangkok) Africa (the 1996 Treaty of Pelindaba) and Central Asia (the 2006 Treaty of Semipalatinsk).

Treaty on the Prohibition of Nuclear Weapons

We welcome the Treaty on the Prohibition of Nuclear Weapons (“Ban Treaty”). In July 2017, this treaty to eliminate nuclear weapons was successfully concluded by a formal vote in which 120 states voted in favor for its adoption. However, none of the states with nuclear weapons have expressed support for the treaty yet.

Additional Steps

We recommend the following steps:

1. Massive Public Education on the threat that nuclear weapons pose and the legal and moral imperative to eliminate them
2. Commencement of negotiations amongst the nuclear weapon states on a comprehensive convention to universally eliminate the weapons
3. All states should work on joining the Ban Treaty
4. Immediately, pending the total elimination of all nuclear weapons, pledge to never drop a nuclear weapon on a city or populated area

Conclusion

We must help generate the will to create new initiatives, for the only "coalition of the willing" that can successfully address the problems identified as the axis of responsibility is a global coalition consisting of all states -- global problems require global solutions, not clubs or vigilante groups. The majority of nations of the world, which have called for nuclear disarmament, and all member-states of the UN have committed to the sustainable development goals. However, the nations of the world will not be able to accomplish these goals without the support of their citizens.

Bravo New York City, A Nuclear Weapons Free Zone since 1983!

As members of the human family fully aware of the fact that today’s choices will dramatically affect those yet to come, as well as those suffering today, we thus ask ourselves three powerful questions. We have suggested steps to answer them, but realize that others may have better approaches. But having no coherent approach spells irresponsibility. Let me end with one more suggestion. In political campaigns the world over, questions must be asked of every political leader and candidate:

1. What are you doing to eliminate poverty?
2. What are you doing to protect the climate?
3. What are you doing to eliminate nuclear weapons?

Appendix A. Sustainable Development Goals

The nations of the world have collectively agreed to a set of goals to be obtained by 2030. These commitments when put into practice will be a model of cooperative security. It is worthwhile to list the specific goals and their underlying policy commitments, targets, and demand political leaders enact programs to achieve them.

The Sustainable Development Goals adopted by the General Assembly of the United Nations on 25 September 2015, contains 17 Goals and 169 associated targets¹:

1. End poverty in all its forms everywhere
2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture
3. Ensure healthy lives and promote well-being for all at all ages
4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
5. Achieve gender equality and empower all women and girls
6. Ensure availability and sustainable management of water and sanitation for all
7. Ensure access to affordable, reliable, sustainable and modern energy for all
8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
10. Reduce inequality within and among countries
11. Make cities and human settlements inclusive, safe, resilient and sustainable
12. Ensure sustainable consumption and production patterns
13. Take urgent action to combat climate change and its impacts
14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17. Strengthen the means of implementation and revitalize the global partnership for sustainable development

¹ United Nations, General Assembly, Draft Outcome document of the UN Summit for the adoption of the post-2015 development agenda, A/69/L.85, (12 August 2015), available from http://www.un.org/ga/search/view_doc.asp?symbol=A/69/L.85&Lang=E

Appendix B. Climate Change

The recent 5th Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC) sent three overarching messages to the world: 1) Human influence on the climate system is clear, and growing, 2) we must act quickly and decisively if we want to avoid increasingly destructive outcomes and 3) we have the means to limit climate change and build a better future. The report addressed explicitly the implications of climate change on human security, including migration, displacement and violent conflicts.

The key findings of the IPCC are as follows:

Climate change over the 21st century is projected to increase displacement of people. Displacement risks increase when populations that lack the resources for planned migration experience higher exposure to extreme weather events, in both rural and urban areas, particularly in developing countries with low income. Expanding opportunities for mobility can reduce vulnerability for such populations. Changes in migration patterns can be responses to both extreme weather events and longer-term climate variability and change. However, migration can also be an effective adaptation strategy.

Climate change can indirectly increase risks of violent conflicts in the form of civil war and inter-group violence by amplifying well-documented drivers of these conflicts such as poverty and economic shocks. Multiple lines of evidence relate climate variability to these forms of conflict.

The impacts of climate change on the critical infrastructure and territorial integrity of many states are expected to influence national security policies. Some transboundary impacts of climate change, such as changes in sea ice, shared water resources, and pelagic fish stocks, have the potential to increase rivalry among states, but robust national and intergovernmental institutions can enhance cooperation and manage many of these rivalries.

Building a low-carbon world to stabilize the climate will create new opportunities for individuals, companies and countries to share.

Climate Change will increasingly affect all citizens and economic sectors around the world and will hit the poor and least favored hardest.

Therefore, it was imperative that the 21st Conference of the Parties to the United Nations Convention on Climate Change to be held in Paris, France on 30 November-11 December 2015, to establish a comprehensive agreement to support swift and decisive action by all States to address adaptation to and mitigation of climate change.

At the 21st Conference of the parties to the United Nations Convention on Climate Change, representatives from 196 states successfully concluded the Paris Climate Agreement, which:

For the first time – brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects, with enhanced support to assist developing countries to do so. As such, it charts a new course in the global climate effort.

The Paris Agreement's central aim was to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. To reach these ambitious goals, appropriate financial flows, a new technology framework and an enhanced capacity building

framework will be put in place, thus supporting action by developing countries and the most vulnerable countries, in line with their own national objectives. The Agreement also provides for enhanced transparency of action and support through a more robust transparency framework.

The Paris Agreement requires all Parties to put forward their best efforts through “nationally determined contributions” (NDCs) and to strengthen these efforts in the years ahead. This includes requirements that all Parties report regularly on their emissions and on their implementation efforts.²

In 2017, U.S. President Donald Trump expressed his intention for the United States to withdraw from the agreement. His declaration was met by widespread condemnation by members of the European Union, multiple sectors, and cities in the U.S.

Significantly, although Trump announced that the U.S. would withdraw from the agreement, the governors of 12 US states, including New York, Washington State, California, Connecticut, Delaware, Hawaii, Massachusetts, Minnesota, Oregon, Rhode Islands, Vermont, Virginia, and Puerto Rico have pledged to support the agreement. They joined the U.S. Climate Coalition, which includes states governments representing 36 percent of the U.S.’ GDP.

These states are committing to a specific goal: reducing their emission as much as 28 percent below 2005 levels in the next three years and meeting or exceeding the targets of the Clean Power Plan.³

Additionally, in July 2017, Governor Jerry Brown of California announced that he will be hosting the Climate Action Summit in San Francisco in September 2018. The summit will bring together the leaders of states, cities, businesses, and other distinguished individuals, who have pledged to curb greenhouse gas emissions as stipulated in the Paris Agreement.⁴

As we enter an era in which we need local politicians to unite with citizens, we urge you to support the Paris Agreement and spread awareness about the significance of this agreement to members of your local communities.

² United Nations, “The Paris Agreement.” *UN Framework Convention on Climate Change*, available at: http://unfccc.int/paris_agreement/items/9485.php

³ “All of the US cities, counties, states, university presidents, companies, and investors defying Trump’s stance on Paris.” *Quartz*, available at: <https://qz.com/999142/paris-agreement-all-of-the-us-cities-counties-states-universities-companies-and-investors-defying-trumps-stance-on-climate-deal/>

⁴ Lisa Friedman, “Jerry Brown Announces a Climate summit Meeting in California.” *New York Times*. 6 July 2017, available at: <https://www.nytimes.com/2017/07/06/climate/jerry-brown-california-climate-summit.html>

Appendix C. Fast Facts

1. Climate Change

Type of Risk: Existential

Corresponding Legal Regimes: Montreal Protocol, United Nations Framework Convention on Climate Change, Kyoto Protocol, Marrakesh Accords, Doha Amendment⁵

Climate change is caused when greenhouse gases are released, trapping heat in the atmosphere and warming the planet.⁶

The concentration of carbon dioxide in the atmosphere was 280 parts per million (ppm) before the Industrial Revolution, and as of December 2016, was up to 404.93 ppm. These are the highest levels of carbon dioxide in the last 800,000 years.⁷

According to projections by the Intergovernmental Panel on Climate Change, global temperatures are expected to increase by at least 2.7°F by 2100.⁸

The United States is the second largest contributor to global climate change, despite holding only 4.4% of the global population. China is the largest contributor, accounting for 23% of all global CO₂ emissions.⁹

The average sea level is expected to rise between 1 and 6 feet before 2100.¹⁰

The number of glaciers in Glacier National Park has decreased from more than 150 in 1910 to 25 as of December 2016. Eventually, it is expected to lose all of its glaciers (a phenomenon that is happening worldwide).¹¹

At the current pace of global temperature rise, approximately 25-35% of plant and animal species have an increased risk of extinction.¹²

Climate change is also caused by the destruction of rainforests, because there are fewer trees to store carbon. Additionally, clearing and burning trees releases large amounts of carbon dioxide into the atmosphere.¹³

Due to rises in ocean temperatures, coral reefs are dying off en masse around the world. In 2015, coral bleaching had impacted 40% of reefs, and 4,630 square miles of reef had been killed.^{14,15}

⁵ "Towards a climate agreement - UN and Climate Change." *United Nations*. United Nations, n.d. Web. 03 May 2017.

⁶ "Overview of Greenhouse Gases." *EPA*. Environmental Protection Agency, 14 Apr. 2017. Web. 03 May 2017.

⁷ *NASA*. NASA, n.d. Web. 03 May 2017.

⁸ "Fast Facts About Climate Change." *National Wildlife Federation*. N.p., n.d. Web. 03 May 2017.

⁹ WorldAtlas.com. "Biggest Contributors To Global Warming In The World By Country." *WorldAtlas*. N.p., 16 Oct. 2015. Web. 03 May 2017.

¹⁰ "Understanding Sea Level Projections." *NASA*. NASA, 04 Aug. 2016. Web. 03 May 2017.

¹¹ "Glaciers." *National Parks Service*. U.S. Department of the Interior, n.d. Web. 03 May 2017.

¹² "Wildlife in a Warming World." *National Wildlife Federation*. N.p., n.d. Web. 03 May 2017.

¹³ Munita, Photograph By Tomas. "Deforestation and Its Effect on the Planet." *And Its Effect on the Planet*. N.p., 01 May 2017. Web. 03 May 2017.

¹⁴ Heron, Scott F., Jeffrey A. Maynard, Ruben Van Hooijdonk, and C. Mark Eakin. "Warming Trends and Bleaching Stress of the World's Coral Reefs 1985–2012." *Nature News*. Nature Publishing Group, 06 Dec. 2016. Web. 03 May 2017.

¹⁵ *National Oceanic and Atmospheric Administration*. N.p., n.d. Web. 03 May 2017.

2. Oceans and Phytoplankton

Type of Risk: Existential

Corresponding Legal Regimes: Montreal Protocol, United Nations Framework Convention on Climate Change, Kyoto Protocol, Marrakesh Accords, Doha Amendment¹⁶

General Ocean Changes:

Coastal flooding is becoming increasingly prevalent. Nearly every measured coastal site in the U.S. has experienced an increase in flooding since 1950.¹⁷

Multiple data analyses show a long-term trend of rising ocean temperatures.¹⁸ Some data shows that there has been a 0.1 degree Celsius increase every decade between 1970 and 2010 in shallow waters.¹⁹

Carbon dioxide and acidity levels in the oceans have increased over the last few decades. This makes it more difficult for some animal species to build and maintain skeletons and shells.²⁰

Warming oceans are forcing fish to change their migration patterns and migrate toward the Earth's poles.²¹

Phytoplankton and Their Impact on Oxygen Levels:

Phytoplankton provides food for several ocean creatures, such as whales, snails, and jellyfish. This makes them the base of several ocean food webs. They float in the top part of the ocean where sunlight shines through the water.²²

Ocean phytoplankton produces approximately two thirds of the planet's atmospheric oxygen through photosynthesis.²³

A six degree Celsius increase in ocean temperatures could disrupt the phytoplankton's photosynthesis process, which would stop their oxygen production. Some scientists predict that this could occur before the year 2100. This would likely result in mass mortality in humans and animals.²⁴

Warmer water temperatures (as a result of global warming) slows phytoplankton growth, because there is less mixing of warm surface water and cold water below, so there are fewer nutrients in the surface level warm water for the phytoplankton. Rising levels of carbon dioxide in the atmosphere play a big part in global warming," said lead author Michael Behrenfeld of Oregon State University, Corvallis. "This study shows that as the climate warms, phytoplankton growth rates go down and along with them the amount of carbon dioxide these ocean plants consume. That allows carbon dioxide to accumulate more rapidly in the atmosphere, which would produce more warming."²⁵

¹⁶ "Towards a climate agreement - UN and Climate Change." *United Nations*. United Nations, n.d. Web. 03 May 2017.

¹⁷ "Climate Change Indicators: Coastal Flooding." *EPA*. Environmental Protection Agency, 17 Dec. 2016. Web. 03 May 2017.

¹⁸ "Climate Change Indicators: Ocean Heat." *EPA*. Environmental Protection Agency, 17 Dec. 2016. Web. 03 May 2017.

¹⁹ "5 ways climate change is affecting our oceans." *Environmental Defense Fund*. N.p., n.d. Web. 03 May 2017.

²⁰ "Climate Change Indicators: Ocean Acidity." *EPA*. Environmental Protection Agency, 17 Dec. 2016. Web. 03 May 2017.

²¹ "5 ways climate change is affecting our oceans." *Environmental Defense Fund*. N.p., n.d. Web. 03 May 2017.

²² US Department of Commerce, National Oceanic and Atmospheric Administration. "What are phytoplankton?" *NOAA's National Ocean Service*. N.p., 27 July 2009. Web. 03 May 2017.

²³ <https://www.sciencedaily.com/releases/2015/12/151201094120.htm>

²⁴ "Failing phytoplankton, failing oxygen: Global warming disaster could suffocate life on planet Earth." *Science Daily*. Science Daily, n.d. Web. 03 May 2017.

²⁵ Earth, NASA's Visible. "Warming Ocean Slows Phytoplankton Growth." *NASA*. NASA, 11 Aug. 2009. Web. 03 May 2017.

Additionally, since plankton are so significant in so many food webs, fewer plankton will lead to fewer fish, which is a major food source for humans and other animals.²⁶

Counterpoint: They may not be as affected as we thought. Phytoplanktons have a hard shell, and researchers predicted their shells would be very affected by increasing acidity in oceans. So far, though, they have not been affected, which is a good sign.²⁷

3. Rainforests

Type of Risk: Existential

Corresponding Legal Regimes: International Tropical Timber Organization (ITTO)²⁸, Convention on International Trade in Endangered Species (CITES)²⁹

Rainforests are an important habitat for over 30 million species of plants and animals. They are home to over half of the world's animal species, and more than two thirds of its plant species.

Rainforests store much of the Earth's water, with some estimates suggesting that they store more than half of the Earth's rainwater. This recycling of water helps prevent droughts, famine, and disease.

Trees cleanse our atmosphere by absorbing carbon dioxide and providing oxygen. When trees are burned, they release this carbon dioxide, contributing to pollution and global warming. Deforestation is considered to be the second largest driver of climate change--even more than transportation. It is estimated that deforestation is responsible for 18-25% of annual carbon emissions.

In the past 50 years, significant areas of rainforest have been destroyed for a variety of purposes, including cattle ranching, logging, mining, and agriculture.

It is estimated that for each pound of beef produced, 200 sq. ft. of rainforest is destroyed. Cattle farming is responsible for about 50% of deforestation.³⁰

Most experts agree that we are losing *at least* 80,000 acres of rainforest daily.³¹

Rates of tropical deforestation are 8.5% higher this decade than they were in the 1990s, according to the United Nations' Food and Agriculture Organization (FAO).³²

Annually, we are destroying 31,000 square miles of rainforest--the size of South Carolina or the Czech Republic. Most of this loss was in Brazil, Indonesia, Democratic Republic of Congo, and Malaysia between 2012-2014.

According to researchers' suggestions, this destruction amounts to more than 5 billion trees being cut down per year.³³

²⁶ Thompson, Helen. "How Will Climate Change Impact Plankton?" *Smithsonian.com*. Smithsonian Institution, 26 May 2015. Web. 03 May 2017.

²⁷ Kachur, Torah. "Good news: Phytoplankton can survive in a warming world." *CBCnews*. CBC/Radio Canada, 16 Feb. 2016. Web. 03 May 2017.

²⁸ *The International Tropical Timber Organization (ITTO)*. N.p., n.d. Web. 02 May 2017.

²⁹ "What is CITES?" *What is CITES? | CITES*. N.p., n.d. Web. 02 May 2017.

³⁰ "Rainforest Concern." *Rainforest Concern - Why are rainforests important?* N.p., n.d. Web. 03 May 2017.

³¹ "Measuring the Daily Destruction of the World's Rainforests." *Scientific American*. N.p., 18 Nov. 2009. Web. 03 May 2017.

³² "Measuring the Daily Destruction of the World's Rainforests." *Scientific American*. N.p., 18 Nov. 2009. Web. 03 May 2017.

³³ Mongabay. "10 Rainforest Facts for 2017." *Mongabay.com*. N.p., 09 June 1999. Web. 03 May 2017.

4. Facts about Poverty and SDGs

Extreme poverty rates have been cut by more than half since 1990. While this is a remarkable achievement, one in five people in developing regions still live on less than \$1.25 a day, and there are millions more who make little more than this daily amount, plus many people risk slipping back into poverty.

Poverty is more than the lack of income and resources to ensure a sustainable livelihood. Its manifestations include hunger and malnutrition, limited access to education and other basic services, social discrimination and exclusion as well as the lack of participation in decision-making. Economic growth must be inclusive to provide sustainable jobs and promote equality.³⁴

ENDING POVERTY – WHY IT MATTERS

836 million people still live in extreme poverty

About one in five persons in developing regions lives on less than \$1.25 per day

The overwhelming majority of people living on less than \$1.25 a day belong to two regions: Southern Asia and sub-Saharan Africa

High poverty rates are often found in small, fragile and conflict-affected countries

One in four children under age five in the world has inadequate height for his or her age

Every day in 2014, 42,000 people had to abandon their homes to seek protection due to conflict

Goal 1 Target

- By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than \$1.25 a day
- By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions
- Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable
- By 2030, ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of property, inheritance, natural resources, appropriate new technology and financial services, including microfinance
- By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters
- Ensure significant mobilization of resources from a variety of sources, including through enhanced development cooperation, in order to provide adequate and predictable means for developing countries, in particular least developed countries, to implement programmes and policies to end poverty in all its dimensions
- Create sound policy frameworks at the national, regional and international levels, based on pro-poor and gender-sensitive development strategies, to support accelerated investment in poverty eradication actions

³⁴ "Sustainable Development Goals." *United Nations*, available at <http://www.un.org/sustainabledevelopment/poverty/>

5. Facts about Nuclear Weapons

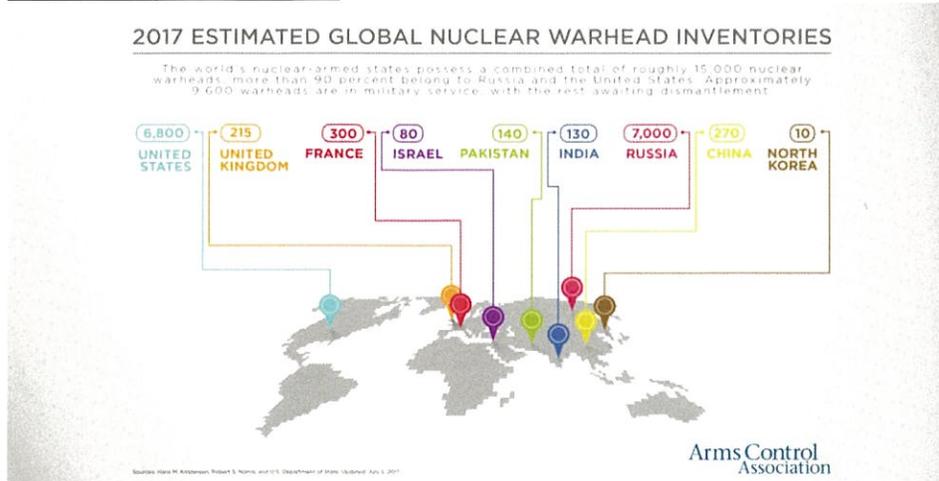
Amount of Nuclear Weapons

Estimated Amount: 14,930 nuclear weapons of which more than 3,900 warheads are deployed with operational forces, of which nearly 1,800 US, Russian, British and French warheads are on [high alert](#), ready for use on short notice

93 percent of all nuclear warheads are owned by Russia and the United States,

4,000-4,500 warheads in their military stockpiles; no other nuclear-armed state sees a need for more than a few hundred nuclear weapons for national security.

Nuclear Weapons Inventories



Status	 RUSSIA	 UNITED STATES	 FRANCE	 CHINA	 UK	 PAKISTAN	 INDIA	 ISRAEL	 N. KOREA
Deployed Ready to launch	1,910	1,800	290	?	120	0	0	0	?
Undeployed Stockpiled, or some assembly required	2,390	2,200	10	270	95	140	130	80	60
Retirement Retired, waiting for disassembly	2,700	2,800	0	0	0	0	0	0	0
Total	7,000	6,800	300	270	215	140	130	80	60

*Estimates indicate that North Korea may have 30-60 weapons
SIPRI, Federation of American Scientists, Bulletin of the Atomic Scientists, WaPo, Business Insider

Modernization

All the nuclear weapon states continue to modernize their remaining nuclear forces and appear committed to retaining nuclear weapons for the indefinite future.

Snapshot of modernization costs:

The United States maintains an arsenal of about [1,650](#) strategic nuclear warheads deployed on Intercontinental Ballistic Missiles (ICBMs), Submarine-Launched Ballistic Missiles (SLBMs), and Strategic Bombers and some 180 tactical nuclear weapons at bomber bases in five European countries. The Departments of Defense and Energy requested approximately \$26.8 billion in Fiscal Year (FY) 2017 to maintain and upgrade these systems and their supporting infrastructure, according to the

nonpartisan Congressional Budget Office (CBO). CBO estimates that nuclear forces will cost \$400 billion between FY 2015 and FY 2024.³⁵

An analysis by the Arms Control Association of U.S. government budget data projects the total cost over the next 30 years at between \$1.25 trillion and \$1.46 trillion in then-year dollars, meaning it includes price increases due to inflation.

The Defense Department is projecting to spend \$230-\$290 billion to recapitalize U.S. nuclear forces between FY 2018 and FY 2040, in constant FY 2018 dollars. The estimate includes the total cost of strategic delivery systems that have a nuclear-only mission, and a portion of the cost of the B-21 bomber (which will have both conventional and nuclear roles) that according to the department is consistent with the historical cost of delivering nuclear capability to a strategic bomber. The total also includes the cost of modernizing nuclear command, control, and communications (NC3) systems.³⁶

The projected costs of nuclear modernization prompted Senate Armed Services Committee chairman John McCain (R-Ariz.) to utter the following on May 19, 2016, at the Brookings Institution: "it's very, very, very expensive....Do we really need the entire triad, given the situation?"³⁷

Yield of nuclear weapons

Overview

The 13 and 21-kiloton explosions over Hiroshima and Nagasaki in August 1945 burned both cities to the ground, killing over 200,000 people instantly. Yet nuclear weapon States went on to develop far more destructive weapons that dwarf the power of these simple fission weapons.

At the height of the Cold War, thousands of U.S. and Soviet ballistic missiles on high alert were capable of delivering up to 10 independently targeted warheads at a time, each one twenty times more powerful than the Hiroshima bomb.

The largest nuclear explosion in history was the 1961 Soviet "Tsar Bomba" test, which measured more than 50 megatons (3,800 times more powerful than the Hiroshima bomb).

To generate an explosion of this magnitude using dynamite, it would require 50 billion kilograms (over 110 billion pounds) of TNT, which is more than the weight of all the cargo that has passed through London's Heathrow airport in the past 40 years. Expressed in volume, this would amount to 18 blocks of TNT each as large as the Empire State building.

Nations hosting Nuclear Weapons

Belgium, Germany, Italy, Netherlands, and Turkey

Nations in Nuclear Alliances

Albania, Australia, Bulgaria, Canada, Croatia, Czech, Denmark, Estonia, Greece, Hungary, Iceland, Japan, Latvia, Lithuania, Luxembourg, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, South Korea, Spain (plus the five host nations)

³⁵ "U.S. Nuclear Modernization Programs: Fact Sheets and Briefs," *Arms control Association*. August 2017, available at: <https://www.armscontrol.org/factsheets/USNuclearModernization>

³⁶ Ibid.

³⁷ Ibid.

Nuclear Non-Proliferation Treaty

The NPT is a landmark international treaty whose objective is to prevent the spread of nuclear weapons and weapons technology, to promote cooperation in the peaceful uses of nuclear energy and to further the goal of achieving nuclear disarmament and general and complete disarmament.

Opened for signature: 1 July 1968

Entered into force: 5 March 1970

Parties to the NPT: 189

States not party: India, Pakistan, Israel, and Democratic People's Republic of Korea* (withdrew 10 January 2003)

Link: <https://www.un.org/disarmament/wmd/nuclear/npt/>

Treaty on the Prohibition of Nuclear Weapons

The Treaty on the Prohibition of Nuclear Weapons prohibits States Parties from developing, testing, producing, manufacturing, acquiring, possessing, or stockpiling nuclear weapons or other nuclear explosive devices. Signatories are barred from transferring or receiving nuclear weapons and other nuclear explosive devices, control over such weapons, or any assistance with activities prohibited under the Treaty. States are also prohibited from using or threatening to use nuclear weapons and other nuclear explosive devices. Lastly, States Parties cannot allow the stationing, installation, or deployment of nuclear weapons and other nuclear explosive devices in their territory. In addition to the Treaty's prohibitions, States Parties are obligated to provide victim assistance and help with environmental remediation efforts.

Opened for Signature: 20 September 2017

Adopted: 7 July 2017 (120 yes, 1 abstention, 1 against)

Duration: Indefinite

Links: <http://www.nti.org/learn/treaties-and-regimes/treaty-on-the-prohibition-of-nuclear-weapons/> and <https://www.un.org/disarmament/ptnw/>

Nexus between Nuclear Weapons and Environment

Excerpt from an interview on Nuclear Winter with Alan Robock and Brian Toon:

In the 5 years after a tiny little war using less than 1% of the global arsenal on the other side of the world, global food production would go down by 20 to 40 percent for 5 years and for the next 5 years 10 to 20 percent. So, that means that there would be huge stress on countries that import food and even on countries that grow food.³⁸

For additional information, please see: Dr. Alan Robock Nuclear Famine and Nuclear Winter: Climatic Effects of Nuclear War, Catastrophic Threats to the Global Food Supply Symposium: The Dynamics of Possible Nuclear Extinction, available at <https://ratical.org/radiation/NuclearExtinction/AlanRobock022815.html>

³⁸ "Nuclear Winter with Alan Robock and Brian Toon," *Future of Life*, available <https://futureoflife.org/2016/10/31/nuclear-winter-roboc-toon-podcast/>

Another appeal of the Noble Peace Laureates:

Appeal to the Youth of the World, Noble Peace Laureates' Summit, Chicago, November 2012

As Nobel Peace Laureates and Laureate organizations we realize that if the commitment to peace and human rights is not passed from one generation to the next our achievements will be short lived. For this reason we applaud the youth of the world over who are standing up and speaking out in protest against injustice and inequality and defending the right to peace, social justice and a sustainable future.

We are concerned that old threats to peace are persisting and new ones emerging. We therefore urge young people to organize for peace and learn to prevent and resolve conflicts peacefully. At a time when militarism continues to corrupt the minds of politicians and poison international relations, when a new arms race is unfolding, this must be a key priority. As Nobel Laureate Martin Luther King, Jr. said, "those who love peace must learn to organize as effectively as those who love war."

Our collective security can no longer focus primarily on the security of states; it must focus on the security of people. Wars and militarism cannot achieve real human security.

Substantial reductions of world military expenditures could eliminate the crushing poverty whereby nearly one third of humanity lives in insufferable conditions. Excessive military expenditures not only represent a theft from those who are hungry but are also an ineffective means of obtaining security.

Equally unacceptable is violence against nature that ruins the environment upon which civilization depends.

All the world's religions and peoples share similar basic values, such as peace, compassion, love, justice, service toward others, and the alleviation of suffering.

Political leaders must recognize our common humanity through deeds rather than mere words.

We urge young people to question leaders about what they are doing to address the main challenges that face the world today:

What are you doing for the abolition of nuclear arms and other indiscriminate weapons and for reduction of military spending?

What are you doing to bridge the divide between wealth and crushing poverty?

What are you doing to save our planet from environmental disaster?

What are you doing to protect and promote human rights and equality between women and men?

We offer the world's youth our support and our experience as they pursue a better future. We urge them to achieve change through peaceful and moral means. We need your enthusiasm and we want you to join us in our continued quest for peace and justice.

New York City Council Hearing: Resolution 976 and Introduction 1621
January 28th, 2020

Testimony from Lilly Adams, Union of Concerned Scientists

Hello, my name is Lilly Adams, I work with the Union of Concerned Scientists, or UCS, a non-profit organization dedicated to using rigorous, independent science to solve our planet's most pressing problems, including the threat of nuclear weapons. I would like to thank the New York City council members for considering this urgent and important issue.

As an organization of scientists, UCS must reckon with the fact that scientists helped bring about the development of nuclear weapons. Yet after the creation of the bomb, and its tragic use in New Mexico and Japan, the very same scientists were some of the most ardent advocates for disarmament and the prevention of their use ever again. UCS works to continue that legacy of science advocacy.

Last week, the Bulletin of the Atomic Scientists set their "Doomsday Clock" to just 100 seconds to midnight, citing unprecedented nuclear threats, and calling on the world to take immediate action. Despite these dire warnings, our federal government is neglecting its responsibility to act, and in some cases, is actively making the world less safe by promoting dangerous nuclear weapons policies.

This is why UCS believes it is crucial for local governments to take a stand. We urgently need local elected officials and concerned advocates to raise their voices and denounce these terrible, inhumane weapons. This action is especially powerful coming from New York City, the birthplace of the Manhattan Project and home to many former nuclear weapons sites. New York City has a stake in this fight, and as a New York City resident myself, I am proud to be here today as part of this historic effort.

The Union of Concerned Scientists wholeheartedly supports New York City in divesting from the companies involved in the production and maintenance of nuclear weapons, and we urge the New York City Council to vote in favor of Resolution 976 and Introduction 1621, to help create a safer world. Thank you.

RAMPOUGH



LENAPE

the Ramapough
at City

MUNSEE

NATION

I am Sachem Maqua: Chief Perry; of the Ramapough Lunaape Nation, the Munsee people whose ancestral land this Great City now sits.

I come not to belabor you with more facts, of which you should already know but to share in ancient truths for which most have ignored since 1624.

In the 14 hundreds, The Ojibwa began their migration west because, it was foretold shinny people were coming and some would bring death:

It Has Happened!

In the 18 hundreds, the Western Nations prophesized: the coming of the black snakes, which would bring joy to many and in the end death. It has happened

“You Cannot Drink Oil”.

If one Oil train derails/Spills into the NY State watershed: as It nearly did in 2018, Hundreds of Thousands of people in this city will Die. “You Cannot Drink Oil”. It is a current Danger..!! It is a Danger Now..!!

In the Nineties, Sitting in the Himalia’s with Elders from over (200) two hundred countries It was foretold “That hollow people were coming and some would hold the suns of death” It Has Happened...!!!

As the western world’s freedoms wilt under the knowing guise of misdirecting syntax .The hollow people have risen..!! They now carry their Suns of Death, worn openly as badges of bravado It is Happening Now..!!!!

I implore Each and every one of you to arise, to stand for humanity and to support the legislation to divest from nuclear profiteering and proliferation. I am asking New York to join Paris, Berlin, Sydney, Los Angeles and Washington D.C. to become a part of the ICAN cities campaign in support of the nuclear ban treaty. For now is the time. “You Cannot Drink Death”





New York City Council
Committee on Governmental Operations
Hearings on Disarmament
January 28, 2020

New York City sits at the heart of Lenapehoking. It has always been the home of the peacemakers, and the grandfathers, the Lenape. In continuing our responsibility towards our values of peace making, balance, respecting Mother Earth, and respecting all life and all peoples, we do not want to witness the life sustaining energies of Lenapehoking to be utilized for the propagation of destructive weapons. We, the Lenape Center, led by co-directors from the federally recognized Lenape and Munsee -Mohican nations, humbly ask the City Council to understand the depth of responsibility, which is owed to the life sustaining reality of Mother Earth and do everything in their power to prevent War on other peoples, and on Mother Earth herself. Lenapehoking has witnessed too much colonial genocide and violence upon our people, which has yet to be recognized and acknowledged. This blindness to our history should first end, so you can open your eyes to our people and see the true ramifications of supporting weapons and war.

Testimony by Mitchie Takeuchi, 2nd Generation Hibakusha from Hiroshima
January 28, 2020

Good afternoon New York City Council Members and fellow New Yorkers.

My name is Mitchie Takeuchi. New York City has been my home for the past 40 years. This creative and energetic city has given me so much that I feel I owe it to share my story today about my family, who survived the atomic bombing in Hiroshima.

My grandfather, Dr. Ken Takeuchi, was the founding president of the Red Cross Hospital in Hiroshima. On August 6th 1945, the first war-time use of an atomic bomb levelled my hometown which had a mostly civilian population of 300,000. Although close to Ground Zero, the Red Cross Hospital withstood total destruction.

An enormous blast caused a heavy door to fly off its hinges and knocked grandfather unconscious. When he came to, he was unable to move due to broken bones all over his body and his face sustained horrible injuries. But far worse was what he saw - it defied description—unimaginable suffering, wailing and crying, dead bodies everywhere. It was complete chaos.

The A-bomb indiscriminately destroyed everyone and everything in Hiroshima. Severely burned and injured people began streaming into the hospital desperately looking for help. The surviving doctors and nurses did the best they could with no electricity and few surviving medical supplies. That day it is estimated that 72,000 people died. By the end of 1945 the deaths from the bomb's effects totaled over 140,000. And survivors continue to die to this day due to radiation exposure.

But the nuclear weapons we have today are 3,000 times more powerful than the ones dropped on Hiroshima and Nagasaki. The population of NYC is over 8 and a half million people. If one of these modern weapons was used on New York City, it would cause a disaster of unprecedented scale and thrust the globe into immediate climate crisis killing millions of people worldwide.

We cannot allow the same catastrophic fate of Hiroshima and Nagasaki to befall this city that we all love so much.

STATEMENT

Hearings on [Int. 1621](#) and [Res. 976](#)

By Christian N. Ciobanu, New York and Youth Representative

Nuclear Age Peace Foundation

cciobanu@napf.org

Dear Council Members and Esteemed Colleagues,

My name is Christian N. Ciobanu, and I am registered in District 4 of New York City, which covers the United Nations. I hold degrees in nonproliferation and terrorism studies as well as political science. I have been a nuclear disarmament activist since 2009. I have also been on government delegations to several high-level nuclear disarmament negotiations.

As an American and native New Yorker, I grew up with limited knowledge about our city's involvement in the creation of nuclear weapons, which devastated the cities of Hiroshima and Nagasaki, and ravaged the Pacific region. Many of these citizens were exposed to dangerously high levels of radiation, which have caused a substantial number of severe long-term health problems, including cancer and thyroid problems.

The devastating impact of nuclear testing in the Pacific region propelled me to act by helping the government of the Marshall Islands during the negotiations on the Treaty on the Prohibition of Nuclear Weapons (TPNW) as an advisor. We negotiated the articles related to victim assistance and environmental remediation- also known as the positive obligations of the TPNW. Ultimately, these articles provided a framework of shared state responsibility for helping victims and cleaning the contaminated environment.

While we have this important treaty, it is critical to educate New Yorkers about this treaty and the humanitarian impact of nuclear weapons. Many New Yorkers, especially youth are simply unaware of the dangers or impact of these weapons; either they are taught about nuclear weapons within the context of game theory, deterrence, or political theory on neorealism.

To educate New Yorkers about the devastating impact of nuclear weapons, I have organized seminars at universities throughout New York City. I brought high-level experts and diplomats to inform the students about the horrific impact of nuclear weapons and how they can also urge their banks to divest from the nuclear weapons industry. These young New Yorkers were also able to pose questions and engage in meaningful dialogue about nuclear weapons and the TPNW with experts.

Significantly, in December of 2018, I served as the official co-chair of the Global Youth Forum on the TPNW. This conference was held in Auckland, New Zealand. Several young New Yorkers attended the conference and engaged in dialogue with youth from both New Zealand and the Pacific region. These dialogues focused on the impact of US nuclear testing in the region and the dome in the Marshall Islands, where the US has stored its nuclear waste from the tests.

The American participants were shocked about the US' decision to test on Pacific islands and the environmental and humanitarian consequences of nuclear weapons. As a result of this conference, many of them, especially the New York participants, vowed to remain in the field of nuclear disarmament and interact with policymakers about the importance of the TPNW. One of them even inspired his friend to become an activist in the field.

This young person was able to convey her own views about nuclear weapons to diplomats by drafting the youth statement for an international UN conference in October of 2019. Her views resonated with many diplomats who began to understand the importance of youth engagement.

We need to continue to have these cross-cultural dialogues and engage with all young New Yorkers about the impact of nuclear weapons. These dialogues will enable them to connect with their international peers, understand the tragic past, and motivate them to become activists who can help usher in a new era of peace.

To continue the process of educating New Yorkers, it is imperative for all council members to support these two measures, Int. 1621 and Res. 976. These measures will help establish an advisory committee, reaffirm New York City's status as a NWFZ, underscore its support for both ICAN Cities' Appeal as well as the TPNW, and divest the pension fund.

Together, we can establish a new peaceful period in New York, and send a clear message to the entire world that New York City is committed to a world free of nuclear weapons.

Thank you for your time

Testimony of William D. Hartung
Director, Arms and Security Project
Center for International Policy

On [Resolution 0976-2019](#) on nuclear disarmament and [INT1621-2019](#), a bill to create a nuclear disarmament and nuclear weapons-free zone advisory committee

January 12, 2020

As a Manhattan resident and longtime expert on nuclear policy and national security issues, I am submitting the following testimony in support of the resolution and legislation referenced above.

By way of background, I should note that I currently run the Arms and Security Project at the [Center for International Policy](#), a progressive think tank committed to promoting a foreign policy that contributes to a more just, sustainable, and peaceful world. I have also run projects at other respected think tanks, including the New York-based World Policy Institute and the Washington, DC-based New America Foundation. I am the author of *Prophets of War: Lockheed Martin and the Making of the Military-Industrial Complex* and co-editor, with Miriam Pemberton, of *Lessons from Iraq: Avoiding the Next War*. My articles on peace and security issues have appeared in the *New York Times*, *Washington Post*, *Los Angeles Times*, *The Nation*, and dozens of other national, regional, and local publications. I have also been featured as an expert on ABC, CBS, Fox, NBC, the PBS Newshour, and NPR.

By passing the resolution and legislation referenced above, New York City can play an urgently needed leadership role in pulling the United States and the world back from the brink of a dangerous and potentially disastrous nuclear arms race. The Pentagon is currently in the midst of developing a new generation of nuclear-armed submarines, bombers, land- and air-based missiles, and nuclear warheads at a cost of at least *\$1.5 trillion* over the next three decades, according to the Congressional Budget Office. These resources would go far towards rebuilding our cities, financing green energy, funding education and health care, and addressing other urgent local and national needs. And we would be far safer if the federal government pursued nuclear arms *reductions* as a step towards the total elimination of nuclear weapons worldwide than we will be if the current

nuclear buildup is allowed to proceed. The international community has already spoken loudly and clearly on the need to eliminate nuclear weapons, in the form of the UN nuclear ban treaty. It is time for the major nuclear weapons states to adhere to this requirement. As in the past, state and local action will be key if we are to make progress.

The time to act is now. According to [research](#) conducted by Physicians for Social Responsibility (PSR), even a “limited,” regional nuclear exchange involving 100 Hiroshima-sized nuclear weapons could spark a global famine that would put *two billion people* at risk. The world’s nuclear powers currently possess [nearly 14,000](#) nuclear warheads, over 90% of which are possessed by the United States and Russia. Many of these bombs are far more powerful than the bombs that killed hundreds of thousands of people in Hiroshima and Nagasaki. A *global* nuclear conflict would end human life on earth, plain and simple. It is an existential threat that, along with climate change, cannot be ignored if we are to preserve the planet for future generations.

Nuclear weapons are not just a matter for “the experts.” There is too much at stake to let a handful of policy makers, unduly influenced by a handful of corporations that make most of the profit from nuclear weapons production, to determine our future.

If New York City were to divest its pension funds from companies involved in the production and maintenance of nuclear weapons *and* declare itself a nuclear free zone, it would have a ripple effect at both the national and international level. During the Nuclear Freeze Campaign of the 1980s, state and local actions of this sort were critical components of a national uprising that led the Reagan administration to reduce rather than increase nuclear weapons, and for President Reagan to finally acknowledge that a nuclear war cannot be won and must never be fought. We haven’t finished the job, but state and local action moved us in the right direction after decades of Cold War nuclear arms-racing.

Another example of local action with international impacts was the divestment campaign that was a critical part of the global movement that brought an end to the apartheid regime in South Africa. States and localities, universities, and other major institutions stopped doing business with companies that were propping up the apartheid regime, setting the stage for federal legislation that

imposed sanctions on South Africa, overriding a veto by Ronald Reagan. It has been said that all politics is local, and it is certainly true that local grassroots action is essential to any major policy change.

It's time for New York to take the lead in addressing the nuclear threat, and the passage of [Resolution 0976-2019](#) and [INT1621-2019](#) is a good place to start.

For further information feel free to contact William D. Hartung at williamhartung55@gmail.com or 917-923-3202.

New York City Council Res 0976-2019 & INT 1621-2019: Support Statement

By Commander Robert Green, Royal Navy (Ret'd)

13 January 2020

My name is Robert Green. I served for twenty years in the British Royal Navy from 1962-82. As a bombardier-navigator, I flew in Buccaneer nuclear strike aircraft with a target in Russia, and then anti-submarine helicopters equipped with nuclear depth-bombs. On promotion to Commander in 1978, I worked in the Ministry of Defence before my final appointment as Staff Officer (Intelligence) to the Commander-in-Chief Fleet during the 1982 Falklands War. Since 1999 I have lived in Christchurch, New Zealand, where I have co-directed the Disarmament & Security Centre until 2019 before recently retiring.

I write in support of the New York City Council's hearings on 28 January 2020 on legislation for nuclear disarmament, namely Res 0976-2019 and INT 1621-2019.

The Naked Nuclear Emperor

I wish to draw attention to the new 2018 edition of my book *Security without Nuclear Deterrence*. In it, I explain my gradual rejection of pro-nuclear deterrence indoctrination as a former operator of British nuclear weapons. I go on to chronicle how the US politico-military-industrial complex, drawing the wrong lessons from Hiroshima and Nagasaki and in denial about the horrors it had unleashed on humanity, seized upon the bogus mantra of nuclear deterrence to play upon people's fears and justify sustaining the unaccountable, highly profitable scientific and military monster spawned by the Manhattan Project.

Since then the principal guardians of nuclear deterrence – the Western group comprising the US, UK and France – have struggled to provide intellectual coherence as endless adjustments to the theory and doctrine were made to accommodate the latest expansion of the nuclear arms race it had provoked. Uncritical repetition by posturing political leaders, careerist experts and mainstream media of simplistic soundbites gave it the aura of a State religion, to the point where it echoed the fable of the emperor with no clothes.

Nuclear deterrence is based upon a crazy premise: that nuclear war can be made less probable by making it more probable. Worse, it is bedevilled by two insurmountable contradictions:

* A rational leader cannot make a credible nuclear threat against an adversary capable of an invulnerable retaliatory 'second strike'.

* Yet a second strike would be no more than posthumous revenge.

Moreover, unlike conventional war, following nuclear war – amid millions of dead and untreatable survivors, radioactive poisoning and apocalyptic destruction – the smoke alone from firestorms over cities in a nuclear war in South Asia would blot out the sun around the entire northern hemisphere, causing massive crop failure and global famine.

Recently, the groundless claim that nuclear weapons prevent war between nuclear-armed States was yet again challenged in the latest clashes between India and Pakistan, whereupon anxious nuclear powers led by the US and China had to intervene to restrain them. India and Pakistan naively followed their former colonial master's insistence that nuclear deterrence held the key to guaranteed security and acceptance as a great power. Instead, blind faith in nuclear deterrence has emboldened both sides to launch provocative military actions over disputed Kashmir: thus nuclear weapons have increased the risk of war between them.

In addition to all nuclear-armed States modernising their arsenals, in February 2018 a new US Nuclear Posture Review signalled the start of the most serious nuclear deterrence and disarmament crisis for 30 years. In May 2018, US President Donald Trump trashed the Iran Joint Comprehensive Plan of Action; then early in 2019 the US released a Ballistic Missile Defence Review, before withdrawing from the Intermediate Nuclear Forces Treaty.

The 2018 US Nuclear Posture Review revived enthusiasm for 'usable' low-yield nuclear warheads to shore up nuclear deterrence credibility. It included a new, low-yield Trident nuclear warhead; a new nuclear-armed cruise missile; and a more accurate, guided version of the B61 freefall nuclear bomb with lower variable yield between 0.3-50 kilotons (the Hiroshima bomb was 16 kilotons). This will replace 150 older model B61 bombs deployed in Belgium, Netherlands, Germany, Italy and Turkey.

The US Missile Defence Review, published in January 2019, commits the US to expanding ground and space-based systems. These violate the fundamental principles of Mutual Assured Destruction – but there seems to be a lack of awareness, let alone alarm, about this in mainstream Western commentaries.

One new, particularly dangerous development is the push to deploy conventionally armed ballistic missiles in US submarines, possibly including Trident, for pre-emptive 'Prompt Global Strike' against a threat which otherwise would require a nuclear response. An obvious risk would be that, even if the conventional warhead is launched in a different ballistic missile from Trident, Russia would presume it was a nuclear strike.

A Global Nuclear Tinderbox

Meanwhile, the reckless US-Russia consensus has persisted to keep over 1,000 strategic nuclear warheads on each side at minutes' notice to launch before confirmation of a nuclear strike, almost thirty years after the Cold War ended.

In a commendable effort to challenge this notoriously unreliable and irresponsible posture, a seminar held in Switzerland in 2009 co-sponsored by the EastWest Institute and the Swiss and New Zealand governments brought together US and Russian experts to explore ways to de-alert their forces. However, in their report, *Reframing Nuclear De-Alert: Decreasing the*

operational readiness of US and Russian nuclear arsenals, the co-sponsors explained that no progress was achieved because both US and Russian sides blocked any change to current arrangements. This demonstrated the pernicious influence of nuclear deterrence doctrine and associated nuclear order.

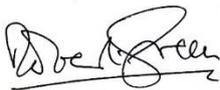
Confirmation on 2 August 2019 of US withdrawal from the 1987 INF Treaty, followed the next day by Russia's withdrawal, meant that the world – especially Europe – is faced with a far more dangerous rerun of the 1979 NATO decision to deploy nuclear-armed Cruise missiles and Pershing ballistic missiles in Europe to counter Soviet SS-20 intermediate range ballistic missiles. This time the US leadership is unlikely to listen to European concerns, which are heightened by a more ambiguous US/NATO nuclear posture, and probable collapse of the few remaining US-Russian arms control initiatives.

In predictable response, President Vladimir Putin claimed in his State of the Nation address on 20 February 2019 that, in addition to new weapon systems soon to become operational, Russian submarines stationed off the east and west US coasts were now capable of launching Zircon hypersonic stealthy cruise missiles invulnerable to ballistic missile defence with a range of up to 1,000 km.

The inevitable consequence of US hubristic abuse of its hegemonic nuclear order, and the Russian response, is to increase the risk of nuclear weapon use through miscalculation, mistake or malfunction. Moreover, there is general acceptance that once the first nuclear detonation occurs, escalation to all-out nuclear war would rapidly and uncontrollably follow. Facilitating all this has been a fallacious and disingenuous lumping together of nuclear with chemical and biological weapons of mass destruction by some policy-makers, when the reality is that nuclear weapons are orders of magnitude worse.

Underpinning this entire construct has been a deliberate socialisation of ideas to mould a pro-nuclear consensus, and sideline or suppress other ways of thinking about security, justice, and nuclear order through indoctrination, self-censorship, and exclusion of those 'out of touch with the real world' who do not accept nuclearism.

I therefore commend New York City Council for their initiative to demonstrate through this legislation their determination to make a stand against this regime of bogus 'institutional truth', which has brought us to the current perversely unsustainable situation, amounting to a global nuclear tinderbox.

A handwritten signature in black ink, appearing to read "Robert D Green". The signature is written in a cursive style with a horizontal line underneath.

(Robert D Green)

January 13, 2020

To: New York City Council

Re: 1) [Resolution 0976-2019](#), 2) [INT1621-2019](#)

Dear City council members,

This is to respectfully urge to pass the above mentioned 2 crucial bills not only for the residents of New York but also for the rest of the world:

- 1) the legislation [Resolution 0976-2019](#) is on nuclear disarmament.
- 2) [INT1621-2019](#) is a bill to create a nuclear disarmament and nuclear weapons-free zone advisory committee.

Since 2010 UNNPT, I have been given the opportunities to get involved with various local and international NGOs which dedicate themselves with elimination of nuclear weapons. Through these experiences, I can clearly say that it is nothing but our responsibility to remove the threat of nuclear and to prove to the world that the "nuclear deterrence" is just a myth to control the people.

Since we dropped a uranium bomb to Hiroshima and a plutonium bomb to Nagasaki 75 years ago, the military-industrial-university-think tank-governmental complex have been sucking up our tax money like leeches, leaving horribly small amounts for education, social welfare, infrastructure, etc.... We are the citizens of intelligence and humanity who can wisely allocate our tax money to create more platforms to engage in peaceful dialogues. For this reason, the above-mentioned bills are baby steps but the initial steps to prove to the world that New York, the birthplace of Manhattan Project, is now ready to tackle with its own responsibility to undo the Manhattan Project.

I humbly ask New York City Council to pass the bills as a global leader to the rest of the world.

Sincerely,

Rachel Clark
Louisa Place
Weehawken, NJ 07086

January 5th, 2020

Dear Esteemed New York City Council

re: Resolutions 976 and INT 1621

We give you gratitude for supporting these bills, for your support of the Treaty to Prohibit Nuclear Weapons of 7/7/17 and for your divestment of pension funds from any nuclear business and investments, that is, any connection with nuclear weapons.

Sister Carol Gilbert and I, Sister Ardeth Platte have traveled the United States for decades unmasking sites of nuclear weapons, corporations, universities, banks and businesses connected with the military and nuclear industrial complex. We deliver this Treaty and teach the connection with the Nuclear Non Proliferation Treaty. We speak of the history of production, use and threats to use. We communicate the injury to Mother Earth with the use of fossil fuels, the radioactive injury to people, soil, air, water and the emergency need to change direction for survival of the planet.

For decades we have done direct, political, and judicial action to call for total disarmament. We have spent years in jails and prisons for these actions of resistance to the waste of funds for weapons of mass destruction that can never be used and by Treaty all countries promised to eliminate them and dismantle all of them.

We see your stance of the new Treaty as the way to implement the commitment of nations to abolish them and your divestment as the means added to other groups to follow the money for more positive humanitarian and infrastructure needs of nations.

We submit this testimony as members of ICAN, members of Dominican Sisters, Grand Rapids, MI and the Catholic faith with its strong position of Pope Francis and as committed Peacemakers. Thank you sincerely for accepting it as part of the record as we record our plea to continue courageous action.

Sincerely,

Sister Carol Gilbert, OP and Sister Ardeth Platte, OP
Dorothy Day Catholic Worker
503 Rock Creek Church Rd, NW
Washington DC 20010
disarmnow1@gmail.com

NYC Council Res. 0976 nuclear issue

Dear Esteemed New York City Council,

I, Professor Peter Balakian, want to express my support for NYC Council Res. 0976 and INT 1621. I believe that both will contribute to containing the nuclear arms race and to the ultimate goal of abolition of nuclear weapons. I also believe that both resolutions will make New York citizens and everyone else safer. I applaud the NYC Council for its work on this vital issue.

I am a professor of literature, a poet and a scholar. I won the Pulitzer Prize for poetry in 2016 for my book *Ozone Journal*. I've written frequently about human rights and genocide and my book *The Burning Tigris: The Armenian Genocide and America's Response* was a *New York Times* Best Seller and won the 2005 Raphael Lemkin Prize. My memoir *Black Dog of Fate, an American Son Uncovers His Armenian Past* won the PEN/Albrand Award and was a *New York Times* Notable Book. I am the author of a dozen other books. Among my many other awards is the Spendlove Prize for Tolerance, Social Justice, and Diplomacy (other recipients include President Carter).

I am the Donald M. and Constance H. Rebar Professor of the Humanities in the department of English at Colgate University. I was the first director of Colgate's Center for Ethics and World Societies.

My address is Hamilton Street, Hamilton, NY 13346.

Peter Balakian
Donald M. and Constance H. Rebar Professor of the Humanities
in the department of English
Colgate University



New York City Council
250 Broadway
New York, New York 10007

January 13, 2020

To the Members of the New York City Council,

Pax Christi International, a global Catholic peace movement, strongly supports and commends the New York City Council for its pending initiatives: (1) *RES 976, Resolution on Nuclear Disarmament* — to instruct the pension funds of public employees in New York City to divest from any entity involved in the production and maintenance of nuclear weapons; reaffirming New York City as a nuclear weapons-free zone; and supporting the Treaty on the Prohibition of Nuclear Weapons; and (2) *INT 1621, Bill to Create a Nuclear Disarmament and Nuclear Weapons-Free Zone Advisory Committee* — to establish a New York City Nuclear Disarmament and Nuclear Weapons-Free Zone Advisory Committee.

Nuclear weapons pose a real, present risk of planetary extermination. Their use, whether intentionally or by accident, could easily lead to the extinction of all life on our planet. No nation or individual should be permitted, either legally or morally, to wield this horrific power of life and death over all of creation.

Pax Christi International, headquartered in Brussels, is active in more than sixty countries around the world. Pax Christi was founded at the end of World War II on the premise that human beings must find ways to coexist peacefully. Lasting peace can only be achieved through mutual recognition and respect — and not by threatening each other with mass destruction. In recognition of that reality, and in solemn memory of the horrors unleashed upon the people of Japan, and the world, by the United States' use of nuclear weapons, Pax Christi International's 75 Anniversary global assembly this May will take place in Hiroshima.

Given the deadly history and consequences of the United States' deployment of nuclear weapons, it is particularly incumbent upon Americans to stand firmly against any further use of those weapons. And it is important that New York take a lead in this movement. New York City itself knows what it takes to create a peaceful global community. Like Pax Christi, New York City comprises people from many nations. New Yorkers understand that it is not brutish or bullying death threats that motivate the establishment and flourishing of a peaceful community. Instead, it is mutual and respectful engagement that strengthens and stabilizes us.

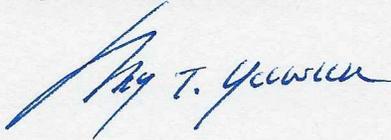


Pax Christi International, as a long-time member of the International Campaign to Abolish Nuclear Weapons ("ICAN"), has worked diligently for decades to abolish nuclear weapons, including most recently by actively working to secure passage and ratification of the Treaty on the Prohibition of Nuclear Weapons. New York, being the site of the United Nations, has already played a key role in the evolution and adoption of that Treaty. Those nations who have gathered to propose, negotiate, and approve this landmark Treaty have done so here, in our midst. Pax Christi will continue to work tirelessly, here in New York, with our global colleagues at the United Nations, and with the visionary members of the New York City Council, to eliminate from the earth the scourge of nuclear weapons.

Finally, those of us who live and work in New York vividly remember, firsthand, the devastation wrought by the destruction of the World Trade Towers. We who in 2001 volunteered our services to do whatever we could to help alleviate the misery and fear in New York will never forget how relatively helpless and incapable our City, and even our nation, were, in the first few weeks after the attack, in alleviating the damage and loss caused by the felling of the towers. And that isolated, low-tech event killed but a few thousand people. Imagine how incapable we would be of responding to a nuclear explosion, resulting in immediate or painfully lingering deaths by the millions. The infrastructure for response, and the potential first-responders themselves, would be incinerated. The levels of lingering radiation or dust in the immediate environment, and beyond, would preclude any outside assistance. The magnitude of devastation of life and infrastructure would be beyond any capacity to address.

The New York City Council recognizes this horrific reality. And by ceasing funding of these diabolical weapons, and declaring New York City a nuclear-free zone, the Council is taking a critical step toward ensuring that the unthinkable remains just that.

Respectfully Submitted,

A handwritten signature in blue ink, appearing to read "Mary T. Yelenick". The signature is fluid and cursive, with a long, sweeping underline that extends to the left.

*Presented by Mary T. Yelenick, Esq.
Main Representative, Pax Christi International
NGO Delegation to the United Nations in New York*

Tilman A Ruff AO

MB, BS (Hons), FRACP

Co-president, International Physicians for the Prevention of Nuclear War (Nobel Peace Prize 1985)

Co-founder and founding Australian and international Chair, International Campaign to Abolish Nuclear Weapons (Nobel Peace Prize 2017)

Associate Professor, Nossal Institute for Global Health, University of Melbourne

52 Sussex St Brighton Vic 3186 Australia Post: PO Box 301 Fitzroy Vic 3065

m +61 438 099 231 e tar@unimelb.edu.au

14 Jan 2020

Members of the Committee on Governmental Operations and the Committee on Civil Service and Labor,

New York City Council

via email: <hearings@council.nyc.gov>

Dear Council and Committee members,

**Re: Legislation [Resolution 0976-2019](#) on nuclear disarmament;
and [INT1621-2019](#), a bill to create a nuclear disarmament and nuclear weapons-free zone advisory committee**

I am very pleased to write in strong support for these two proposals which I understand will be the subject of your deliberation on 28 Jan 2020. I write as a co-president of International Physicians for the Prevention of Nuclear War, and founding chair of the International Campaign to Abolish Nuclear Weapons, both Nobel Peace Laureates.

The world's lead agency in health, the World Health Organization (WHO), has concluded that nuclear weapons constitute the greatest immediate threat to human health and welfare. They are the most acute of the twin existential threats we face, both of which jeopardise the stable and hospitable climate we and myriad other species depend upon. On the one hand, there are the accelerating impacts of inadequately controlled global heating which are already disrupting lives and livelihoods around the globe. On the other, the real and imminent danger of nuclear war by deliberate decision, accident, inadvertence or cyberattack. In a climate-stressed world with increasing food and water insecurity and armed conflict, this danger is growing.

Burning cities targeted by nuclear weapons even in a regional war and using only one or two percent of the global nuclear arsenal, would loft millions of tons of smoke high into the atmosphere. The toll from blast, fires and spreading radiation would be

catastrophic; but the greatest toll would come from the global climate impacts of nuclear war. Millions of tons of smoke high in the atmosphere blanketing the globe would produce within a few weeks severe ice age conditions - cooling, darkening and drying the climate worldwide for over a decade, decimating agriculture and putting billions of people at risk of starvation.¹

The reality of our age is that nowhere and no-one is safe from nuclear war unfolding anywhere. These most destructive weapons of mass destruction render concepts of winners and losers meaningless. As WHO and the Red Cross/Red Crescent movement have made plain, no effective humanitarian and health response is possible to deal with the casualties even of a single nuclear explosion over a city. Nuclear weapons put in danger the very survival of the human and many other species. They are in reality global suicide bombs. Their elimination, before they are otherwise inevitably used again, is an urgent humanitarian and planetary health imperative.

An essential tool in the progress we are making in controlling and towards eliminating other types of indiscriminate and inhumane weapons is an international treaty codifying the rejection of unacceptable weapons, providing a consistent standard for all states, and the basis and motivation for progressive efforts to eliminate them. Treaties ban chemical and biological weapons, antipersonnel landmines and cluster munitions. They have influenced even states which haven't formally joined the respective treaty. No weapon has been eliminated without an international instrument of prohibition.

On 7 July 2017, in your fair city, two-thirds of the world's nations adopted a historic treaty - the Treaty on the Prohibition of Nuclear Weapons - which for the first time categorically and comprehensively bans the worst weapons of all. With 80 signatures and 34 ratifications, that treaty is now more than two-thirds of the way to the 50 ratifications required for the treaty to enter into legal force. This treaty provides what is currently the only internationally agreed pathway for all states, with and without nuclear weapons, to fulfill their legally binding obligation to achieve nuclear disarmament. Along with the over 540 partner organisations in ICAN, many others are calling for all states to join and implement this treaty – including the Red Cross/Red Crescent, the World Medical Association and Pope Francis.

The first duty of every level of government is to protect its citizens. The most acute existential threat humanity faces is a matter of profound interest, concern and responsibility for every citizen and every level of government. Especially when national leadership is lacking, every local and state government has a duty to act to protect its

Toon, Owen B., Charles G. Bardeen, Alan Robock, Lili Xia, Hans Kristensen, Matthew McKinzie, R. J. Peterson, Cheryl Harrison, Nicole S. Lovenduski, and Richard P. Turco, 2019: Rapid expansion of nuclear arsenals by Pakistan and India portends regional and global catastrophe. *Science Advances*, **5**, eaay5478, doi:10.1126/sciadv.aay5478. ¹ <https://advances.sciencemag.org/content/5/10/eaay5478.abstract>

citizens from real and present dangers, of which the threat of nuclear weapons is the most acute.

I am proud that 26 local governments in my country Australia have thus far joined the ICAN Cities Appeal, including the city councils of Canberra, Fremantle, Hobart, Melbourne, Newcastle and Sydney.

I do hope with your leadership that New York City – universally loved as an iconic global city of diverse communities, the city of the UN, a world cultural centre, will soon join them.

I commend both the current proposals under consideration to you. They embody what acting on the evidence, vision and leadership look like.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Tilman A Ruff AO'. The signature is fluid and cursive, with a large initial 'T' and 'A'.

Tilman A Ruff AO

I acknowledge the Wurrundjeri People of the Kulin Nations as the traditional custodians of the land upon which I live and work and where ICAN was founded.

Dimity Hawkins AM

Co-Founder of the International Campaign to Abolish Nuclear Weapons | Member of the Order of Australia
22 Gordon Grove, Preston, Victoria, Australia | ph: +61 422 612 702

Members of the Committee on Governmental
Operations and Committee on Civil Service and
Labor, New York City Council
Via email: hearings@council.nyc.gov
14 January 2020

Dear Council and Committee members,

Regarding New York City Council hearings on Int 1621-2019 and Res 0976-2019

I thank you for this rare opportunity to offer some words to this important meeting. Even from half a world away, this hearing in New York is resonating amongst the many who seek a world free from nuclear weapons.

New York holds a special place in my heart. It is a city I have visited several times, where many dear friends have lived and worked. New York holds the whole world, a multicultural talisman where the citizens of every nation walk the streets. It also is host to some of the great intentions of the world through the work of the United Nations and the multitude of civil society organisations who input to that global institution. From the Manhattan Project to a nuclear free port, through numerous nuclear free resolutions in the past, this city has played a pivotal role in the nuclear weapons story of the United States.

I write in a personal capacity as one of the original co-founders of the International Campaign to Abolish Nuclear weapons, (ICAN).¹ This Nobel Peace Prize winning campaign was instigated from Australia in 2007, but quickly adopted by a world community already critically aware of the nuclear threat, and deeply intent on ending it. Built off generations of concern and activism around of these ultimate weapons of mass destruction, ICAN worked through effective advocacy, research, collaboration across regions, and nations. ICAN is now in 103 countries around the world with over 541 partner organisations.

When ICAN began, one of our co-founders Dr Bill Williams, wrote,

For us, the global public – the victims – the take-home message is this: we need a determined worldwide movement to outlaw and abolish nukes. To get there in this generation, we need to build the wave of public opinion into a mighty crescendo: a massive, surging, irresistible force which carries us all the way to absolutely zero nukes. Without it, even the most inspirational of leaders will falter on the way.

Because somehow in the last century on this beautiful planet, humanity first developed, employed and then grew and retained a staggering capacity for mass suicide, homicide and ecocide.

Even today, there remain an estimated 13,890 nuclear weapons in our world.² Held by the United States, Russia, the United Kingdom, France, China, India, Pakistan, Israel and North

¹ *About ICAN*, ICAN Australia website, 2020, <https://icanw.org.au/about/about-ican/>

² Hans M. Kristensen and Matt Korda, *Status of World Nuclear Forces*, Federation of American Scientists, May 2019 (<https://fas.org/issues/nuclear-weapons/status-world-nuclear-forces/>)

Korea, these nine nations possess a capacity to destroy life as we know it. According to the latest figures from the Federation of American Scientists, there are approximately 3,800 nuclear weapons in the United States stockpile alone, with around 1,750 deployed, the rest remaining in reserve. A further 2,000 are stored, awaiting dismantlement.³

Over generations, the global community has strived to find a way to dismantle the humanitarian threat of nuclear weapons. International diplomacy led to measures such as the Partial Test Ban Treaty, the nuclear Non-Proliferation Treaty and the Comprehensive Test Ban Treaty, all of which sought to address aspects of the nuclear threat. All made important contributions to the effort, but it was not until 2017 when the Treaty on the Prohibition of Nuclear Weapons was negotiated, that these weapons finally faced being comprehensively outlawed.

Since 1945 when the scientists and engineers of the Manhattan Project first created these weapons of mass destruction, a vortex has been created within political, diplomatic, moral, human and ecological security. The United States first used nuclear weapons on the traditional lands of their own First Nations people in New Mexico before deploying them against the people of the Japanese cities of Hiroshima and Nagasaki. Rapid vertical and horizontal nuclear proliferation followed and by the mid-1970s the numbers of nuclear weapons had reached staggering levels. Multilateral and bilateral efforts towards nuclear disarmament, driven by concerted civil society expectation and action, saw stockpile reductions, particular from the 1990s. Today, however, all nine nuclear weapon states are known to be renewing their nuclear stockpiles, and significant threats of nuclear use are being frequently made, alongside the development of new delivery vehicles.

Cities and towns across the world have adopted the ICAN Cities Appeal⁴ as a practical measure to show intention, solidarity and advocacy for the calls made within the Treaty on the Prohibition of Nuclear Weapons. Throughout the Cold War, nuclear war planning mostly calculated against cities. As a global hub, New York was no doubt one of these.

In reality, the schemes that allowed these weapons to be tested and developed, also involved people and places far from large metropolitan centres. Across the Pacific, and here in Australia, nuclear weapon use was experienced through testing.⁵ Over a period of half a century, the United States, Britain and France took part in conducting a total of 315 nuclear weapons tests on a number of the islands, deserts and oceans of our region. Fallout was recorded across vast tracts of land and across seas, and human and environmental health has suffered.

³ Hans M. Kristensen and Matt Korda, "United States nuclear forces", Nuclear Notebook, *Bulletin of the Atomic Scientist*, Vol 76, No 1, 46–60
(www.tandfonline.com/doi/pdf/10.1080/00963402.2019.1701286?needAccess=true)

⁴ ICAN Cities Appeal, 2020 (<http://nuclearban.org/cities>)

⁵ Nic Maclellan, *Prohibiting Nuclear Weapons: A Pacific Islands Priority*, International Campaign to Abolish Nuclear Weapons, Australia (<https://icanw.org.au/wp-content/uploads/Pacific-Report-2017.pdf>); Vanessa Griffen, Dimity Hawkins and Talei Luscía Mangioni, "Black Mist, White Rain", Chapter 4 in *Choosing Humanity: why Australia must join the Treaty on the Prohibition of Nuclear Weapons*, ICAN Australia, 2019, (<https://icanw.org.au/choosinghumanity/>)

In New York too, I understand that the legacy of nuclear weapons manufacturing, storage and accidents continues to plague generations of governments and people.⁶ Today these weapons still threaten the lives of New Yorkers. Even as we witness the radical loss of a stable climate, we know that any further nuclear weapon use would cause rapid and irreversible adverse impacts on our global climate.⁷ It is time we see an end to these dangerous, inhumane and obsolete weapons.

The Treaty on the Prohibition of Nuclear Weapons will do more than ban them.⁸ It prohibits the enabling of these weapons, the sharing, possession and threat of use. It brings to the fore the necessity of divestment from those mechanisms – both economic and political – which have previously (sometimes inadvertently) provided the scaffolding for this deadly industry. This Treaty also takes particular note of the victims of nuclear use and testing, recognising the disproportionate impact of nuclear weapons on women and girls, and on Indigenous peoples and communities. The Treaty calls for environmental remediation and victims' assistance for those affected by nuclear weapons use and through the testing of these weapons.

This Treaty will help move us to that moment in human history where we bring an end to the threat of nuclear warfare. For far too long these weapons have – quite literally – cost the earth. It is time to end them, before they end us.

To do so takes collaboration, of a global scale, from the grassroots up.

Nuclear disarmament is an issue of peace, of justice, of security, and one which impacts all of our futures and the generations following ours. We must unburden future generations from the sorry threat of nuclear weapons.

To that end, I thank Council Member Daniel Dromm and all co-sponsors involved in these important New York City Council initiatives.

Although writing from half a world away, I welcome RES976, as a resolution on nuclear disarmament, and the INT 1621 Bill to create a nuclear disarmament and nuclear weapons-free zone advisory committee for the New York Council. These initiatives add weight to a global trend we are witnessing where real people are engaging on this issue with fervour and conviction.

In closing, I recall the words of Setsuko Thurlow, a woman who survived the use of one of the first atomic weapons when she was pulled as a school child from a collapsed and burning building in Hiroshima, nearly 75 years ago. She reminds us that,

*Nuclear weapons have always been immoral. Now they are also illegal. Together, let us go forth and change the world.*⁹

⁶ Matthew Bolton, *From Manhattan Project to Nuclear Free: New York City's Policy and Practice on Nuclear Weapons*, Version 11, 23 July 2019, International Disarmament Institute Background Paper, Pace University.

⁷ Tilman Ruff, *Nuclear weapons and our climate*, 2019, ICAN Australia, (<https://icanw.org.au/wp-content/uploads/Nuclear-weapons-and-our-climate-Sept-2019.pdf>)

⁸ ICAN Australia, *Choosing Humanity: why Australia must join the Treaty on the Prohibition of Nuclear Weapons*, 2019 (<https://icanw.org.au/choosinghumanity/>)

⁹ Setsuko Thurlow, speech to the United Nations on the adoption of the Treaty on the Prohibition of Nuclear Weapons, 7 July 2017.

Dear Esteemed New York City Council,

I, Dr. Robert Jay Lifton, want to express my support for NYC Council Res. 0976 and INT 1621, because I am convinced that both contribute to containing the nuclear arms race and to the ultimate goal of abolition of nuclear weapons. They therefore render New York citizens and everyone else a bit safer. I commend the NYC Council for its work on these issues.

I am a psychiatrist and writer who has long focused on issues involving nuclear weapons and war and peace. My books include *Death in Life: Survivors of Hiroshima* (winner of a National Book Award); *The Nazi Doctors: Medical Killing and the Psychology of Genocide* (awarded a *Los Angeles Times* book prize); *The Genocidal Mentality: Nazi Holocaust and Nuclear Threat*; *Indefensible Weapons: The Political and Psychological Case Against Nuclearism*; and more recently *The Climate Swerve: Reflections on Mind, Hope, and Survival* and *Losing Reality: On Cults, Cultism, and the Mindset of Political and Religious Zealotry*.

Among the awards I have received are: Lifetime Achievement Award, The International Society for Traumatic Stress Studies (2004); Nuclear Psychology Research Award, Harvard University (1986); Gandhi Peace Award, from Promoting Enduring Peace New Haven, CT (1984); National Living Treasure Award, Psychiatric Institute, Washington, DC (1994); and fourteen honorary doctorates.

I have taught at Yale University, Harvard University, The City University of New York, Tokyo University, and am currently Lecturer in Psychiatry at Columbia University.

My address is West 60th Street, New York, NY 10023.

Robert Jay Lifton, MD
Lecturer in Psychiatry
Columbia University
Distinguished Professor Emeritus
The City University of New York



Written Testimony for Res. 976 and Int. 1621 presented for public hearing, January 28, 2020

Robert Croonquist

YOUTH ARTS NEW YORK

P.O. Box 363 Old Chelsea Station
New York, NY 10113

ROBERT CROONQUIST, MA
Founder & Treasurer

LINDA S. CHAPMAN, BFA
President

DANIEL OSMAN, BFA
Secretary

SANDRA W. PARKER, MFA

KATHLEEN SULLIVAN, PHD
Program Director



YANY is a 501(c)(3) tax-exempt
charitable organization

and the sponsor of

HIBAKUSHA STORIES
www.hibakushastories.org

I am a retired New York City public school teacher vested in the Teachers Retirement System (TRS). For 20 years I taught global literature and culture and Advanced Placement English at Jamaica High School, Queens. It has been an honor to serve the youth of New York City and their families. As a participating teacher with CUNY's Gateway Institute for Pre-College Education, I worked in close collaboration with the social studies department, exploring the great literature and cultures of the world from Native American creation myths to Moctezuma and Cortez; from the proverbs of Africa to the ravages of colonialism; from the heroism of Islamic fables to Mother Ganges; and from Confucian oracles to Japanese pearl divers.

I taught students of all faiths and from all regions of the globe; students whose cultures have at one time or another been at war. Throughout we found a common thread: a respect for life, for the mystery of creation and for the care we share for the earth and one another.

We saw the World Trade Center collapse 13 miles from our classroom windows on September 11, 2001. We responded by looking deep and trying to understand. Our leaders launched a misguided war that continues to rage to this day.

Among the students in that class were two sisters from Afghanistan who crossed the Khyber Pass on burros. They went on to study medicine at Columbia University in order to join Doctors Without Borders and help those who suffer the ravages of war. Another was a girl whose mother would come home in the middle of the night after sorting body parts retrieved from the smoldering ruins of the Twin Towers. Through dialogue and talking circles, children who easily could have been enemies emerged from Jamaica High School as the best of friends. This is the miracle that is New York City.

To enrich my students' learning experience I founded Youth Arts New York, whose mission is to provide experiences in the arts, sciences and civil society that engage youth in building a peaceful and sustainable future. From that grew a program called Hibakusha Stories. Hibakusha is the word for those who survived the atomic bombings of Hiroshima and Nagasaki 75 years ago and for those of us who suffer from their existence today, from mining to decommissioning. Our small after-school arts program became a Non-Governmental Organization accredited by the United Nations, supporting atomic bomb survivors to participate in the landmark adoption of the Treaty on the Prohibition of Nuclear Weapons and resulting in our campaign winning the Nobel Peace Prize in 2017.

These milestones and more have led me to Council Chambers today.

Over the last 12 years we have brought well over 100 elderly atomic bomb survivors to more than 40,000 NYC high school students to share their testimony of the unspeakable horror of nuclear weapons. 40,000 young lives have been forever changed.

Nuclear weapons are a crime against nature and a crime against humanity. Their very existence threatens all we hold sacred and love about being alive. In honor of those courageous Japanese elders who chose to re-live their experiences in the hallways of all five boroughs and in devotion to the students gifted with the responsibility to remember, I have dedicated my life to the abolition of nuclear weapons.

One afternoon while advocating for the legislation before you, I witnessed Council Members entering Council Chambers in black tee shirts that read "Black Lives Matter" on the front and "I Can't Breathe" on the back. At roll call many of you said "Present" and spoke the name of someone in your district who had died at the hands of the police, and others of you said "Present in support of my colleagues of color."

I have never been more proud of my city and its progressive values.

Again today we see that these progressive values are alive. In the absence of moral and strategic leadership in Washington, New York is taking leadership. Step by step, city by city, we can and will rid the world of nuclear weapons. To our indigenous family who refuses to allow the desecration of the earth for the mining of uranium and to New York City Council instructing the Comptroller to align our pensions and finances with our progressive values, I give thanks. I give thanks that my pension will not finance the destruction of the peaceful and sustainable future of the students I spent my life serving.

In solidarity with the tens of thousands of children and youth who gathered outside these chambers for the September 20th Student Climate Strike, I thank you. Your action on this legislation will be a beacon to all, from Moscow to Paris to Tel Aviv to Beijing to London to Lahore to New Delhi to Washington to Pynongyang.

Some may say it is naive to believe we can rid the world of nuclear weapons but it is far more naive to believe we can survive in a world with them.

Thank you,
Robert Croonquist

January 14th, 2020

Testimony for **January 28th NYC Council Public Hearing, Re: Res. 0976 and INT. 1621**

Dear Esteemed New York City Council,

Thank you very much for your critical work for nuclear abolition. I send my apologies for not being able to attend this event in person.

My name is Martha Hennessy and I am part of the New York Catholic Worker and Kings Bay Plowshares communities. I am currently awaiting sentencing for our conviction in the nonviolent, disarming action that took place April 4th, 2018 at the naval station in Kings Bay, Georgia where the Trident nuclear submarine weapons system is maintained as it awaits a signal to send nuclear warheads to any part of the globe within 15 minutes.

I understand the sacrifice that each of us must make in our work for nuclear disarmament and I send my gratitude to all of you who are involved in this effort as we drift ever closer to nuclear holocaust. We need resolutions, actions, divestments, boycotts, people in the streets, economic shut downs and all the rest to make our voices be heard. The governmental/corporate profiteers will not let go of their evil schemes unless we, the people make them. We must do this through initiatives such as this public hearing and resolutions put forth by local governments. We can no longer bear the incredible risks and unsustainable costs of our nuclear arsenal that is both immoral and illegal.

Let's take back our money, research, and resources and apply them for the crying human needs around the country and world. We no longer consent to nor accept a vision that brings nothing but horror on the heads of all humankind, no thank you! Let's support Resolution 0976 and all legislative efforts to ban the bomb now!

Thank you.

Martha Hennessy
Maryhouse Catholic Worker
East 3rd St. N.Y. N.Y. 10003

NEW YORK THEATRE WORKSHOP

Board of Trustees

January 14, 2020

James C. Nicola
ARTISTIC DIRECTOR

Jeremy Blocker
MANAGING DIRECTOR

Barbara Warner Howard
CHAIR

Kelly Fowler Hunter
PRESIDENT

Allan S. Gordon
VICE-CHAIR

Jack Bamberger
VICE PRESIDENT

Noel E. D. Kirnon
TREASURER

Kathleen Yoh
SECRETARY

Stephen Graham
FOUNDING TRUSTEE

Ayad Akhtar
Karyn Bendit
Claudia Caffuzzi
Barbara Cutler
Janet Harckham
Hans Humes

Susan Petersen Kennedy
Lisa Cleff Kurtz
Paula Moss

Anthony E. Napoli
Heather Randall
Jolie Schwab
Scott Shay
Brian Vollmer
Doug Wright

NYC CITY COUNCIL HEARING re: Resolution 0976-2019 and INT1621-2019

To Whom It May Concern:

My name is Linda Chapman. I am the Associate Artistic Director of New York Theatre Workshop (part of the NYC Department of Cultural Affairs designated 4th Arts Block) and the founding president of Youth Arts New York. I grew up in Spokane, Washington, upwind from the Hanford nuclear plant on the Columbia River. I am a two-time cancer survivor and have always suspected that Hanford site emission leaks, long suppressed from public discussion, may have had something to do with my disease.

I am writing on behalf of passing the legislation Resolution 0976-2019 on nuclear disarmament and INT1621-2019, a bill to create a nuclear disarmament and nuclear weapons-free zone advisory committee.

New York City played a major role in developing the nuclear bomb, so as progenitor and now, possible immediate target for nuclear attack, we have a special responsibility in putting a stop to the use of nuclear weapons. I came to NYC to pursue a career in the theatre. NYC is the bastion of culture in US society. It is for this love and stewardship of human life itself that I want to rid the world of nuclear weapons. We must protect ourselves, nature, our theatre, our music, and our art, since one nuclear bomb over New York would destroy everything and everyone we love.

I would like to thank City Council members for being real leaders in taking responsibility, where the federal government fails, by confronting the lie and reality of nuclear weapons, one local initiative at a time.

Sincerely,


Linda S. Chapman
Associate Artistic Director

And
President, Youth Arts New York



Submission by Susi Snyder to New York City Council Debate on

Resolution 0976-2019 on nuclear disarmament and INT1621-2019, a bill to create a nuclear disarmament and nuclear weapons-free zone advisory committee.

14 January 2020

Contact:

Susi Snyder, snyder@paxforpeace.nl

Dear Council Members,

In regards to the debate on the nuclear disarmament bills, Res. 976 and Int. 1621 please accept this written testimony.

I grew up in New York City. Like countless others I'm a product of the NYC public school system, with some of the best teachers of all time. I remember we had different drills at P.S. 214- the regular fire drills, but also drills against weapons of mass destruction. On fire drill days we'd go outside (a great time to goof off), but on those other drill days we would huddle in the hallways. Away from all windows. Heads pressed against our knees. These were not exactly duck and cover drills, but they were drills conducted in anticipation of the use of weapons of mass destruction on our city.

I'm a second generation New Yorker, both my parents born and raised in the city, both products of parents seeking opportunity in the greatest city in the world. Like other New Yorkers, I was exposed to the world (and hundreds of languages and cultures) simply by riding the subway. In other parts of the world I make it clear that I'm a New Yorker first, and anything else (mom, researcher, writer) after that. No one will ever be able to take the New Yorker out of me, but without concerted action to abolish nuclear weapons, I fear that New York will be taken away from everyone.

I urge you to adopt the package in front of you, Res 976 and Int. 1621.

It is well known that a single, small nuclear weapon could wipe New York off the face of the earth. The city that never sleeps would, in a flash, become a cityscape of the most horrible nightmare. Buildings collapsed, burned. The subway becoming a place of refuge, with what survivors might exist crying for water. The impact of a single nuclear detonation on the city would be traumatic, the impact of a nuclear exchange anywhere in the world would be no less tragic.

My professional career began on Wall Street. It was there I learned the ins and outs of corporate finance, as well as the power of productive negotiations. It was on Wall Street that I found, despite the tales to the contrary, there is a way to make money and to make it do well. I also learned how important diversified portfolios are to ensuring long term earnings. My background in finance, combined with that lingering childhood memory of hiding from a potential nuclear attack drove me to work to end the existential threat posed by nuclear weapons, including through the International Campaign to Abolish Nuclear Weapons, and to produce Don't Bank on the Bomb for my organisation-PAX.

The International Campaign to Abolish Nuclear Weapons (ICAN) is a coalition of non-governmental organizations in more than one hundred countries promoting the abolition of nuclear weapons, including full adherence to and implementation of the United Nations Treaty on the Prohibition of Nuclear Weapons. ICAN was awarded the 2017 Nobel Peace Prize for our “*work to draw attention to the catastrophic humanitarian consequences of any use of nuclear weapons*” and our “*ground-breaking efforts to achieve a treaty-based prohibition of such weapons*”.

ICAN works with partners, including PAX, on a joint effort “Don’t Bank on the Bomb”. This project is intended to build the global stigma around the continued production of (key components for) nuclear weapons, and encourage investors, including institutional investors to end their involvement with any company associated with the nuclear weapon industry.

Don’t Bank on the Bomb is the only freely available source of information on the relationship between the private sector and the nuclear weapons industry. Last year, we published (and I attach as an annex) [Producing mass destruction: Private companies and the nuclear weapons industry](#).^a This report provides full profiles of 28 companies connected to the production of nuclear weapons. Most of those companies are involved in the US arsenal, as the contracting system in the US is quite transparent. However, there is also information on companies connected to the French, Indian and UK arsenals. The report shows governments are contracting at least US\$ 116 billion to private companies in France, India, Italy, the Netherlands, United Kingdom, and the United States for production, development and stockpiling of nuclear weapons. State owned companies in China connected to nuclear weapon production are starting to raise money through bond issuances, while Israeli, Pakistani, North Korean, and Russian nuclear programmes are still not transparent.

Another ICAN partner, the Norwegian People’s Aid in their publication *The Nuclear Ban Monitor*, interprets key components of nuclear weapons to include “the missile, rocket, or other munition, including both the container and any means of propulsion. Delivery platforms such as bombers and submarines are not key components of nuclear weapons as such, but they may be integral to a nuclear-weapon system and, in certain circumstances, investment in such a system, or the transfer of nuclear-capable bombers or submarines, could amount to prohibited assistance.”¹

Other institutional investors, for example APG, the fifth largest pension provider on the planet, have avoided these types of investments by having policies that exclude companies involved in the “production, development, sale and/or distribution of the core weapon system” and for specifically designed or key components.²

The companies involved in the production of nuclear weapons do not comprise the entire defence sector, they do not represent all of heavy industry nor is every government contractor involved in making nuclear bombs. The companies involved in producing nuclear weapons are a small portion of these overall sectors, which is why Res. 976 “*calling on the New York City Comptroller to instruct the pension funds of public employees in New York City to divest from and avoid any financial exposure to companies involved in the production and maintenance of nuclear weapons*” should not have an impact on the bottom line of those funds. Instead, this action will send a clear and concise message to this list of companies that the production of nuclear weapons is unacceptable and not in line with the values of New Yorkers.

More and more people are moving to cities. The growing trend towards urbanization means that the traditional role of Mayors and City Councils is expanding. To protect their citizens, municipal leaders

^a The full report can be downloaded from: https://www.dontbankonthebomb.com/2019_producers-report-final/

must embrace a wide range of approaches towards securing their cities. This new reality is reflected in the UN Sustainable Development Goals, particularly Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable.

In taking up their responsibility to make cities and human settlements safe and to protect their citizens from harm, municipal leaders like yourselves can avoid financing the production of some of the worst weapons ever created. Weapons like cluster munitions or biological weapons have such indiscriminate and inhumane effects, they do not have a place in modern militaries. Despite being widely considered to be controversial and often prohibited by international treaties, these weapons are still produced in some parts of the world. Considering the changing nature of warfare towards more urban conflict, cities and other local authorities can take a stand and make sure they are not themselves linked in any way to the production of controversial or indiscriminate weapons.

In 2017, a significant majority of world governments adopted the UN Treaty on the Prohibition of Nuclear Weapons (TPNW). The treaty prohibits, *inter alia*, anyone from providing assistance with the development, testing, production or manufacture of nuclear weapons or other nuclear explosive devices. (Article 1e). During Treaty negotiations, the Irish delegation identified the issue of financing, stating that Ireland holds “the view that that finance does represent “assistance” when done by or on behalf of the State and this has had implications for the regulation of the investment of our public monies.”³

The language in the TPNW on assistance mirrors that in the Chemical Weapons Convention. In the Oxford Public International Law commentary on the Chemical Weapons Convention, assistance is understood to include the provision “*through financial resources.... to anyone who is resolved to engage in such prohibited activity*” and anyone that could be “*not only be a State, irrespective of whether or not it is a Party to the Convention, but also an organization, an enterprise, a person, or a group of persons, regardless of Citizenship.*”⁴

As a result, the prohibition on assistance in the TPNW is increasingly understood by financial sector actors to also prohibit investments in the private companies producing nuclear weapons.

Across the financial sector, the Treaty on the Prohibition of Nuclear Weapons (TPNW) is already having an impact. In only the first year after the adoption of the Treaty on 7 July 2017, 30 Financial Institutions previously known to have investment in companies associated with the production of nuclear weapons, ended their financial relationships.⁵ Since that time about another hundred institutions changed their involvement.⁶

There are a number of financial institutions that have also cited the TPNW as justification for ending their exposure to the companies associated with the production of nuclear weapons. These include, but are not limited to: Amalgamated Bank (US); ABP (the Netherlands); KBC (Belgium).⁷

In adopting this package of legislation, New York City has the opportunity to offer a values based guideline for how its money is invested. Public exclusions have a stigmatizing effect on companies associated with illegitimate activities. While it is unlikely that divestment by a single financial institution would create sufficient pressure on a company for it to end its involvement in nuclear weapons work, divestment by even a few institutions based on the same ethical objection can impact a company’s strategic direction.

Experience with other prohibited weapons systems, notably cluster munitions, shows that the financial sector is quick to reject exposure to companies alleged to be associated with prohibited weapon production.

Also in the case of cluster munitions, it is seen that stopping the financial flow to weapons producing companies has proven to directly impact them. For example, citing pressure from financial institutions, several producers of cluster munitions have stopped their production, including Textron, Lockheed Martin, Orbital ATK and Singapore Technologies Engineering – even though they are all from states not party to the Convention on Cluster Munitions (CCM).

Already the Don't Bank on the Bomb research shows there are at least 36 financial institutions around the world with comprehensive policies preventing any type of financial exposure to any type of companies associated with producing (key components) of nuclear weapons. An additional 41 institutions have policies limiting their financial exposure.⁸

The relationship between nuclear weapon production and institutional investors cannot be overlooked. Investors provide the necessary support to companies so they are able to carry out projects. Most nuclear armed states rely on private companies for the production, maintenance and modernization of their nuclear weapons. Publicly available documentation shows private companies are involved in the nuclear arsenals of, at least, France, India, Israel, the United Kingdom and the United States. When institutions invest in companies associated with nuclear weapon production, they provide the financing to maintain, refurbish, test, and modernize nuclear weapons. In short: no money means no production.

New York has the opportunity to renew its leadership in efforts to end the worst weapon ever created by adopting this package of legislation, to show courage to demand a better world. I urge you to do so.

Sincerely,

Susi Snyder

College Point, Queens, 11356

¹ Nuclear Weapons Ban Monitor, "The Definition of Nuclear Weapons", Ban Monitor website (<https://banmonitor.org/the-history-of-the-tpnw/the-definition-of-nuclear-weapons>), viewed 31 October 2019.

² APG Asset Management, "Responsible investment & Stewardship policy", December 2018, p. 14, available at https://www.apg.nl/pdfs/APG%20Responsible%20Investment%20-%20Stewardship%20Policy%20FINAL_ENG.pdf, last viewed 27 August 2019.

³ Statement by the Irish Delegation, International Conference to negotiate a legally binding instrument on the prohibition of nuclear weapons, 29 March 2017.

⁴ The Chemical Weapons Convention: A Commentary, Edited By: Walter Krutzsch, Eric Myjer, Ralf Trapp, August 2014, Oxford Commentaries on International Law,

⁵ Maaike Beenes and Susi Snyder (2018) Don't Bank on the Bomb. Utrecht, the Netherlands: PAX, p. 6. Available at: https://www.dontbankonthebomb.com/2018_report_web/.

⁶ Susi Snyder (2019) *Shorting our security- Financing the companies that make nuclear weapons*. PAX. Available at: https://www.dontbankonthebomb.com/wp-content/uploads/2019/06/2019_HOS_web.pdf.

⁷ Susi Snyder, website *Don't Bank on the Bomb*, (4 July 2018), available:

<https://www.dontbankonthebomb.com/happy-birthday-tpnw-have-some-divestment/>

⁸ Beenes and Snyder (2018), p. 7.

14 Jan 2020

Members of the Committee on Governmental Operations and the Committee on Civil Service and Labor, New York City Council
via email: <hearings@council.nyc.gov>

Dear Council and Committee members,

**Re: Legislation Resolution 0976-2019 on nuclear disarmament;
and INT1621-2019, a bill to create a nuclear disarmament and nuclear weapons-free zone
advisory committee**

ICAN is a peerless leader with a critical mission: to affirm the unique and unacceptable threat posed by nuclear weapons - to our geopolitical stability, our natural and financial resources, and our public health - should be addressed. The Treaty on the Prohibition of Nuclear Weapons (TPNW), for which ICAN was recognized with its Nobel Peace Prize, seeks to rightly place nuclear weapons in the same legal category as other indiscriminate and inhumane weapons - biological and chemical weapons, landmines, and cluster munitions. A primary potential target due to its large population and concentration of wealth and industry, New York is particularly vulnerable to nuclear aggression; recognizing the nuclear threat is of interest and importance to all New Yorkers.

We look to you for leadership in communicating to Washington DC and the world, that New York City is serious about the existential threat of nuclear war, and will take every necessary step to ensure our safety.

Yours sincerely,

Audrey Symes



IPPNW

International Physicians
for the Prevention
of Nuclear War

Deutsche Sektion der
Internationalen Ärzte für die
Verhütung des Atomkrieges/
Ärzte in sozialer
Verantwortung e.V.

Körtestr. 10 | 10967 Berlin
Tel.: +49 (30) / 698 07 40
Fax: +49 (30) / 693 81 66
E-Mail: ippnw@ippnw.de
www.ippnw.de

Vorstand

Dr. Inga Blum
Carlotta Conrad
Dr. Sabine Farrouh
Dr. Katja Grebbels
Susanne Grabenhorst
Friedrik Holz
Dr. Alex Rosen
Katharina Thake
International Councillor
Dr. Helmut Lohrer
Dr. Eva-Maria Schwienhorst-Stich
Ehrenvorstandsmitglied
Prof. Dr. Ulrich Gottstein

Wissenschaftlicher Beirat

Dr. Jan van Aken
Prof. Dr. Elmar Altvater
Dr. Dieter Deisenroth
Dr. Alfred Körblein
Dr. Heinz Liqueai
Prof. Dr. Mhssen Massarrat
Prof. Dr. Götz Neuneck
Prof. Dr. Norman Paech
Prof. Dr. Inge Schmitz-Feuerhake
Prof. Dr. Otmar Wassermann

IPPNW e.V. | Körtestr. 10 | 10967 Berlin

Hamburg, 14.01.2020

Honorary members of the New York City Council,

As a medical doctor and board member of the German affiliate of International Physicians for the Prevention of Nuclear War, 1985 Nobel Peace Prize Laureate, I strongly support Resolution 0976-2019 and INT1 621-2019.

My beloved hometown Hamburg has suffered from one of the worst firestorms in human history in the summer of 1943. 35,000 people were burned to death, buried under debris or suffocated. It is only very recently that I learned that my deceased grandfather was part of the search and rescue service when we found a letter he had written to his sister describing his horrible experiences and his despair. He had never told us about that.

The explosion of a single modern nuclear weapon over a big city could cause much larger firestorms. More than a million people could die in the fire. Humanitarian aid would be absolutely impossible - and there are still about 14,000 nuclear weapons in the world.

This dimension of death and destruction is inconceivable.

But reading the words of my grandfather, seeing the scars of my hometown and knowing about the undescrivable atrocities that my fellow countrymen have committed convinces me that we can not allow ourselves to deny and delay this greatest acute threat to human survival any longer. As the Auschwitz Survivor Viktor E. Frankl said: „Since Auschwitz we know what man is capable of. And since Hiroshima we know what is at stake.“

In Germany, to date, 71 cities have joined the ICAN cities appeal, amongst them Berlin, Munich, Cologne and other major cities: <https://www.icanw.de/ican-staedteappell/>
In Hamburg we have just reached a majority of parliamentarians in the governing coalition who support the cities appeal and we are hopeful to come on board in the coming weeks.
On January 16th at a public event in the ruin of Hamburg's former main church of St. Nikolai that was burned in 1943 representatives of civil society will show the urgent necessity for nuclear disarmament. I will tell the parliamentarians about your great progress in New York and I am sure that it will encourage them to follow your example.

I am sending you my heartfelt thanks for your contribution to making this world a safer place for us and for our children.

With kind regards

Dr. Inga Blum
MD, Neurologist





INTERNATIONAL HUMAN RIGHTS CLINIC
HUMAN RIGHTS PROGRAM AT HARVARD LAW SCHOOL

Submission to the Council of the City of New York regarding Resolution No. 0976-2019 and INT 1621-2019

**From the Harvard Law School International Human Rights Clinic
January 14, 2020**

Introduction

1. The International Human Rights Clinic (“the Clinic”) at Harvard Law School is pleased to make this submission to the Council of the City of New York regarding proposed Resolution 0976-2019 on nuclear disarmament and INT 1621-2019, a bill to create a nuclear disarmament and nuclear weapons-free zone advisory committee.
2. The Clinic participated actively in the negotiations of the 2017 Treaty on the Prohibition of Nuclear Weapons (TPNW). It disseminated numerous publications, made statements in the plenary and at side events, and provided legal advice to the International Campaign to Abolish Nuclear Weapons (ICAN), which received the 2017 Nobel Peace Prize. Having worked on disarmament issues since 2005, the Clinic also has extensive expertise in the domestic implementation of weapons treaties.
3. The Clinic strongly encourages the Council of the City of New York to adopt Resolution No. 976 and Int. No. 1621. These measures would allow New York City to advance efforts toward the elimination of nuclear weapons. They would carry extra significance given New York’s ties to the Manhattan Project and its history of opposing nuclear weapons.
4. Resolution No. 976 calls for the Council of the City of New York to take three steps toward reducing the humanitarian threat of nuclear weapons: divest from companies involved in the production and maintenance of nuclear weapons, reaffirm a Nuclear Weapons-Free Zone, and express support for the Treaty on the Prohibition of Nuclear Weapons. Each of these steps has effectively advanced nuclear disarmament at the international and national levels. Given New York City’s place in the world, they would also be influential if pursued at the municipal level.

Divestment

5. Governments and private actors have long used divestment as a tool for social change. It has been particularly powerful in the field of humanitarian disarmament, which seeks to

prevent and remediate the human suffering and environmental harm inflicted by certain arms, including nuclear weapons. From a practical perspective, divestment reduces the funding necessary to continue the production and maintenance of inhumane weapons. From a policy perspective, withdrawing financial support is a means to express public opposition to arms that have been banned or are widely condemned.

6. Given its place as one of the world's financial leaders, New York City would advance nuclear disarmament both practically and politically if it pursued divestment. We therefore urge New York City to cease investing its employees' pension funds in companies involved with the production and maintenance of nuclear weapons.

Nuclear Weapons-Free Zone

7. The declaration of nuclear weapons-free zones puts pressure on nuclear powers to eliminate their arsenals. The zones limit locations in which those countries can engage in nuclear weapon-related activities, such as use, production, and stockpiling. They also serve as strong political statements.
8. At the international level, countries have agreed to treaties making certain regions, including Latin America, the South Pacific, and Africa, nuclear weapons-free zones. These influential treaties provided precedent for the Treaty on the Prohibition of Nuclear Weapons (discussed more below).
9. Cities, including New York City, have also adopted nuclear weapons-free zones. In the process, they show their national governments that they will not tolerate nuclear weapon-related activities within their jurisdictions.
10. At a time when global events have heightened the threat of nuclear war, the Council should reaffirm New York City's Nuclear Weapons-Free Zone. Reaffirmation will remind the world of the city's long-standing opposition to nuclear arms.

Treaty on the Prohibition of Nuclear Weapons and ICAN Cities Appeal

11. On July 7, 2017, 122 countries adopted the Treaty on the Prohibition of Nuclear Weapons at the New York headquarters of the United Nations. This treaty, an exemplar of humanitarian disarmament, broke new ground in the history of nuclear disarmament. It focused on addressing the catastrophic humanitarian consequences of nuclear weapons, rather than treating the issue as primarily a matter of national security. This shift in approach broke a deadlock in nuclear diplomacy and led to a legally binding instrument that comprehensively bans nuclear weapons.
12. The treaty's prohibitions clarify that nuclear weapons are seen as illegal as well as immoral. In addition, the treaty contains obligations to assist victims of past use and testing and remediate contaminated environments. The latter obligations do not depend on the ratification of the nuclear-armed states and will have humanitarian benefits as soon as the treaty enters into force.

13. In the ICAN Cities Appeal, municipalities express their support for the Treaty on the Prohibition of Nuclear Weapons and call on their national governments to join the treaty. New York should join the ranks of other major cities, including Washington, DC, Los Angeles, Berlin, and Paris, in endorsing the appeal.
14. In so doing, New York City will increase the pressure on the United States to support the treaty while promoting efforts to encourage other countries to join. After 50 countries ratify the treaty, it will enter into force, creating legal binding obligations on states parties and influencing the behaviour even of those countries not yet ready to sign on.

For more information, contact:

*Bonnie Docherty
Associate Director of Armed Conflict and Civilian Protection
Lecturer on Law
International Human Rights Clinic
Harvard Law School
bdocherty@law.harvard.edu
+1-617-496-7375*

14 January 2020

Mr. Jonathan Etricks
Legislative Documents Unit
New York City Council

Dear Mr. Etricks,

Thank you for inviting me to testify to the Committee on Governmental Operations and the Committee on Civil Service and Labor on the following topics:

Int 1621 – In relation to create a nuclear disarmament and nuclear weapons-free zone advisory committee.

Res 0976 – Calling on the New York City Comptroller to instruct the pension funds of public employees in New York City to divest from and avoid any financial exposure to companies involved in the production and maintenance of nuclear weapons, reaffirming New York City as a Nuclear Weapons Free Zone, and joining the ICAN Cities Appeal and calling on the United States to support and join the Treaty on the Prohibition of Nuclear Weapons.

I regret that I will be unable to attend the public hearing scheduled for 28 January 2020, as I will not be in New York City on that date. However, I am pleased to provide the following written testimony in support of these timely and important initiatives.

Most experts agree that the risk of nuclear weapons being used today is as high as it was throughout much of the Cold War – and any such use would be utterly catastrophic, with no meaningful humanitarian response possible. This is a risk that New York City and other major cities across the world must not ignore. As cities are the primary targets of nuclear weapons, their elected representatives have a responsibility to work to eliminate them.

The primary duty of any person in public office, including those who serve on the New York City Council, must be to ensure the safety and welfare of those they represent. The ICAN Cities Appeal, which New York City is being asked to endorse, states that “our residents have the right to live in a world free from this threat”. This is an opportunity for New York City – which long ago declared itself a nuclear-weapon-free zone – to reaffirm its support for the total elimination of nuclear weapons.

It cannot be left to national governments alone to advance the cause of disarmament. Successive US administrations have failed to do so in a meaningful way, instead squandering billions of dollars on the modernization of nuclear weapons. Cities and states must rise to the challenge and fill the deep void in leadership on this issue.

Against the backdrop of heightened tensions among nuclear-armed nations and major investments in the bolstering of existing nuclear forces, the global consensus against nuclear weapons appears to be growing. The adoption of the Treaty on the Prohibition of Nuclear Weapons by 122 governments in 2017 is evidence of this. New Yorkers should be proud that this historic accord, which provides a glimmer of hope at a time when multilateralism is under threat like never before, was negotiated in their city.

The treaty is now more than two-thirds of the way to achieving the 50 ratifications needed to enter into legal force. It is attracting new adherents every month. In nuclear-armed states, the voices of legislators and city councillors in favour of this treaty are a powerful counter to the official narrative that nuclear weapons enhance a nation's security. With every declaration of support for the treaty, the foundations of the nuclear weapons enterprise weaken.

Those who negotiated this treaty are under no illusions about what it might achieve in the short term. They know that major obstacles exist on the path to a nuclear-weapon-free world. They know that nuclear-armed nations cannot be forced against their will to disarm. But they also understand the power of international law in the long term and the importance of multilateral norm-setting. The categorical statement embodied in this treaty that nuclear weapons are illegal to use and possess is an essential basis for disarmament.

Since the treaty was adopted in 2017, many financial institutions around the world have already taken voluntary steps to divest funds from nuclear weapon companies. In most cases, they have done so in response to citizens' campaigns. Their actions are proof of the impact that international law can have even without the official support of certain powerful nations – and that impact will become ever greater over time.

A decision by the New York City Council to divest from nuclear weapon companies would send a clear signal to defense contractors, the financial sector, and governments that involvement in the nuclear weapon industry is unacceptable. It would build acceptance of the illegality and illegitimacy of nuclear weapons, and would draw attention to their catastrophic humanitarian and environmental effects. It would contribute to the delegitimization of nuclear weapons and challenge programmes to modernize them.

While the actions of New York City alone may not compel such companies to end their involvement in the nuclear weapon industry, divestment by multiple institutions based on the same ethical objection could have a significant impact on their strategic direction. The profits to be made from accepting new contracts from the federal government for work on nuclear weapons will need to be weighed against the potential financial losses from divestment.

New York City should take the necessary steps to ensure that it has no financial exposure to companies involved in the production and maintenance of nuclear weapons, including through the pension funds of its employees. First and foremost, this is because nuclear weapons, through their ordinary use, inflict catastrophic humanitarian harm across generations, and cause widespread, long-term and severe environmental damage.

Continued investment in nuclear weapon companies would risk the reputation of New York City as a progressive and liberal city committed to human rights and human security. It could lead to poor staff morale, whereas divestment would make employees of New York City proud to work for an ethically minded institution.

Historically, divestment has been an indispensable tool for promoting freedom and ending oppression. In the foreword to the first edition of *Don't Bank on the Bomb* in 2012, which I co-authored, the renowned South African anti-apartheid leader Desmond Tutu wrote:

To those who invested in our country, we said: you are doing us no favour, you are buttressing one of the most vicious systems. Divestment was vital in the campaign to end apartheid in South Africa. Today, the same tactic can – and must – be employed to challenge man's most evil creation: the nuclear bomb. No one should be profiting from this terrible industry of death, which threatens us all.

This year marks 75 years since the US atomic bombings of Hiroshima and Nagasaki, which claimed more than a quarter of a million lives. A decision by New York City to divest from nuclear weapon companies and to call on the United States to join the Treaty on the Prohibition of Nuclear Weapons would be a most fitting tribute to those who perished in these atrocities or have lived with the scars. Setsuko Thurlow, who survived the bombing of Hiroshima as a 13-year-old schoolgirl, is a passionate advocate for divestment:

Divestment is one of the most effective ways to advance nuclear disarmament ... We must each speak out and take action. If we allow [the nuclear weapon] industry to continue unimpeded, we are in a sense accepting that nuclear weapons will one day be used again. Any such use would have catastrophic consequences.

No city is immune to the radioactive fallout that would transcend national borders if these weapons are ever used again. No city is immune to the climate disruption, agricultural and economic collapse, mass human displacement, and famine that would inevitably follow even a so-called “limited” nuclear war. It is incumbent upon members of the New York City Council to take action, and I commend the two initiatives outlined above.

Through the Manhattan Project, New York City played a major role in the development of nuclear weapons – and, by extension, bears some responsibility for the trauma and sorrow that these instruments of terror and mass destruction have inflicted. Your city now has the opportunity to play a role in dismantling them.

Yours sincerely,



Tim Wright
Treaty Coordinator
International Campaign to Abolish Nuclear Weapons

RESIST TRUMP'S NUCLEAR ARMS RACE



KEEP NYC NUCLEAR FREE!

ATTEND THE HEARING ON 28 JANUARY AT 1PM AT CITY HALL
IN SUPPORT OF RES 976 AND INT 1621, LEGISLATION SUPPORTING **NUCLEAR DISARMAMENT**

NYC once hosted nuclear weapons bases, threatening New Yorkers with the catastrophic consequences of an accidental detonation and ensuring our City as a nuclear target. NYC has also been key to the development and maintenance of nuclear weapons, beginning with the Manhattan Project and continuing today, as the City continues to invest public pension funds toward nuclear weapons production.

But New Yorkers pushed back! In 1974 nuclear missiles were removed from NYC and in 1983 the NY City Council made NYC and its harbor a Nuclear Weapons Free Zone. As a result, in 1992 the Navy removed nuclear weapons from surface ships and in 1994 a nuclear-capable Navy base in Staten Island was shuttered.

The Trump administration said they may use nuclear weapons for "warfighting" and are undoing crucial

nuclear arms control measures. They are considering putting nuclear weapons back on surface ships, making it easier for the Navy to bring them into NYC.

Make your voice heard! Attend the press conference on City Hall steps at noon, sign up to speak at the hearing, or submit written comments to hearings@council.nyc.gov, by 5 PM, Jan. 28 referencing Res 976 and Int 1621. This package of legislation reaffirms NYC's Nuclear Weapons Free Zone, joins the Nobel Peace Prize-winning International Campaign to Abolish Nuclear Weapons (ICAN) Cities appeal calling upon the US to sign and ratify the Treaty on the Prohibition of Nuclear Weapons, calls for divestment of the City's pension funds from nuclear weapons producers, and sets up a Nuclear Weapons Free Zone committee to hold public events and recommend new legislation.

Image: Nuclear submarine USS Nautilus visiting NYC in 1956



Vote in Favor of Nuclear Disarmament Bills to Invest in New York City's Future

Written Version of Testimony by Dr. Matthew Breay Bolton on Res. [976](#) and Int. [1621](#) before City Council Joint Hearing of Committee on Governmental Operations and Committee on Civil Service and Labor, 28 January 2020.

I love being alive in New York City. I didn't grow up in the Five Boroughs. But since arriving in 2011, I have been inspired by the diversity, by the imagination pulsing through the streets. My name is Matthew Breay Bolton and I am associate professor of Political Science at Pace University. I am currently on sabbatical, researching how people around the world have resisted the threat nuclear weapons posed to those they love. Traveling, I miss my Rockaway home, where I am proud of our tough community that knows how to survive and thrive at the edge of the sea, building resilience amidst the pounding surf. I love taking a longboard into the waves, watching dolphins swim alongside the ferry into Manhattan, enjoying great food on the boardwalk, and summer nights chatting with friends under the stars. Rockaway, New York, you and me are all worth saving.

Any nuclear detonation in New York, deliberate or accidental, would have catastrophic consequences for all I love about our City. The risks are terrifyingly real: a nuclear submarine colliding with another vessel off Long Island in 1998; a nuclear submarine ensnared in a fishing net near the Jersey shore in 1956. But as I outline in my report, [From Manhattan Project to Nuclear Free](#), nuclear weapons already hurt New Yorkers. Sites in Staten Island and Queens remain contaminated by radioactive materials used to make the atomic bombs that decimated Hiroshima and Nagasaki. Japanese American survivors and atomic veterans suffer from exposure to the effects of nuclear bombs. The nuclear arsenal wastes money better spent on New York's health and education – or even left in our pockets. The CDC calculates that 22,000 Americans, including New Yorkers, will get cancer resulting from nuclear test fallout; other studies suggest this underestimates by an order of magnitude. I am currently in Australia and can see from the bushfire smoke how airborne particles respect no boundaries, circulating thousands of miles throughout the atmosphere.

I came to the issue of nuclear weapons through working with communities disturbed by armed violence. As an aid worker in Bosnia and Iraq, I saw how people living amid minefields found support in a 1997 international treaty that outlawed landmines and created a framework for assisting affected communities. The treaty halted mass production of landmines; financial institutions balk at funding a stigmatized technology. Who wants their pension invested in a weapon that kills civilians decades after a war is over? The 2017 Treaty on the Prohibition of Nuclear Weapons (TPNW) drew inspiration from the landmine treaty to ban the only weapon of mass destruction not yet forbidden by international law. The new treaty establishes mechanisms for assisting victims and remediating contaminated environments. Stigmatization will now make it harder for the nuclear weapons industry to find financing. As noted in my report [Risky Business](#), investments in nuclear arms not only fund destruction; they generally underperform the market. We should not entrust our public servants' hard-earned pensions to those building bombs that, like landmines, are becoming a financial pariah. Luckily, less than 0.25% of the City's pension portfolio is in nuclear weapons producers – withdrawing this bad bet will be less difficult than other divestment efforts.

A vote in favor of Res. 976 and Int. 1621 says we are safer without nuclear bombs in our neighborhoods. The bills raise awareness of risks faced by New Yorkers who live near contaminated Manhattan Project sites. They ask managers of our public servants' pensions to reduce exposure to the risky business of nuclear weapons. And they offer our solidarity with people of good conscience around the globe, including those suffering the consequences of nuclear weapons use and testing. I urge you to vote in favor of preserving all that that we love about our City.

Bio:

Matthew Breay Bolton is director of the International Disarmament Institute and associate professor of political science at Pace University in New York City. He is an expert on global peace and security policy, focusing on multilateral disarmament and arms control policymaking processes. He has a PhD in Government and Master's in Development Studies from the London School of Economics. Since 2014, Bolton has worked on the UN and New York City advocacy of the International Campaign to Abolish Nuclear Weapons (ICAN), recipient of the 2017 Nobel Peace Prize. He has an honorary doctorate in humane letters from Graceland University. Bolton has published four books, including *Foreign Aid and Landmine Clearance* (I.B. Tauris) and *Imagining Disarmament* (Palgrave Pivot).

Written Version of Statement of Emily Welty, PhD to New York City Council in favor of Res 0976 and INT 1621

I love being alive to relish the specificity of the trees and flowers and animals that we share the planet with. It gives me delight while being here in Australia to see the unique birds and plants that only grow here and I find myself wistfully longing for the familiar and specific markers of the natural world in New York City – the sound and smell of the waves off Rockaway Beach and the way the light filters through the trees in Greenwood Cemetery.

My name is Emily Welty and I am a professor at Pace University where I serve as director of the Peace and Justice Studies program. I am also the Vice Moderator of the World Council of Churches Commission on International Affairs where I am the chair of the nuclear disarmament working group. The World Council of Churches is a fellowship of Christian churches in more than 110 countries which represents more than 500 million people around the world.

I'm a New Yorker by choice, not by birth. But I could not love this city more if it had been the place that I was raised because it is here in New York City that I fully came to understand the power and possibility of citizens acting to imagine what justice looks like in action. I am so proud to be part of a place that does not simply react to transnational and domestic trends but takes seriously the idea of prefigurative action – that we can create healthier, more vibrant communities here and now. This city defines for me what public policy looks like when it elevates the best in human impulses for dignity, equality and creative flourishing rather than just responding to problems. I believe that it is this foundation of cosmopolitanism and concern that has enabled this city to widen its gaze to address pressing transnational issues beyond the boundaries of the five boroughs.

From the perspective of people of faith, regardless of our particular religious tradition, nuclear weapons represent the most serious violation of the values that underscore our religious and spiritual lives. To threaten other communities with total annihilation contravenes our common commitments to the inherent worth of the human person, to our responsibility to love our planet and our belief that human beings are compassionate, creative, generous and joyful.

Nuclear weapons cause devastation that is unimaginable and our natural tendency as human beings is to try to avoid even contemplating the complete incineration of everything that we love. It is, quite simply, easier to ignore this problem and to simply hope that a nuclear weapon will never again be detonated. However, this is not who we are as New Yorkers. We are not bystanders when it comes to situations of oppression and evil. We will not trust that someone, somewhere else will take the right, sensible, safe decision to safeguard our planet, our aspirations, our dreams about what the world can be. As New Yorkers we feel called to take a stand that is consistent with justice, equality and the good of humanity.

This is why I am joining my voice with so many other educators and artists, activists and politicians, New Yorkers and citizens of the world to call on you to take the prophetic stand that our city and our planet demand and to vote for Resolution 976 and Introduction 1621.

Written Testimony for Res 976 and Int. 1621 presented for public hearing, January 28, 2020

Anhoni Hegarty

I am an English-born singer, composer and visual artist who moved to Manhattan in 1990 to study at NYU. All these years later, New York is still my home.

In 2016, I became the second openly transgender person nominated for an Academy Award; for Best Original Song for “Manta Ray” in the film *Racing Extinction*, a film about the mass extinction of species we are now undergoing.

I say these things to state the obvious — New York is a city of artists. I am one of thousands of artists who call this city home. I am one of thousands who say with our work — stop extinction, stop war.

Stating the obvious in a post truth society is becoming a noble task. And so too this legislation, stating the obvious that we must act to rid ourselves of the threat of nuclear war and radioactive violence. I am grateful to all our City Council members who have supported this legislation, which gives me the opportunity to share how my life and my work have been touched personally by the nuclear age.

A few years ago, I was asked write a song for a film about the Great Barrier Reef called *Coral: Rekindling Venus*, by the artist Lynette Wallworth. Lynette was making a new film in collaboration with a group of Aboriginal Martu women elders. She asked me to accompany her to the Western Australian Desert to meet this community and see if I could be in some way a part of the work she envisaged.

I had the honor to spend time witnessing and befriending a group of Martu elders who taught me to see things from a much bigger point of view. Visiting them was a heart-opening and life-changing experience for me. To be with these women was deeply inspiring – and it left me with that sense that I would do whatever I could to help them.

There was something familiar about the Martu women elders. They had a tremendous presence that reminded me of my own family – of the women from the hills of Donegal, Ireland, that I descend from. There’s a sense of inseparableness of body, spirit and landscape that I recognize from my own grandmother and aunties. I found myself as a student of the Martu people in a blessed moment of circumstance.

As time went on I began to understand the nature of the struggle that they were in the grips of. Two multinational companies had worked with the government and managed to acquire a large parcel of Martu territory with the goal of creating a Uranium mine there.

The eldest Martu women banded together and launched a years-long offensive to halt the mining threat. They began working on giant paintings of their land and sharing them with museums across Australia to bring attention to their plight.

I wanted to help in any way I could. I performed a concert in Tasmania at the Dark Mofa festival and donated the proceeds to create a fund to support the Martu in their brave work confronting the mining giants Cameco and Mitsubishi. We appeared on *Q and A*, a national talk program, to discuss the crisis with leading politicians.

The Martu staged a 10 day walk across country from their remote community to the site of the proposed Uranium mine. I joined them on that trek, which culminated in a ceremony between the structures left by the mining exploration crew, in the middle of a pristine and majestic desert that was bursting with life.

What I found most impressive about this circle of women was their sense of presence and integrity and patience. I found dignity and perseverance and intense intuitive wisdom. They are one of the few indigenous groups that has an almost unbroken connection to the land – they weren't radically disrupted until after WWII, when the Australian government sought to clear them from their land so they could begin nuclear testing there. Elders in the community recount that as children they saw a giant cloud in the sky and being told it must be a sign from God, and then the kangaroos dying around them, and thinking God was offering them a feast, and giving praise for the good fortune.

Sometimes it seems that corporations have little regard for those who live in proximity to their projects. The fight to halt the proposed uranium mine at Kintyre has been fought since the 1980s and still there is no assurance that the fight is over. If built, an operating uranium mine will irreversibly contaminate the environment with radioactive waste and mill tailings and threaten water security as vital water sources are located near the proposed mine. The health of the people and some 28 threatened species that live in that precious bioregion will be forever compromised.

People have asked me – 'why this mine? Why these people?' While a sequence of events led me to a particular place and people, this one place represents the global operation of uranium mining which very often adversely affects indigenous people across the planet.

Why this story from Australia for New York City Council told by an English born artist of Irish descent who calls her home Manhattan? There — that is it — Manhattan. The Manhattan Project. Because nuclear weapons were born here, every uranium mine that has opened since owes its legacy in some part to New York City. And although the thousands of tons of uranium stored in Manhattan and Staten Island and elsewhere primarily came from the brutally racist Belgian Congo — the Manhattan Project paved the way for every uranium mine ever exploited.

The mine at Kintyre in Western Australia threatens not just the local environment, but offers the potential to unleash havoc across our planet. Some of the Martu grieve that as guardians of their land, any uranium taken from there is Martu responsibility. Any pain inflicted on the world using that uranium would be spiritually tied to a failure of the Martu to keep the poison in the ground. It is heart-breaking.

Mining the raw material for nuclear bombs and/or nuclear energy, a fuel source that cannot change the course of climate chaos, must stop forever. As a New Yorker I expect that clarion call from my City Council. Especially our city, which has so much to lose in the event of any kind of nuclear disaster, whether it be by war, facility collapse, or terrorism.

New York City has cultural and political capital to spend. If we aren't spending that now, as we lurch towards and away from the cliff of further war in the Middle East, the cliff of climate chaos, the cliff of social injustice, when would we deem best to act? If not now, when? What further madness must we witness? What will it take?

I submit this song, nominated for an Oscar in 2016, as part of this petition
<https://www.youtube.com/watch?v=f1JjHwKM9M>

Manta Ray

In the trees
Between the leaves
All the growing
That we did

All the loving
And separating
All the turning
To face each other

I divide
In the sky
In the seams
Between the beams

Without Biodiversity
I'm nothing
It's like I never existed
Without my home
With no reflection
I cease to exist

Without my home
With no reaction
I cease to exist

And my children
Are dying now
Inside me
All I love
All I know
All I've known

Thank you for your consideration

Anohni Hegarty
Mercer Street
NY, NY 10012

aeon@rebismusic.com

Written Testimony for Res 976 and Int. 1621 presented for public hearing, January 28, 2020

Helen Caldicott, M.B, B.S.

I write this piece as a physician expertly trained to make accurate diagnoses to either cure the patient or to alleviate their symptoms.

I therefore approach the viability of life on earth from a similar and honest perspective. Hence, for some, this may be an extremely provocative article but as the planet is in the intensive care unit, we have no time to waste and the startling truth must be accepted.

As T. S. Elliott said so long ago "This is the way the world ends, not with a bang but a whimper." Will we gradually burn and shrivel the wondrous creation of evolution by emitting the ancient carbon stored over billions of year to drive our cars and to power our industries, or will we end it suddenly with our monstrous weapons within which have captured the energy powering the sun?

Here's the stark diagnosis from a US perspective.

The Department of Defense has nothing to do with defense, because it is in effect, the Department of War. Over one trillion dollars of US taxpayers' money is stolen annually to create and build the most hideous weapons of death and destruction, even to launching killing machines from space. And since 9/11, six trillion dollars have been allotted to the slaughter of over half a million people, almost all of whom were civilians - men women and children.

Brilliant people, mostly men, are employed by the massive military industrial corporations, Lockheed Martin, Boeing, BAE, United Technologies, to name a few, deploying their brainpower to devise better and more hideous ways of killing.

From an unbiased perspective, the only true terrorists today are Russia and the United States of America, both of which have several thousand hydrogen bombs larger by orders of magnitude than the Hiroshima Nagasaki bombs on "hair trigger alert ready to be launched with a press of a button - in the US by the President. This so-called nuclear "exchange" would take little over one hour to complete. As in Japan, people would be seared to bundles of smoking char as their internal organs boiled away, and, over time the global environment would be plunged into another ice age called "nuclear winter" annihilating almost all living organisms over time, including ourselves.

But the stark truth is that the United States of America has no enemies. Russia, once a sworn communist power, is now a major capitalist country, and the so-called "war on terror" is just an excuse to keep this massive killing enterprise alive and well.

Donald Trump is right when he says we need to make friends with the Russians because it's the Russian bombs that could and might annihilate America. Indeed we need to foster friendship with all nations throughout the planet and reinvest the billions and trillions of dollars spent on war, killing and death, to saving the ecosphere by powering the world with renewable energy including solar, wind, and geothermal and planting trillions of trees.

Such a move would also free up billions of dollars to be re-allocated to life such as free medical care for all US citizens, free education for all, to house the homeless, to hospitalize the mentally sick, to register all citizens to vote, and to invest in the abolition of nuclear weapons,

The United States of America urgently needs to rise to its full moral and spiritual height and lead the world to sanity and survival. I know this is possible because in the 1980s millions of wonderful people rose up nationally and internationally to end the nuclear arms race and to end the Cold War. This then is the sound template upon which must act.

.

Written Testimony for Res. 976 and Int. 1621 Presented for City Council Hearing, January 28, 2020

Alice Slater
446 E. 86 St.
New York, NY 10028

World BEYOND War, Board Member
www.worldbeyondwar.org
Nuclear Age Peace Foundation, UN Representative
www.wagingpeace.org

Dear Members of the New York City Council,

I am so deeply grateful and thankful to each one of that has sponsored this pending legislation, Res. 976 and Int.1621. Your willingness is laudable in showing the world that the New York City Council is stepping up to the plate and taking historic action to support the recent global efforts to finally ban the bomb! Your resolve to use the power and clout of New York City to call on our US government to sign and ratify the new Treaty for the Prohibition of Nuclear Weapons(TPNW) and to work for the divestment of NYC pensions from investments in nuclear weapons manufacturers is so greatly appreciated. In this effort, New York City will be joining the historic Cities Campaign of the International Campaign to Abolish Nuclear Weapons, recently awarded the Nobel Peace Prize for its successful ten-year campaign resulting in a UN negotiated ban treaty. By your action, New York City will be joining with other cities in recalcitrant nuclear weapons states and states under the protection of the US nuclear deterrent whose national governments refuse to join the PTNW-- cities including Paris, Geneva, Sidney, Berlin, as well as US cities including Los Angeles and Washington, DC. all urging their governments to join the treaty.

I have been working to end wars since 1968 when I learned on television that Ho Chi Minh, the President of North Vietnam had begged Woodrow Wilson in 1919, to help him get the French colonial rulers out of Vietnam. The US turned him down and the Soviets were more than happy to help, which is why he became a communist! That same night I saw on TV that the students at Columbia University had locked the President of the school in his office and were rioting on campus, because they didn't want to be drafted to fight in the illegal and immoral Vietnam War. I was living in the suburbs with my two babies and was absolutely terrified. I couldn't believe this was happening in America, at Columbia University, in my New York City, where my grandparents settled after emigrating from Europe to escape war and bloodshed and my parents and I grew up. Filled with righteous indignation, I went to a debate between the hawks and the doves at my local Democratic club, in Massapequa, joined the doves, soon becoming Co-Chair of Eugene McCarthy's campaign in Long Island's 2nd Congressional District, and never stopped fighting for peace. I worked through McGovern's campaign for the Democratic Presidential nomination to end the Vietnam War, to the days of the nuclear freeze in New York City and the homeport movement here that kept nuclear-bomb laden ships out of New York City's harbors, to the most recent triumph of citizen action, the adoption of the new Treaty for the Prohibition of Nuclear Weapons. This new treaty bans nuclear weapons just as the world has banned chemical and biological weapons and landmines and cluster bombs.

There are about 16,000 nuclear weapons on our planet and 15,000 of them are in the US and Russia. All the other nuclear-armed states have 1,000 between them—UK, France China, India, Pakistan, Israel, and

North Korea. The 1970 Non-Proliferation Treaty (NPT) had a promise from five countries—the US, Russia, UK, France, and China—to give up their nuclear weapons if all the other countries of the world promised not to get them. Everyone signed, except for India, Pakistan, and Israel and they built their own nuclear arsenals. The NPT's Faustian bargain promised all the countries who agreed not to acquire nuclear weapons an "inalienable right" to "peaceful" nuclear power, giving them all the keys to the bomb factory. North Korea got its "peaceful" nuclear power and then walked out of the NPT and made nuclear bombs. We were fearful that Iran was doing that too, although they asserted that they were only enriching uranium for peaceful uses.

Today, all the nuclear weapons states are modernizing and updating their arsenals, despite treaties and agreements over the years that reduced global nuclear arsenals from a height of 70,000 bombs. Sadly, our country, the US, has been the provocateur for nuclear proliferation over the years:

--Truman refused Stalin's request to turn the bomb over to the newly established UN and put it under international control after the catastrophic devastation in Hiroshima and Nagasaki, where it is estimated that at least 135,000 people died instantly, despite the UN's mission to "end the scourge of war".

--After the wall fell, and Gorbachev miraculously ended the Soviet occupation of Eastern Europe, Reagan refused Gorbachev's offer to abolish nuclear weapons in return for Reagan abandoning US plans for Star Wars to achieve domination in space.

--Clinton refused Putin's offer to cut to 1,000 weapons each and call everyone to the table to negotiate an abolition treaty, provided the US stopped its plans to violate the 1972 Anti-Ballistic Missile Treaty and put missiles in Romania and Poland.

--Bush actually walked out of the ABM treaty in 2000 and now Trump has walked out of the 1987 Intermediate-Range Nuclear Force agreement with the USSR.

--Obama, in return for a modest cut in our nuclear arsenals that he negotiated with Medvedev of 1500 nuclear bombs, promised a one trillion dollar nuclear program over the next 30 years with two new bomb factories in Oak Ridge and Kansas City, and new missiles, planes, submarines and warheads. Trump continued Obama's program and even raised it by \$52 billion over the next 10 yearsⁱ

--China and Russia proposed in 2008 and 2015 negotiations on a Model Treaty they put on the table to ban weapons in space and the US blocked any discussion in the consensus-bound UN Committee for Disarmament

--Putin proposed to Obama that the US and Russia negotiate a treaty to ban cyberwar, which the US rejected.ⁱⁱ

Walt Kelly, the 1950s cartoonist of the Pogo comic strip, has Pogo saying, "We met the enemy and he is us!"

With the negotiation of the new Treaty for the Prohibition of Nuclear Weapons, we now have a breakthrough opportunity for citizens and Cities and States around the world to take action to reverse course from plummeting our Earth into catastrophic nuclear disaster. At this moment, there are 2500 nuclear tipped missiles in the US and Russia targeting all of our major cities. As for New York City, as the song goes, "If we can make it here, we'll make it anywhere!" and it's wonderful and inspiring that

this City Council is willing to add it's voice to demand lawful and effective action for a nuclear free world! Thank you so much!!

Alice Slater
446 East 86 St.
New York, NY 10028
212-744-2005
646-238-9000(cell)

World BEYOND War, Board Member
www.worldbeyondwar.org
Nuclear Age Peace Foundation, UN Representative
www.wagingpeace.org

ⁱ <https://www.armscontrol.org/act/2017-07/news/trump-continues-obama-nuclear-funding>

ⁱⁱ <https://www.nytimes.com/2009/06/28/world/28cyber.html>



**Written Statement of Seth Shelden (ICAN United Nations Liaison)
to the New York City Council**

In support of Int 1621-2019 and Res 976-2019

January 28, 2020

I submit this statement in support of two proposed bills before the New York City (“**NYC**”) City Council, Int 1621-2019 (“**Int 1621**”) and Res 976-2019 (“**Res. 976**”), the hearings for which are to be held by the Committee on Governmental Operations, jointly with the Committee on Civil Service and Labor, on January 28, 2020, at Council Chambers in City Hall.

I. Nuclear weapons are an NYC problem; these bills are an NYC solution.

NYC holds a claim as a birthplace of nuclear weapons– the “Manhattan Project” was so named for the location where the plans originated.¹ It is in part for this reason that NYC has a responsibility for the origins of these indiscriminate and inhumane weapons of mass destruction. NYC itself also suffers from a legacy of radioactivity emanating from the development and production of nuclear weapons, which has affected, and continues to affect, residents and communities of NYC. To date, federal taxpayers have paid more than \$85 million for environmental remediation, compensation claims, and medical bills relating to NYC locations associated with the Manhattan Project.²

But NYC has also advanced solutions and, since 1945, New Yorkers have had an inspired history opposing nuclear weapons. For example, in 1946, John Hersey’s report on the first atomic bombings, “Hiroshima,” first appeared in our hometown *The New Yorker* magazine.³ In 1955, Norman Cousins brought 25 atomic bomb survivors from Japan, known as the “Hiroshima Maidens,” to Mount Sinai Hospital in Manhattan to receive reconstructive surgeries for

¹ See William J. Broad, “Why They Call It the Manhattan Project,” *New York Times*, October 2007, at <https://www.nytimes.com/2007/10/30/science/30manh.html>.

² See Matthew Bolton, “Former Sites Involved in Nuclear Weapons Development and Production in New York City,” International Disarmament Institute News, 2019, at <http://disarmament.blogs.pace.edu/nyc-nuclear-archive/nycs-nuclear-geography/nuclear-weapons-devt-sites-ny/>.

³ See Joshua Rothman, “John Hersey’s “Hiroshima,” *The New Yorker*, August 2015, at <https://www.newyorker.com/books/double-take/john-herseys-hiroshima-now-online>.

disfigurements suffered from the atomic weapons.⁴ Decades later, the landmark 1982 Central Park protest brought over one million people to the streets to demand nuclear disarmament in one of the largest demonstrations in United States history.⁵



The historic Anti-Nuclear March and Rally in Central Park, on June 12, 1982.
Photo: NYPR Commons & Preservation.

The International Campaign to Abolish Nuclear Weapons (“**ICAN**”) is a coalition of over 500 partner organizations in over 100 countries, focused on mobilizing civil society around the world to support a global nuclear weapon ban treaty.⁶ Launched in 2007, the campaign has sought to reframe the debate about nuclear weapons away from one focused on the security and well-being of states and toward one focused on the security and well-being of human beings. This reframing is referred to as “humanitarian disarmament” and originated with the successful negotiation and adoption of the 1997 Mine Ban Treaty.⁷ ICAN’s efforts to shift toward humanitarian perspectives regarding nuclear weapons helped bring about the Treaty on the Prohibition of Nuclear Weapons (“**TPNW**”), adopted at the United Nations on July 7, 2017.⁸ A lot of this work has been done here, in New York, by New Yorkers.

In 2017, ICAN was awarded the 2017 Nobel Peace Prize “for its work to draw attention to the catastrophic humanitarian consequences of any use of nuclear weapons and for its ground-

⁴ See republication by Hibakusha Stories, at <https://hibakushastories.org/hiroshima-maidens/>.

⁵ See Andy Lanset, “WNYC Covers the Great Anti-Nuclear March and Rally at Central Park, June 12, 1982,” New York Public Radio, June 2015, at <https://www.wnyc.org/story/wnyc-covers-great-anti-nuclear-march-and-rally-central-park-june-12-1982/>; see also Vincent Intondi, “The Fight Continues: Reflections on the June 12, 1982 Rally for Nuclear Disarmament”, June 2018, <https://www.armscontrol.org/blog/2018-06-10/fight-continues-reflections-june-12-1982-rally-nuclear-disarmament>.

⁶ See ICAN website, “The campaign,” at <https://www.icanw.org/>.

⁷ See generally, Humanitarian Disarmament website, at <https://humanitariandisarmament.org/about/>.

⁸ See Treaty on the Prohibition of Nuclear Weapons text, United Nations General Assembly, at <https://undocs.org/A/CONF.229/2017/8>.

breaking efforts to achieve a treaty-based prohibition of such weapons.”⁹

In 2018, NYC-based partners of ICAN launched the New York Campaign to Abolish Nuclear Weapons (“**NYCAN**”), calling for renewed local action on nuclear disarmament, in support of the international efforts of ICAN and its partners.

In 2019, Council Member Daniel Dromm (District 25), along with Council Members Ben Kallos (District 5) and Helen Rosenthal (District 6), introduced Res. 976 and Int. 1621. The bills represent key components of NYCAN’s effort to keep NYC safe from nuclear weapons, divest NYC from the nuclear weapons industry, and connect NYC with worldwide efforts to hasten nuclear disarmament.



NYCAN campaigners Rebecca Irby and Seth Shelden pose with initial sponsors of Res. 976 and Int. 1621, Council Members Rosenthal, Dromm, and Kallos, outside City Hall, in August 2019. Council Member Dromm holds, in one hand, ICAN’s Nobel Peace Prize medal and, in the other hand, Matthew Bolton’s policy paper, “From Manhattan Project to Nuclear Free.” Photo: NYCAN.

As of this submission, Res. 976 and Int. 1621 are sponsored by 34 and 35 Council Member, respectively.

For the reasons outlined further below, I call upon every Council Member to vote in favor of both Res. 976 and Int. 1621.

⁹ The Nobel Foundation, “The Nobel Peace Prize 2017,” <https://www.nobelprize.org/prizes/peace/2017/summary/>.

II. Now is a crucial moment for NYC to re-affirm its NWFZ status.

1. NYC today faces a risk that nuclear weapons will be brought back into the city.

Many New Yorkers may not realize that, beginning in 1954, NYC hosted nuclear weapon arsenals. A ring of 19 nuclear missile bases, eventually armed with 180 warheads – actual warheads, with explosive power sufficient to eradicate an entire city – surrounded NYC, including within city limits. The presence of these bases in and around our city increased NYC’s risk both of purposeful targeting from others and accidental detonation from within.

One such nuclear weapon missile base was located in Fort Tilden, Queens, just south of where I lived during the first 16 years of my life, in Canarsie, Brooklyn. Close calls at that site alone might have annihilated my hometown. Consider the example of the 2001 American Airlines Flight 587 crash in Belle Harbor, Queens, just over 2 miles from that former missile site.¹⁰ In 2012, that same site was ravaged by Hurricane Sandy.¹¹ Those and other close calls are detailed in the 2019 background paper, authored by Dr. Matthew Bolton of the International Disarmament Institute at Pace University, entitled “From Manhattan Project to Nuclear Free: New York City’s Policy and Practice on Nuclear Weapons” (“**Bolton Paper**”).¹² Numerous other examples of averted nuclear catastrophe, both from potential accidental (*i.e.*, “broken arrows”) and potential intentional use, both in the United States and elsewhere, have been examined by many (although, in light of the secrecy of nuclear programs, their documentation is never exhaustive; most assume that the reality is even more concerning).¹³

I shudder to think what could have been for the family, friends, and community I hold dear had the City Council not acted. If nuclear weapons were still located here, our city could have suffered a humanitarian catastrophe for which we had, and continue to have, no adequate response.

But the City Council did act, helping prevent such catastrophe. In 1983, the City Council first declared our city as a zone free of nuclear weapons by adopting Res. 364-1983, which declared NYC and its harbor a Nuclear Weapons-Free Zone (“**NWFZ**”), prohibiting “the production, transport, storage placement or deployment of nuclear weapons within the territorial limits of the City of New York.”¹⁴ The Navy evidently has honored NYC’s NWFZ request,

¹⁰ See “Aircraft Accident Report NTSB/AAR-04/04,” National Transportation Safety Board, November 2001, at <https://www.nts.gov/investigations/AccidentReports/Reports/AAR0404.pdf>.

¹¹ See John Del Signore, “A Photo Tour Of The Hurricane-Hammered Beaches At Fort Tilden, Which Won’t Open This Summer,” *Gothamist*, April 2013, at <https://gothamist.com/news/a-photo-tour-of-the-hurricane-hammered-beaches-at-fort-tilden-which-wont-open-this-summer>.

¹² Available at <http://disarmament.blogs.pace.edu/2020/01/14/manhattan-project-to-nuclear-free/>.

¹³ See, *e.g.*, Union of Concerned Scientists, “Close Calls with Nuclear Weapons,” January 2015, available at <https://www.ucsusa.org/resources/close-calls-nuclear-weapons#ucs-report-downloads>; see also, Erik Schlosser, *Command and Control: Nuclear Weapons, the Damascus Accident, and the Illusion of Safety*, 2013, reported upon by NPR, “Nuclear ‘Command And Control’: A History Of False Alarms And Near Catastrophes,” 2014, at <https://www.npr.org/2014/08/11/339131421/nuclear-command-and-control-a-history-of-false-alarms-and-near-catastrophes>.

¹⁴ Available at Pace International Disarmament Institute website, <https://cpb-us-w2.wpmucdn.com/blogs.pace.edu/dist/0/195/files/2018/10/Res364-1983-Nuclear-Free-Zone-1yzbytu.pdf>.

including during Fleet Weeks, and it is believed that NYC has ever since been free of nuclear weapons.¹⁵ Even where legal authority of these declarations are debated, the normative value of these actions is apparent.

Still, given this federal administration’s dismantlement of nuclear arms control agreements, and given, as explained in the following section, this administration’s converse investment in new nuclear weapons, we cannot be sure that this will continue to be the case. This may be especially true to the extent that a federal administration was, for example, motivated to take a position adverse to the interests of New York¹⁶ or chose to showcase new weapons with, for example, military parades through prominent urban centers.¹⁷



The world’s first operational nuclear-powered submarine, USS *Nautilus* (SSN-571), in New York Harbor, 1958. Photo: US Navy.

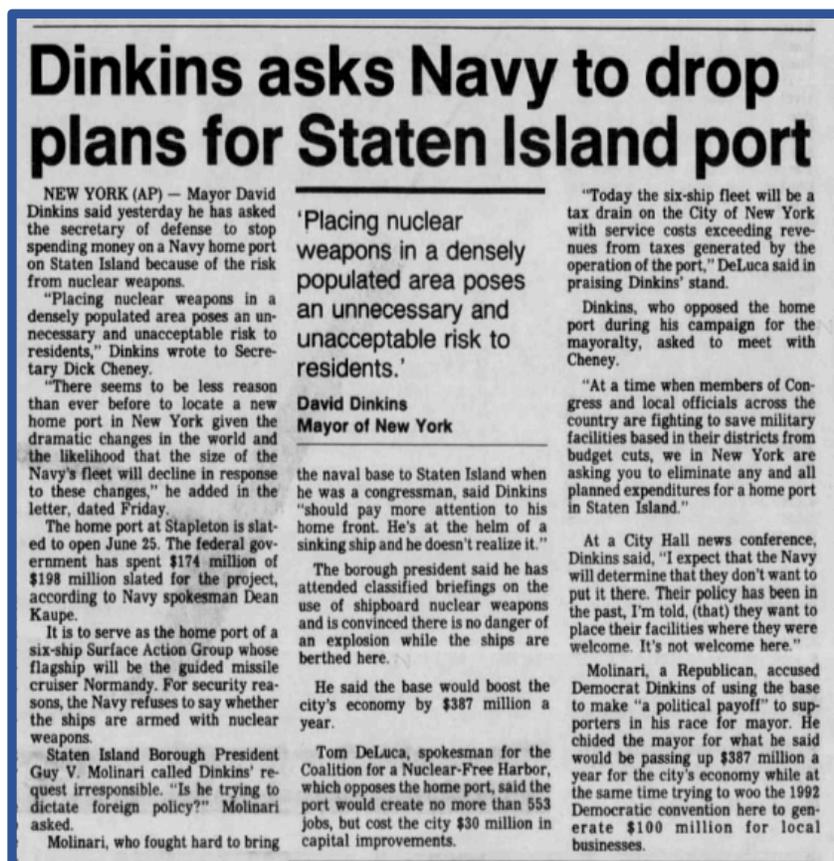
In speaking with fellow New Yorkers about the proposed legislation, I have learned that even the more “hawkish” or “realpolitik” conservatives – those few who may continue to believe in long-debunked fairy tales of nuclear deterrence – nonetheless readily concede that they do not want nuclear weapons stationed in or near their communities. In addition, when engaged, even these constituents concede to me that nuclear deterrence (or what we term “luck-based security”) cannot keep us safe perpetually, particularly once considering additional risks from use in conflicts even far away from our city. The new “realist” recognizes, as with the climate crisis,

¹⁵ Andrew Gustafson, “Aircraft Carrier Visits Now a Rare Sight in NYC,” *Turnstile Tours*, 2018, at <https://turnstiletours.com/aircraft-carrier-visits-now-rare-sight-nyc/>.

¹⁶ Khaleda Rahman, “Donald Trump Says He Hates New York ‘Even More Than I Should’ Because of Investigations,” *Newsweek*, December 2019, at <https://www.newsweek.com/donald-trump-hate-new-york-investigating-finances-1479522>.

¹⁷ Jim Sciutto and Nicole Gaouette, “Military chiefs have concerns about politicization of Trump's July 4th event,” *CNN*, July 2019, at <https://www.cnn.com/2019/07/03/politics/military-concerns-trump-july-4th-event/index.html>.

that status quo policies will spell the end of future generations. Even among those who may not fully appreciate the fallacy of deterrence policies – and the fact that deterrence deters disarmament most of all – I believe that most would nonetheless support legislation that aims to keep at least their city free from weapons of mass destruction.



A clipping from *The Courier-News*, April 1990, reporting on opposition to a Staten Island naval base intended to host nuclear weapons. The port was closed by 1994.

2. The world today faces an all-time high risk of nuclear weapons catastrophe.

According to the Bulletin of Atomic Scientists¹⁸, as well as the United Nations Institute on Disarmament Research,¹⁹ the risk of a nuclear catastrophe today is as high as it ever has been.

In part, the increased risk is due to the sheer increase in power of today’s arsenals. In 1945, the atomic bombings of Hiroshima and Nagasaki (with explosive power of approximately

¹⁸ See John Mecklin, “2019 Doomsday Clock Statement,” Bulletin of Atomic Scientists, January 2019, at <https://thebulletin.org/doomsday-clock/current-time/>. I note that this reflects the current-as-of-now 2019 Doomsday Clock Statement, which is set to “2 minutes to midnight,” but that, by the time of the January 28th hearing, the 2020 Doomsday Clock Statement is scheduled to be released, potentially with a new time.

¹⁹ See Tom Miles, “Risk of nuclear war now highest since WW2, UN arms research chief says,” *Reuters*, May 2019, at <https://www.reuters.com/article/us-un-nuclear/risk-of-nuclear-war-now-highest-since-ww2-u-n-arms-research-chief-says-idUSKCN1SR24H>.

15 kilotons and 21 kilotons, respectively) killed in the range of 200,000 people (of populations previously in the range of 400,000-600,000).²⁰ Those who survived (known as “hibakusha”) continued to suffer from diseases associated with exposure to ionizing radiation, and to experience related issues with mental health and social stigma, and they continue to do so today. In comparison, modern nuclear weapons are exponentially more powerful than those early atomic bombs. Some since-developed nuclear weapons have had destructive power more than 3,000 times the size of the bombs dropped over Hiroshima.²¹

In part, the increased risk is due also to the deterioration of arms control architecture. As 2020 begins, it is believed that the nine nuclear-armed states possess approximately 13,865 nuclear weapons, more than 90% of which are held by Russia and the United States.²² Nearly 4,000 of these are deployed with operational forces, and nearly 2,000 of these are kept in a state of high operational alert.²³

Undoubtedly to the satisfaction and encouragement of weapons producers, today all the nuclear-armed nations are walking back decades of arms control, pursuing “modernization” programs that have spurred a new nuclear arms race.²⁴ The United States, for its part, has committed to developing, producing, and deploying new nuclear weapons as “the foundation of our strategy to preserve peace and stability.”²⁵ It accordingly plans to invest between at least 1.2-1.7 trillion dollars, but possibly in excess of 2 trillion dollars, to develop new nuclear weapons and nuclear weapon facilities.²⁶ Most horrifyingly, it has newly asserted strategies for use, claiming that “[u]sing nuclear weapons could create conditions for decisive results and the restoration of strategic stability.”²⁷ Indeed, this past week, the United States has discussed use of

²⁰ See ICAN, https://www.icanw.org/hiroshima_and_nagasaki_bombings; see also Benjamin French, et al., “Population Density in Hiroshima and Nagasaki Before the Bombings in 1945: Its Measurement and Impact on Radiation Risk Estimates in the Life Span Study of Atomic Bomb Survivors,” *American Journal of Epidemiology*, Volume 187, Issue 8, August 2018, at <https://academic.oup.com/aje/article/187/8/1623/4956379>.

²¹ See Jay Bennett, October 2016, “Here's How Much Deadlier Today's Nukes Are Compared to WWII A-Bombs”, *Popular Mechanics*, <https://www.popularmechanics.com/military/a23306/nuclear-bombs-powerful-today/>.

²² See ICAN, “The World's Nuclear Weapons,” https://www.icanw.org/nuclear_arsenals, and Hans M. Kristensen and Matt Korda, “United States nuclear forces, 2020,” *Bulletin of the Atomic Scientists*, at <https://www.tandfonline.com/doi/full/10.1080/00963402.2019.1701286>.

²³ See SIPRI <https://www.sipri.org/yearbook/2019/06>.

²⁴ See Ray Acheson, et al., *Assuring Destruction Forever: 2019 Edition*, Women’s International League of Peace and Freedom, April 2019, at <http://reachingcriticalwill.org/images/documents/Publications/modernization/assuring-destruction-forever-2019.pdf>.

²⁵ See Joint Chiefs of Staff, Joint Publication 3-72: Nuclear Operations, June 2019, at https://fas.org/irp/doddir/dod/jp3_72.pdf; see also, Department of Defense, February 2018, Nuclear Posture Review, February 2018, at <https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF>.

²⁶ See Michael T. Klare, “Making Nuclear Weapons Menacing Again: The Pentagon plan to overhaul the US nuclear arsenal is as costly as it is dangerous,” March 2019, at <https://www.thenation.com/article/us-nuclear-arsenal-triad/>; see also, Steven Aftergood, Federation of American Scientists, “NNSA Moves to Expand Plutonium Pit Production,” January 2020, at <https://fas.org/blogs/secrecy/2020/01/nnsa-pits/>; see also Acheson, *Assuring Destruction Forever: 2019 Edition*.

²⁷ See Joint Publication 3-72: Nuclear Operations, June 2019, at https://fas.org/irp/doddir/dod/jp3_72.pdf.

new “low-yield” nuclear weapons in Iran.²⁸ For its part, Russia announced in 2019 it would deploy new hyper-sonic missiles, which purportedly could evade all missile defense technology.²⁹ Other nuclear-armed states are following suit.



Nagasaki, Japan, before and after August 9, 1945.
Photo: Roger Williams University Archives and Special Collections/Digital Commons

Given that the destructive capacity of nuclear weapons developed since 1945 is vastly larger than those original weapons, the pervading and perverted argument that these bombs can be leveraged in a strategic manner should offend all sentient beings. Nuclear weapons are the opposite of tactical and the epitome of indiscriminate. In almost every conceivable circumstance, they exist not to defeat enemies on a battlefield, but to murder civilians, living closely together, in cities.

3. Today, use of nuclear weapons anywhere in the world likely will harm NYC.

A nuclear detonation within NYC would result in catastrophic humanitarian consequences beyond the capacity of any of our NYC first responders to meaningfully respond. Researchers believe that detonation of a 5-megaton nuclear weapon used in NYC would result in 7.9 million casualties and incinerate Midtown.”³⁰ Such an incident, whether by accident or design, would result in monumental loss of human life and wildlife, and cultural, financial, and

²⁸ See William Arkin, “With A New Weapon in Donald Trump’s Hands, the Iran Crisis Risks Going Nuclear”, *Newsweek*, January 2020, at <https://www.newsweek.com/trump-iran-new-nuclear-weapon-increases-risk-crisis-nuclear-1481752?fbclid=IwAR0tgZ2Yv47Yu-HxCmYB0pQ4GOLUII1LCJX6XALadF6tnAaFCNZxkRqLUNA>.

²⁹ See Julian E. Barnes and David E. Sanger, “Russia Deploys Hypersonic Weapon, Potentially Renewing Arms Race,” *The New York Times*, December 2019, at <https://www.nytimes.com/2019/12/27/us/politics/russia-hypersonic-weapon.html>.

³⁰ See Ferris Jabr, “This Is What a Nuclear Bomb Looks Like: If America is attacked, the strike probably won’t come from North Korea. And it will be even scarier than we imagine.”, *New York Magazine*, June 2018, at <https://nymag.com/intelligencer/2018/06/what-a-nuclear-attack-in-new-york-would-look-like.html>.

academic institutions, and carcinogenic and mutagenic would continue for thousands of years. Use of multiple such weapons would have far more catastrophic effects, of course.

But even use of nuclear weapons far away from NYC is likely to harm New Yorkers, and the global climate, possibly beyond repair. As the concept of “nuclear winter” has evolved, the scientific community has come to understand that climate-related risks from nuclear weapon use and testing are even greater than once perceived. Scientists estimate that a conflict employing even “limited” use of nuclear weapons would ignite massive firestorms, lofting so much smoke and soot into the atmosphere, high above the reach of precipitation, that block out the sun and cools the earth for decades.³¹ Recent scenarios studying the use of 100 nuclear weapons in urban areas over the course of one week indicate that such use would result in worldwide famine, and that it would take up to a decade for the Earth to recover from the declines in global cooling and reduced precipitation.³² For this reason, as ICAN co-founder Tilman Ruff posits, “nuclear weapons pose the greatest acute risk to Earth’s climate” known today.³³

Civilization today, accordingly, faces twin existential threats: climate disruption and nuclear weapons. One compounds the each other in a mutually reinforcing cycle.³⁴ That is, climate change leads to resource insecurity, which leads to political crisis, which increases risk of armed conflict, which increases risk of nuclear weapons use, which use in turn exacerbates climate change. Both climate disruption and nuclear weapons are threats are of humanity’s own making. And both are within humanity’s power to ameliorate. But both require urgent action. Anyone concerned about climate change should be possessed with nuclear disarmament also.

4. 2020 is a key year for the City Council to reaffirm its NWFZ status.

NYC is my city. I have lived here for 33 years, having resided and worked in Brooklyn, Queens, and Manhattan. My entire family, ever since my grandparents moved to the United States, has also lived in NYC and been part of its fabric; almost all of them have worked as NYC public school teachers and/or performing artists.

I do not want nuclear weapons anywhere, and that certainly includes not wanting them within range of my family or friends, whether through stationing, transit, or development. As an NYC citizen, I want my city government to take every measure at its disposal to ensure that we may be free from nuclear weapons.

As explained in the submission to this City Council hearing from Professor Bonnie Docherty, Associate Director of Armed Conflict and Civilian Protection, at Harvard Law School’s International Human Rights Clinic, in addition to serving as strong political statements, “the declaration of nuclear weapons free zones puts pressure on nuclear powers to eliminate their arsenals. The zones limit locations in which those countries can engage in nuclear weapon-

³¹ See Owen B. Toon, et al., “Rapidly expanding nuclear arsenals in Pakistan and India portend regional and global catastrophe,” *Science Advances*, October 2019, at <https://advances.sciencemag.org/content/5/10/eaay5478>.

³² *Ibid.*

³³ See <https://icanw.org.au/wp-content/uploads/Nuclear-weapons-and-our-climate-Sept-2019.pdf>

³⁴ See <https://www.thenation.com/article/nuclear-defense-climate-change/>

related activities, such as use, production, and stockpiling.”

In 2020, we will see (1) the 75th anniversary of the first atomic bombs eradicating two Japanese cities; (2) the 75th anniversary of the United Nations, the very first resolution of which (adopted in January 1946) established a commission tasked with proposing a solution “for the elimination from national armaments of atomic weapons”³⁵; and (3) the 10th Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, which, as explained further below, NYC will host. As also explained below, 2020 may also be the year that the TPNW reaches fifty states parties and, subsequently, enters into force.

For these reasons, 2020 is a crucial time for NYC to re-affirm its NWFZ status, as well as a key opportunity for our city to lend its enormously powerful voice to the ongoing stigmatization of these indiscriminate and inhumane instruments of death.

III. NYC has a timely opportunity to express support for an historic treaty.

Until now, nuclear weapons have been the only weapons of mass destruction not comprehensively and categorically banned by international law. With the upcoming entry into force of the TPNW, this will change.



122 nations voted to adopt the Treaty on the Prohibition of Nuclear Weapons on July 7, 2017, at United Nations Headquarters in NYC. Photo: Seth Shelden, NYCAN.

The legal framework for nuclear weapons to date has comprised of a fabric of treaty-based and customary law that, particularly with respect to possession, contains a few legal (and logical) gaps. In particular, Treaty on the Non-Proliferation of Nuclear Weapons (the “**NPT**”)

³⁵ Available at [https://undocs.org/en/A/RES/1\(I\)](https://undocs.org/en/A/RES/1(I)).

has 191 States Parties – most are obligated not to acquire nuclear weapons, except for the five states already possessing nuclear weapons as of 1967 (*i.e.*, Russia, the United Kingdom, France, China, and the United States).³⁶ Meanwhile, the four other nuclear-armed states (India, Pakistan, Israel, and the Democratic People's Republic of Korea) today are not parties to the NPT. Pursuant to its Article VI, however, all parties to the NPT are required to “pursue negotiations in good faith on effective measures relating to the cessation of the nuclear arms race at an early date and to nuclear disarmament.”³⁷

Meanwhile, it is widely held that customary international law generally prohibits using or threatening to use nuclear weapons. As held by the historic 1996 advisory opinion from the International Court of Justice, “the threat or use of nuclear weapons would generally be contrary to the rules of international law applicable in armed conflict.”³⁸ However, that decision continued, “the Court cannot conclude definitely whether the threat or use of nuclear weapons would be lawful in an extreme circumstance of self defence, in which the very survival of a State would be at stake.”³⁹ As to possession, the Court affirmed that “[t]here exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control.”

In certain regions, particularly throughout the Southern Hemisphere, NWFZ treaties prohibit nuclear weapons, and activities related to nuclear weapons, within their respective regions.⁴⁰ But, as explained above, a prohibition in one region of the world does not ensure safety from use of nuclear weapons elsewhere. Indeed, more than one NWFZ is immediately adjacent to a nuclear-armed state.

Many have argued that this fabric of treaties and customary laws left a legal gap as to the legality of possession and even use of nuclear weapons.⁴¹ Or, at least, that it has left a compliance gap as to the obligation of States to pursue disarmament under the NPT’s Article VI.⁴² Regardless, there certainly has been a logical gap: if the world has come to agree that there should exist a comprehensive and categorical treaty-based prohibition on all other weapons of mass destruction – chemical, biological, land mines, and cluster munitions – it stands to reason that we have an imperative to conclude a similar agreement for the most destructive.

And thus, on July 7, 2017, at the United Nations Headquarters here in NYC, 122 governments sought to fulfill their NPT Article VI obligations, and cure all the gaps, by voting to

³⁶ United Nations Office on Disarmament Affairs, “Treaty on the Non-Proliferation of Nuclear Weapons,” at <http://disarmament.un.org/treaties/t/npt/text>.

³⁷ *Ibid.*

³⁸ International Court of Justice, *Legality of the Threat or Use of Nuclear Weapons*, 1. C.J. Reports 1996, p. 226, at <https://www.icj-cij.org/files/case-related/95/095-19960708-ADV-01-00-EN.pdf>.

³⁹ *Ibid.*

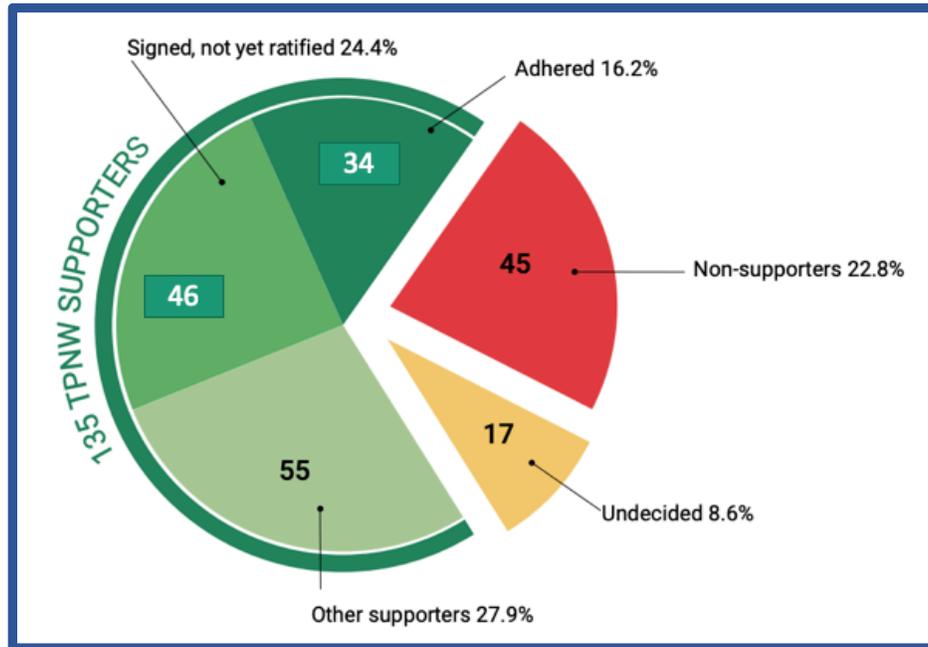
⁴⁰ See United Nations Office for Disarmament Affairs, “Nuclear-Weapon-Free Zones,” at <https://www.un.org/disarmament/wmd/nuclear/nwzf/>.

⁴¹ Gro Nystuen and Kjølve Egeland, “A ‘Legal Gap’? Nuclear Weapons Under International Law,” Arms Control Association, March 2016, https://www.armscontrol.org/ACT/2016_03/Features/A-Legal-Gap-Nuclear-Weapons-Under-International-Law#note4.

⁴² John Burroughs and Peter Weiss, “Legal Gap or Compliance Gap?”, Arms Control Association, October 2015, https://www.armscontrol.org/ACT/2016_03/Features/A-Legal-Gap-Nuclear-Weapons-Under-International-Law.

adopt a treaty that will finally bring nuclear weapons in line with other weapons of mass destruction. The TPNW comprehensively and categorically prohibits all activities relating to nuclear weapons: use, threat of use, development, production, manufacture, testing, acquisition, possession, stockpiling, transfer, stationing, or installation of nuclear weapons, as well as assistance or encouragement with respect to any such activity.⁴³ In so doing, the TPNW complements and reinforces the commitments of parties under the NPT, including their Article VI obligation to pursue effective measures on disarmament, as well as other arms control infrastructure, such as the Comprehensive Test Ban Treaty.⁴⁴

As of January 2020, the TPNW has the support of 135 countries, the vast majority of the world's nations.⁴⁵ Eighty countries have already signed the treaty, and 34 have ratified it.⁴⁶ With 16 more ratifications required for the treaty to enter into force, and a good number of countries promising imminent ratifications, it is generally believed that the treaty will enter into force in rapid time, likely, even, in 2020.



Support for the TPNW.

Source: *Nuclear Weapons Ban Monitor 2019* (as modified for post-publication updates).

⁴³ See Treaty on the Prohibition of Nuclear Weapons text, at <https://undocs.org/A/CONF.229/2017/8>.

⁴⁴ International Committee of the Red Cross, "Statement by the ICRC to the United Nations General Assembly, 73rd Session, First Committee," 2018, at <https://www.icrc.org/en/document/general-debate-all-disarmament-and-international-security-agenda-items#gs.ryauat>.

⁴⁵ Norwegian People's Aid, "Two Year Status," *Nuclear Weapons Ban Monitor 2019*, at <https://banmonitor.org/two-year-status>.

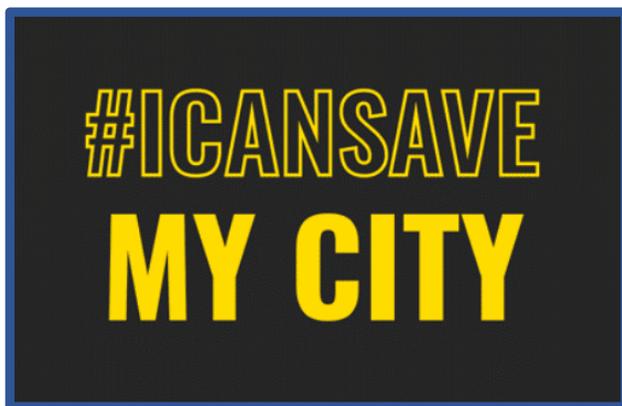
⁴⁶ United Nations Treaty Collection, Office of Legal Affairs, "Status of Treaties," at https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVI-9&chapter=26&clang=en.

The NPT frequently is characterized as the “cornerstone” of the global nuclear order.⁴⁷ But, to extend this metaphor, no one lives in a house consisting of only a cornerstone – we must build the rest of the house. If the NPT is the cornerstone of the global nuclear infrastructure, the TPNW stands poised to be its capstone. And today, NYC has an opportunity to build a key support beam for this global nuclear order.

The 10th Review Conference of the Parties to the NPT will be held in NYC from April 27, 2020 to May 22, 2020. By adopting Res. 976 prior to the start of this historic meeting, with NYC as the host city, NYC has an opportunity to voice its support for the TPNW at a most crucial time.

IV. The ICAN Cities Appeal will connect NYC to a global network of support for the TPNW from within nuclear-armed and nuclear umbrella countries.

ICAN launched the ICAN Cities Appeal to mobilize local governments to express support for nuclear disarmament, given especially that urban centers are likely to suffer most from nuclear catastrophe, and to call on national governments to join and support the TPNW.⁴⁸ In the United States, some of the cities that have endorsed the ICAN Cities Appeal already include Washington D.C., Los Angeles, Baltimore, Portland, Salt Lake City, and Honolulu.⁴⁹ The States of New Jersey, California, and Oregon have also passed resolutions endorsing the TPNW on behalf of the state; legislation to similar effect is now being introduced in New York State.



Source: ICAN, <http://nuclearban.org/cities>.

At the federal level, United States Representative Eleanor Holmes Norton (D-DC) has introduced congressional legislation (H.R.2419) calling on the United States to “provide leadership by signing and ratifying the United Nations Treaty on the Prohibition of Nuclear

⁴⁷ See, e.g., Dr. Tytti Erästö, “Fifty years of the NPT—cause for celebration or commemoration?”, Stockholm International Peace Research Institute, May 2019, at <https://www.sipri.org/commentary/blog/2019/fifty-years-npt-cause-celebration-or-commemoration>.

⁴⁸ ICAN, <http://nuclearban.org/cities>.

⁴⁹ ICAN, <http://nuclearban.org/cities/getinvolved#cities-list>.

Weapons.”⁵⁰ and Representative Jim McGovern (D-MA) has introduced legislation (H. Res. 302) calling on “the President to embrace the goals and provisions of the Treaty on the Prohibition of Nuclear Weapons and make nuclear disarmament the centerpiece of the national security policy.”⁵¹

Internationally, some of the many cities endorsing the ICAN Cities Appeal include Hiroshima, Japan; Nagasaki, Japan; Toronto, Canada; Paris, France; Berlin, Germany; Canberra, Australia; Sydney, Australia; Manchester, United Kingdom; Oslo, Norway; and Geneva, Switzerland.⁵²

Support extends to other groups as well. Faith communities supporting ICAN and the TPNW include the Catholic Church, World Council of Churches, World Evangelical Alliance, Buddhist Council of New York, Islamic Society of North America, and the Dalai Lama.⁵³

As ICAN’s United Nations Liaison, I work closely with governments evaluating their country’s positions and plans regarding the TPNW. While one may not immediately perceive how a local government, such as NYC, can advance an international treaty, I can testify to the fact that NYC’s endorsement of the ICAN Cities Appeal would support universalization of the TPNW and norms of nuclear abolition in at least two key respects:

1. Countering the argument from our own government that we endorse nuclear weapons: Nuclear-armed governments, including the United States, frequently argue that nuclear weapons protect and are supported by their citizens. The ICAN Cities Appeal provides a meaningful rebuttal of this fallacy. When NYC joins cities such as Washington, D.C. and Los Angeles in expressing their support for the TPNW, we can point to the real truth that, in fact, significant American populations oppose nuclear weapons and support disarmament. The same is the case in other democratic nuclear-armed states.

On July 7, 2017, the day that the TPNW was adopted at the United Nations General Assembly by 122 countries, the United States, United Kingdom, and France issued a joint statement claiming that “[w]e do not intend to sign, ratify or ever become party to it.”⁵⁴ All NYC citizens should take offense to this assertion, contrary to all democratic values, that this administration can speak not only for

⁵⁰ Available at <https://www.congress.gov/bill/116th-congress/house-bill/2419/text>.

⁵¹ Available at <https://www.congress.gov/bill/116th-congress/house-resolution/302/text?r=3&s=10>.

⁵² ICAN, <http://nuclearban.org/cities/getinvolved#cities-list>.

⁵³ See “Public Statement to the Third Session of the Preparatory Committee for the 2020 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons: Faith Communities Concerned about Nuclear Weapons,” delivered by Emily Welty, May 2019, available at http://reachingcriticalwill.org/images/documents/Disarmament-fora/npt/prepcom19/statements/1May_FaithCommunities.pdf; see also ICAN, 2008, “The Dalai Lama declares support for ICAN,” at <https://www.icanw.org/the-dalai-lama-declares-support-for-ican>.

⁵⁴ See UN News, “UN conference adopts treaty banning nuclear weapons”, July 2017, <https://news.un.org/en/story/2017/07/561122-un-conference-adopts-treaty-banning-nuclear-weapons>.

all of us, but even for generations yet unborn.

2. Countering the lament from non-nuclear governments that we support nuclear weapons: Non-nuclear weapons states, for their part, sometimes ask why they must bear the burden of leading on disarmament while nuclear-armed states remain uninspired to pursue abolition themselves. When NYC joins major cities in other nuclear-armed states in endorsing the ICAN Cities Appeal, we can demonstrate to those governments that, in fact, support is growing within nuclear-armed states and their allies.



NYCAN campaigners conduct educational program with Hudson River Sloop Clearwater, Upper West Side, May 19, 2017. Photo: Robert Croonquist, NYCAN.

The TPNW asserts that nuclear disarmament is an “ethical imperative,” framing nuclear weapons as “abhorrent to the principles of humanity,” contrary to international humanitarian law, as well as a threat to human rights, the environment, and global economy. It notes the disproportionate impact of nuclear weapon use and testing on women and girls, as well as indigenous peoples. Most of the world has agreed to pursue this norm.

By endorsing the ICAN Cities Appeal in Res. 976, NYC has an opportunity to join the vast majority of the world, and to claim a rightful role as a progressive leader in this country.

- V. Given the legacy of harm from the nuclear weapons industry, NYC has special reason to support the “positive obligations” under the TPNW.

New Yorkers continue to be concerned about ongoing harms, both in NYC and

elsewhere, from the nuclear weapons industry that began here.

Throughout the five boroughs, nuclear materials were handled at over a dozen locations. One such location is near where I live today (and have lived for 17 years) in the West Village. Adjacent to the High Line, the Baker and Williams Warehouses in Chelsea stored approximately 150 tons of uranium; it has taken decades to remediate environmental harms there.⁵⁵

Even today, there continue to be reports of ongoing radioactive contamination from several former Manhattan Project locations.⁵⁶ Consider, for example, the former site of Wolff-Alport Chemical Corp., in Ridgewood, Queens – the company had buried and dumped into the sewers radioactive waste, exposing generations to contamination from ionizing radiation, and today is a Superfund site.⁵⁷ As noted above, the federal government has spent more than \$85 million on environmental remediation, compensation claims, and medical bills for NYC sites associated with the Manhattan Project.

Outside of NYC, the legacy of nuclear weapons is far greater. In terms of nuclear weapons testing, for example, “physicians project that some 2.4 million people worldwide will eventually die from cancers due to atmospheric nuclear tests conducted between 1945 and 1980,” including of course in the United States.⁵⁸

In addition to its core prohibitions, the TPNW also has provisions, sometimes referred to as “positive obligations,” that require its parties to provide financial or other assistance to victims of, and remediate environments contaminated from, the use and testing of nuclear weapons. Specifically, the TPNW provides that:

Each State Party shall, with respect to individuals under its jurisdiction who are affected by the use or testing of nuclear weapons, in accordance with applicable international humanitarian and human rights law, adequately provide age- and gender-sensitive assistance, without discrimination, including medical care, rehabilitation and psychological support, as well as provide for their social and economic inclusion.

Article 6, Section 1.

Each State Party, with respect to areas under its jurisdiction or control contaminated as a result of activities related to the testing or use of nuclear weapons or other nuclear explosive devices, shall take necessary and appropriate measures towards the environmental remediation of areas so

⁵⁵ See Bolton Paper, pp. 18-19.

⁵⁶ See generally, Bolton Paper, pp. 17-20.

⁵⁷ See Nate Lavey, May 2014, “The Most Radioactive Place in New York City Is Now a Superfund Site”, *The New Yorker*, at <https://www.newyorker.com/tech/annals-of-technology/the-most-radioactive-place-in-new-york-city-is-now-a-superfund-site>; see also Bolton Paper, pp. 18, 20.

⁵⁸ ICAN, https://www.icanw.org/the_legacy_of_nuclear_testing.

contaminated.

Article 6, Section 2

Each State Party in a position to do so shall provide technical, material and financial assistance to States Parties affected by nuclear-weapons use or testing, to further the implementation of this Treaty.

Article 7, Section 3

Each State Party in a position to do so shall provide assistance for the victims of the use or testing of nuclear weapons or other nuclear explosive devices.

Article 7, Section 4⁵⁹

Accordingly, the TPNW acknowledges and aims to assist individuals and communities affected by nuclear weapons use and testing, much like those in NYC affected by nuclear weapons development.

NYC can do its part to recognize these victims, as the harms emanating from this catastrophic industry are not limited by borders, and not limited to detonations. Appropriately, Res. 976 recognizes that “New York City has a special responsibility, as a site of Manhattan Project activities and a nexus for financing of nuclear weapons, to express solidarity with all victims and communities harmed by nuclear weapons use, testing and related activities.”

VI. Nuclear weapons are a risky business, and Res. 976’s call to divest NYC’s finances helps ensure our city’s long-term security, both physically and financially.

I am a professor of law at the City University of New York (“CUNY”) School of Law. In fact, nearly every member of my family has attended or taught at CUNY or at a NYC Board of Education school (in some cases, both). Every teacher in my family, every teacher I know, and every public servant with whom I have spoken, is horrified to learn how much of their public pension money, and how much of NYC’s finances, are invested in the nuclear weapons industry.

NYCAN estimates that up to 500 million dollars of retirement funds of our NYC police officers, firefighters, teachers, and other public employees are invested in the production or maintenance of nuclear weapons.⁶⁰

Res. 976 responds to this problem by acknowledging that “[t]he pension system for the City of New York retirees has significant investments in . . . companies involved in producing key components for and maintaining nuclear weapons through equity holdings, bond holdings, and other assets,” and then calling “upon the New York City Comptroller to instruct the pension funds of public employees in New York City to divest from and avoid any financial exposure to

⁵⁹ See Treaty on the Prohibition of Nuclear Weapons text, at <https://undocs.org/A/CONF.229/2017/8>.

⁶⁰ See Dr. Matthew Bolton, *Risky Business*, 2020, at <http://disarmament.blogs.pace.edu/2020/01/14/risky-business/>.

companies involved in the production and maintenance of nuclear weapons.”

The call for divestment in Res. 976 is consistent with the demands of at least the majority of the City Council. In September 2018, 27 New York City Council Members co-signed a letter from Daniel Dromm, Chair of the Finance Committee, to Comptroller Scott Stringer, requesting that he “align our city’s financial power with our progressive values” and direct New York City’s pension funds to divest from investments in companies profiting from nuclear weapons.



NYCAN campaigners Anthony Donovan, Mitchie Takeuchi, Seth Shelden, Matthew Bolton, Brendan Fay, Robert Croonquist, Kathleen Sullivan, and Rebecca Irby advocating at City Hall for NYC to divest from nuclear weapons, 2019. Photo: NYCAN.

Divestment also is consistent with international law as soon to enter into force. Article 1(e) of the TPNW prohibits anyone from assisting others with the activities prohibited under its Article 1(a)-(d). As explained further in the submission to this hearing of Susi Snyder, PAX, the Article 1(e) prohibition on assistance includes providing “through financial resources . . . to anyone who is resolved to engage in such prohibited activity,” where “anyone” could “not only be a State, irrespective of whether or not it is a Party to the Convention, but also an organization, an enterprise, a person, or a group of persons, regardless of Citizenship.”⁶¹ As a result, Ms. Snyder goes on to explain, the TPNW’s prohibition on assistance is increasingly understood in the financial sector to also prohibit investments in private companies producing nuclear weapons.

⁶¹ See also, *The Chemical Weapons Convention: A Commentary*, Edited By: Walter Krutzsch, Eric Myjer, Ralf Trapp, August 2014, Oxford Commentaries on International Law.

Motivated by the legal and ethical imperative to not support nuclear weapon industries, as newly codified in the TPNW, there is growing momentum around the world to divest from nuclear weapons, with some of the world's largest financial institutions, including the Norwegian Government Pension Fund and Deutsche Bank, helping lead the way.⁶² The *Don't Bank on the Bomb* report, published by PAX and co-authored by Ms. Snyder, provides information about the private companies involved in the production of key components of nuclear weapons and their specifically-designed delivery systems, as well as the financial institutions and others seeking to profit from these producers, while then profiling those that limit financial engagement with such producers.⁶³ Since the adoption of the TPNW, according to PAX, over 100 financial institutions previously known to invest in companies associated with the production of nuclear weapons have ended their financial relationships, often citing the TPNW as justification for doing so.⁶⁴ These investments, already ethically and physically risky, are now increasingly risky from a fiscal perspective.

Indeed, NYCAN's research demonstrates that there is no reason to believe that investments in nuclear weapons perform better than more socially responsible investments.⁶⁵ New York City teachers' socially responsible pension fund (which tries to exclude weapons investments) already outperforms other investments in the teachers' retirement system.⁶⁶ Financial analysis suggests instead that investments in nuclear weapon producers may underperform the market, and face regulatory, reputational, and environmental legacy risks. Comprehensive divestment from nuclear weapons is consistent with sound economic risk management, and this will increasingly become the case as the TPNW increasingly universalizes.

Divestment from nuclear weapons also stands to be far less complicated than divestment from other industries, such as fossil fuels. Unlike fossil fuels, for example, where indeed investments are spread among a great number of industries, in the case of nuclear weapons the investments at issue stem mainly from a mere 28 companies. In addition, according to available pension fund reports, NYC's investments in such nuclear weapons producers only comprise about 0.25% of NYC's total pension fund portfolios.⁶⁷ Divesting from nuclear weapons, we believe, is feasible.

In any case, divestment is imperative. NYC's constituents simply do not want their public retirement funds, nor their city's finances, invested in the manufacturing and maintenance of these inhumane and indiscriminate weapons of mass destruction.

⁶² See Maaiké Beenes, "Beyond the Bomb: these investors are rejecting nuclear weapons," October 2019, at <https://www.dontbankonthebomb.com/beyond-the-bomb-these-investors-are-rejecting-nuclear-weapons/>.

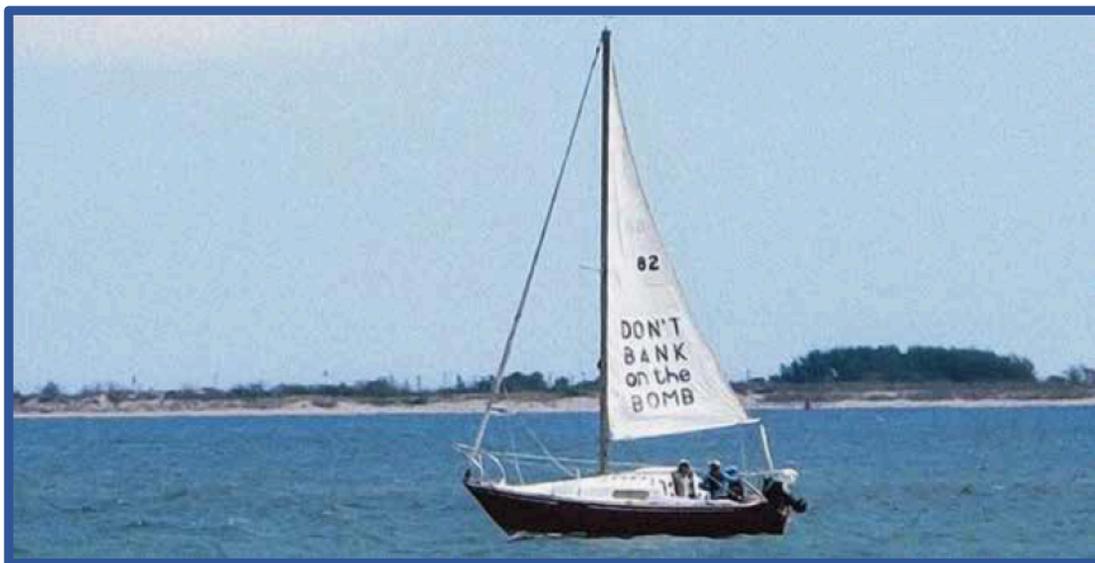
⁶³ See generally, <https://www.dontbankonthebomb.com/>.

⁶⁴ Available at https://www.dontbankonthebomb.com/wp-content/uploads/2019/05/2019_Producers-Report-FINAL.pdf.

⁶⁵ See Dr. Matthew Bolton, *Risky Business*, 2020, at <http://disarmament.blogs.pace.edu/2020/01/14/risky-business/>.

⁶⁶ *Ibid.*

⁶⁷ *Ibid.*



NYC activists in Brighton Beach campaigning for divestment, 2018. Photo: Robert Croonquist, NYCAN.

In a profit-driven world, divestment is a tool that can assist to make nuclear weapons not only illegal, but irrelevant. Today, while the federal government plans to invest up between 1.2 trillion dollars and over 2 trillion dollars toward new nuclear weapons and nuclear weapon facilities, Res. 976 would call on NYC to put this money to better use, demanding divestment at a most crucial time.

VII. Int. 1621’s nuclear disarmament and NWFZ advisory committee offers an opportunity for NYC to ensure the long-term safety of our city and citizens.

As a born and bred New Yorker who attended solely NYC public schools, I was taught in school that our government’s use of atomic weapons in Japan (75 years ago this year) was necessary and saved lives, notwithstanding the hundreds of thousands of civilians who were killed. Millions of us, New Yorkers educated in NYC schools, had been taught the same. I pursued the question on my own, and learned that the use of such weapons, particularly against non-military targets, was unjustifiable, and proceeded to study policy and law related to nuclear weapon while in college. But it was not until many years later still, while I was fulfilling a Fulbright Fellowship as a Visiting Professor of Law at Toyo University, that I visited the museums in Hiroshima and Nagasaki and was inspired to re-commit my efforts toward issues of nuclear disarmament.⁶⁸ I returned to the United States and joined ICAN and its partners as treaty negotiations began.

Not everyone has the opportunity or inclination to pursue this issue solely of their own initiative, however. The advisory committee created pursuant to Int. 1621 would help bring these lessons to New Yorkers by empowering the committee to “host discussions, public programs and other educational initiatives.” These provisions of Int. 1621 reinforce the goals and provisions of the TPNW, given that the preamble of the TPNW recognizes “also the importance of peace and

⁶⁸ See “Core Values,” Fulbright Japan, <https://www.fulbright.jp/scholarship/story/17.html>.

disarmament education in all its aspects and of raising awareness of the risks and consequences of nuclear weapons for current and future generations, and committed to the dissemination of the principles and norms of this Treaty.”⁶⁹

The committee established under Int. 1621 shall also have a mandate to “examine nuclear disarmament and issues related to recognizing and reaffirming New York City as a nuclear weapons-free zone.” In this connection, the committee would “conduct a comprehensive review of New York City’s current stance on nuclear weapons,” and submit an annual report for five years presenting “findings and conclusions and any recommendations for policy or legislation.”

Int. 1621 presents a meaningful opportunity for New Yorkers to learn more about nuclear weapons and NYC’s role in supporting, but also opposing, them. Moreover, by tasking the committee with policy recommendations, it provides NYC a meaningful opportunity to help ensure a nuclear weapons-free city, as well as a nuclear weapons-free world.

If we can make it here, we can make it anywhere.

* * *

In conclusion, I call upon every Council Member to vote in favor of both Res. 976 and Int. 1621.

⁶⁹ Treaty on the Prohibition of Nuclear Weapons text, at <https://undocs.org/A/CONF.229/2017/8>.

January 20, 2020

Dear Council Members:

I am writing in support of Council Member Daniel Dromm's — [Resolution 0976-2019](#) on nuclear disarmament and [INT1621-2019](#), a bill to create a nuclear disarmament and nuclear weapons-free zone advisory committee. It is clear that the fragility of our world governments is more dangerous than ever, and eliminating nuclear weapons from any scenario should be our top priority.

I am a New York City public school teacher who works with high school students, where we explore the science behind nuclear power and nuclear weapons. Over the years, we have had the opportunity to speak with several hibakusha (atomic bomb survivors), nuclear experts, and community groups regarding the dangers of nuclear technology. With all that humanity has learned about nuclear weapons, it's ethical unthinkable to allow these weapons to actively await another catastrophe or even accident due to human error or aging man-made technology.

Divesting my pension funds and creating a weapons-free zone advisory committee is the first step in setting a precedent for others to follow. There are no military scenarios where not having nuclear weapons would destroy millions of people in seconds, but there are plenty of scenarios with nuclear weapons that could make this a reality. Isn't this planet worth saving? Aren't our loved ones worth saving? Isn't NYC worth saving? Voting for this legislation will be one of the most admirable steps you can take in your career that can affect everyone you know! Thank you for making the right choice.

Sincerely,

Nathan Snyder, Ph.D.
Brooklyn, NY

Written Testimony on New York City Council Res 975 & INT 1621
January 28, 2020
Yasuaki Yamashita

I am submitting this testimony with the assistance of Robert Croonquist. Over the course of 12 years I have participated in an initiative called Hibakusha Stories, a program of Youth Arts New York. I have personally interacted with tens of thousands of New York City high school students, sharing my story so that they will take leadership in ridding the world of nuclear weapons.

I, Yasuaki Yamashita, was a 6 year-old boy in Nagasaki when the A-Bomb fell. Normally on a hot summer day I would go to the mountain with friends of my age to catch dragon flies and cicadas. However, on this day I was playing at home. Nearby my mother was preparing the mid-day meal. Suddenly, at precisely 11:02, we were blinded by an intense light like 1,000 simultaneous flashes of lightning. My mother pushed me to the ground and covered me with her body. We heard the roar of a great wind and flying debris of the house collapsed on top of us. Then there was silence. The A-Bomb had turned the center of Nagasaki into an inferno of death and devastation. Communications and transportation were disrupted. There was no food in the city and we were starving. One week after the explosion we walked through the rubble of the city center where fires still burned on our way to the countryside where relatives would share what little food they had.

Later I learned about the dangers of radiation that caused my father's death, and I witnessed their effects when I worked in the Nagasaki Atomic Bomb Hospital. It was very painful to see the survivors still suffering from the effects of burns and radiation.

In 1968 I moved to Mexico. I have accepted many invitations to speak about my A-Bomb experience. I feel that it is important to keep alive the memory of the suffering, devastation, and death that nuclear weapons can cause in the hope that no one will ever use them again. I worry because each year there are fewer and fewer people still alive who can speak about this memory from personal experience.

My life has been changed by all the love I have felt from my New York family and the thousands of students who have heard my story. I am grateful to the New York City Council for your leadership in nuclear weapons abolition.

Yasuaki Yamashita
San Miguel de Allende, GTO, Mexico

To,
Members of the Committee on Governmental Operations and the Committee on Civil Service and
Labor,
New York City Council

Re: Legislation Resolution 0976-2019 on nuclear disarmament; and INT1621-2019, a bill to create a
nuclear disarmament and nuclear weapons-free zone advisory committee

I am writing in strong support of the two proposals that I believe you will be discussing on January 28.

The humanitarian impacts of nuclear weapons use and testing are well known. The two times that these weapons were used during war, namely the U.S. bombardment of Hiroshima and Nagasaki, produced unspeakable horrors for inhabitants of those cities, and should inform any and every discussion about nuclear weapons. As Takashi Hiraoka, Mayor of Hiroshima, said in 1995, "Beneath the atomic bomb's monstrous mushroom cloud, human skin was burned raw. Crying for water, human beings died in desperate agony. With thoughts of the victims as the starting point, it is incumbent upon us to think about the nuclear age and the relationship between human beings and nuclear weapons."

Today, the risk from nuclear weapons is very apparent. Threats to use nuclear weapons feature in newspapers every few weeks. A new arms race between the United States and Russia is underway and international treaties that are intended to limit the deployment and stockpiling of nuclear weapons are being torn up. With military tensions rising every so often, the danger of use of nuclear weapons through accident or miscalculation in a crisis is high. Though nuclear advocates tend to dismiss this possibility, there is also the possibility of the deliberate use of nuclear weapons if the conflict escalates into a full-scale war. The war could start through a series of limited military actions, leading to responses that eventually intensify.

Any use of nuclear weapons would be catastrophic. I have worked extensively on the potential impacts of such use in the case of South Asia and shown that just a 15 kiloton bomb, equivalent to the weapon the US dropped on Hiroshima, would cause between 150,000 and 850,000 short term casualties if exploded over Bombay. A limited nuclear exchange involving the use of five Hiroshima sized bombs on each side could lead to about 3 million deaths and an additional 1.5 million severe injuries. The use of more weapons or weapons of greater yield would, of course, mean even more deaths and injuries. This is not true just in South Asia but everywhere in the world.

It is these humanitarian impacts of potential nuclear weapons use that drove 122 countries to negotiate the Treaty on the Prohibition of Nuclear Weapons (or the Ban Treaty) in 2017 in New York. The treaty, a product of sustained activism by civil society and key non-nuclear weapon states, recognizes rightly that the only way to avoid nuclear catastrophes is to eliminate nuclear weapons. Since then 80 of these countries have formally signed the Ban Treaty; 34 have ratified it. Not surprisingly, but unfortunately nevertheless, not a single country that possesses nuclear weapons or in a military alliance with a country that possesses nuclear weapons has taken the leap into signing the Treaty and eliminating their arsenal. But pressure on these countries to do just that has been slowly mounting, including from their own populations. I have myself written

articles calling upon Canada to sign the Treaty [<https://theconversation.com/canada-is-missing-its-chance-to-shut-the-gate-on-nuclear-weapons-everywhere-84672> & <https://thebulletin.org/2018/07/another-chance-to-step-up-canada-and-the-nuclear-ban-treaty/> & <https://vancouversun.com/opinion/op-ed/opinion-canada-must-change-course-on-nuclear-disarmament>].

An important form this pressure has taken is through getting local governments to adopt resolutions favoring the elimination of nuclear weapons. Many cities, including Vancouver where I live, have adopted similar proposals. I attach the motion that was adopted last year. I hope that New York will join these cities. Action by New York would be both an important symbol of the need to eliminate nuclear weapons and a powerful influence on other cities to do so.

I am happy to answer any questions you might have.

Best wishes,
Ramana

M. V. Ramana
Professor and Simons Chair in Disarmament, Global and Human Security
Director, Liu Institute for Global Issues
School of Public Policy and Global Affairs
University of British Columbia
Phone: 604 822 8838
<https://sppga.ubc.ca/profile/m-v-ramana/>

MOTION ON NOTICE

4. Endorsing the Treaty on the Prohibition of Nuclear Weapons

Submitted by: Councillor Fry

WHEREAS

1. Vancouver has a long history of local peace and anti-war activism;
2. In 1983, City Council voted to designate Vancouver a nuclear weapon-free zone;
3. In 1986, Vancouver proclaimed itself the peace capital of North America;
4. Throughout the 1980's the City of Vancouver was a title sponsor for the "Walks for Peace" drawing up to 100,000 participants;
5. The City of Vancouver has consistently supported citizens' initiatives for a more peaceful world grounded in the principles of non-violence and the peaceful resolution of conflict within communities and internationally;
6. The City of Vancouver is a signatory to the Mayors For Peace initiative;
7. The United Nations General Assembly has adopted the Treaty on the Prohibition of Nuclear Weapons and encouraged member nations to sign;
8. The Government of Canada is not yet a signatory to the Treaty on the Prohibition of Nuclear Weapons.

THEREFORE BE IT RESOLVED THAT the City of Vancouver places itself on record as endorsing the Treaty on the Prohibition of Nuclear Weapons and calls on the Government of Canada to sign and ratify the treaty.

* * * * *

Mark Levine: nuclear disarmament and nuclear weapons-free zone

Dear Mark: I am a constituent of yours and am in favor of Resolution 0976-2019 and INT 1621-2019. The danger of nuclear war threatens our planet as does climate change and racism. All three evils need to be struggled against.

Thank you for your good work in the Council.

Alan Bentz-Letts

<alanbentzletts@gmail.com>

Testimony

for

**January 28th NYC Council Public Hearing,
Re: Resolution 0976-2019 (Nuclear Divestment)
and
INT. 1621-2019 (Create Advisory Committee)**

January 18, 2020

Dear Esteemed New York City Council,

On behalf of the Granny Peace Brigade, New York City, I am submitting this testimony re Resolution 976 and Int 1621. Since 2005 the members of the Granny Peace Brigade (GPB) have been standing for peace. We work to oppose violence in all its forms - racism, poverty and militarism. We welcome the Council's addressing Divestment from Nuclear Weaponry and want to express our appreciation for this important step toward world peace. Your effort has been long and steadfast.

Several Grannies still vividly recall VJ Day on August 12, 1945 and the great joy it brought to families with loved ones in the armed forces in the Pacific region. We could never have imagined the Pandora's Box that was opened August 6th when the Enola Gay dropped the Uranium bomb on Hiroshima, followed by the Plutonium bomb on Nagasaki three days later.

New York City has a unique responsibility in taking on nuclear issues. The Manhattan Project was established here and Columbia University was a prime research center. The Uranium used in "Little Boy" was initially stored on Staten Island. (After Germany invaded Poland on September 1, 1939 the vessel carrying tons of Uranium from the Belgian Congo and steaming toward Belgium was diverted to New York in fear Belgium would soon fall to Germany.) This Uranium story should be widely shared as it is a period in history linking our city to events now unfolding.

Having attended the ceremony observed annually in Hiroshima and Nagasaki, I feel an urgency to convey to you the significance of passing this legislation for our children and grandchildren's futures. Against the

almost daily drip-feed of tension and militarism in this country, these measures set an honorable example for every city in the U.S.A to follow. We applaud you.

THANK YOU !

Sincerely,

Nydia Leaf, Ms.Ed.
46 West 95 Street, #3B
New York, NY 10025

And the following members of the Granny Peace Brigade, NYC (partial list):

Nancy Adelman

Vinie Burrows

Phyllis Cunningham

Fran Geteles-Shapiro

Barbara Harris

Jenny Heinz

Fran Korotzer

Richenda Kramer

Kallyn Krash

Joan Pleune

Beverly Rice

Marlena Santoyo

Ann Shirazi

Alice Sutter

Barbara Walker

Corinne Willinger



Heiwa Peace and Reconciliation Foundation of New York

www.HeiwaFoundation.org

January 16, 2020

Dear Esteemed New York City Council,

I am writing this letter to support Resolution 0976 and INT 1621, which call for the City of New York to support the Nuclear Ban Treaty (TPNW) and to divest from any company in the nuclear weapons industry from the city's pension funds.

My name is Rev. Dr. Toshikazu Kenjitsu Nakagaki, President and Founder of the Heiwa Peace and Reconciliation Foundation of New York, Current Vice President and Past President of the Buddhist Council of New York. I am also a Hiroshima Peace Ambassador and Nagasaki Peace Correspondent. I am the organizer of the annual NY Interfaith Peace Gathering to commemorate the Hiroshima and Nagasaki Atomic Bombings. I have organized that event for 26 years. We have received an annual peace message from New York Mayor's office every year for our gathering along with peace messages from the Mayors of Hiroshima and Nagasaki.

Nuclear weapons are a threat to humanity and the environment, and need to be eliminated as soon as possible. As New York City has initiated many important bills in the past, I sincerely hope that our city will be able to pass these important legislative bills to contribute towards a peaceful world without nuclear weapons. This issue has been set aside too long, and we need to act now before another nuclear tragedy happens. It is a great contribution that NYC can do, as the next year 2020 marks the 75th Anniversary of the Hiroshima and Nagasaki Atomic bombings. We need to begin a new Manhattan Project for Peace to eliminate nuclear weapons, and these bills will be an important step.

I would like to encourage the Council in this urgent work. Thank you very much for the standing up to this gravest danger and unbearable cost.

No More Hiroshima, No More Nagasaki, No More Nukes and No More Tragedy to any one! This is my peace prayer.

Sincerely,

Rev. Dr. Toshikazu Kenjitsu Nakagaki
President and Founder
HEIWA Peace and Reconciliation Foundation of New York Ltd.

Testimony for January 28th NYC Council Public Hearing, Re: Res. 0976 and INT. 1621

January 20, 2020

Dear Esteemed New York City Council,

I am writing in memory of my late partner, Bayard Rustin, to urge the NY City Council to pass Res. 0976 and INT. 1621 in support of the Treaty on the Prohibition of Nuclear Weapons and divestment from the nuclear industry.

Bayard, a long-time New Yorker, is mainly known as a civil rights activist and the organizer of the 1963 March on Washington for Jobs and Freedom. He had a long history of involvement with a variety of social justice issues including economic justice, immigrant and refugee affairs, and LGBT rights. During the Koch administration he testified twice before the New York City Council in support of laws protecting the LGBT community.

His work against militarism and atomic/nuclear weapons began in the 1940s with the American Friends Service Committee. He traveled the country speaking out against militarism and the dangers of the arms race. Learning of the destruction of Hiroshima and Nagasaki, he reflected on the threat that such awesome power posed to human survival.

In the late 1950s he was arrested not far from these chambers when he refused to take shelter during an air raid drill. Joining Dorothy Day and other peace activists, he remained in City Hall Park during a time of mandatory evacuation to underground shelters.

Working with the British Committee for Nonviolent Action, he helped organize a delegation to travel to the Algerian Sahara to protest French testing of an atomic bomb in 1959. He marched with the Campaign for Nuclear Disarmament from London to Aldermaston, England, after addressing a crowd at Trafalgar Square.

In 1964 he spoke here at an anti-Vietnam War rally here on the anniversary of the destruction of Hiroshima.

Were he with us today, I know he would be here urging the NY City Council to move forward on these initiatives.

Walter Naegle
340 West 28th Street - 9J
New York, NY. 10001



January 20, 2020

Re: NYC Council Res. 0976 and INT 1621

Dear Esteemed New York City Council Members,

With gratitude for addressing the threat to our global community, I write to encourage our elected officials to help New York City become a leader for cities in the U.S. in our commitment to divestment, the Treaty on the Prohibition of Nuclear Weapons and maintaining a nuclear free zone. With these actions, New York City joins the international community and brings the United States in line with a global commitment to end the build-up of death-dealing nuclear weapons.

Catholic New Yorkers applaud this effort with encouragement from the teachings of our Church. From Pope John XXIII who insisted in 1963 that “nuclear weapons must be banned” to Pope Francis who wrote in 2017 that “the threat of their use, as well as their very possession, is to be firmly condemned,” the Catholic position highlights our common humanity and shared responsibility. Nuclear weapons represent indiscriminate destruction, and Catholic Social Teaching has named them as “offenses against humanity and the common good.” This vision, however, needs to be enacted by citizens of the world, including courageous cities and nations willing to stop the escalation of nuclear weapons. New York City has a crucial role to play.

Our actions are in the interest of the international community and faith commitments, but it is in our own self-interest as well. Insofar as New York City is a symbol of America, and elevates us as a target of attack, our public affirmation and identification as a nuclear free zone are proactive demonstrations of New Yorkers’ commitment to de-escalation.

As the recent prophetic action of the Kings Bay Plowshares clarified, our nation continues to resist the call of the international community and of our faith leaders to put an end to the threat of nuclear weapons. When our nation’s administration continues to pursue actions that dangerously escalate global tensions and threats, the bills before us represent our counter-actions as global citizens. It is *our* opportunity to de-escalate, *our* opportunity to choose life, *our* opportunity to stand with the international community and denounce the possession and use of nuclear weapons.

Thank you for your service to our city, and in the bills before the Council, thank you for your service to our world.

Sincerely,

Jeannine Hill Fletcher
Professor of Theology

HARVARD UNIVERSITY
DEPARTMENT OF ENGLISH
BARKER CENTER 12 QUINCY STREET CAMBRIDGE, MASSACHUSETTS 02138
ph. (617) 495-2533 fx. (617) 496-8737 engdept@fas.harvard.edu

24 January 2020

Members of the Committee on Governmental Operations and the Committee on Civil Service
and Labor
New York City Council
Via email: hearings@council.nyc.gov

Dear Council and Committee Members,

I am a professor at Harvard and the author of the book, *Thermonuclear Monarchy: Choosing between Democracy and Doom*.

I write to urge you to support and pass Resolution 0976-2019 on nuclear divestment; and INT1621-2019, a bill to create a nuclear disarmament and nuclear weapons-free zone advisory committee.

The current nuclear architecture allows one man (or at most, a tiny number of men) to launch a nuclear weapon without consulting the population or the legislature or the courts or even a presidential council. This single weapon will bring about so catastrophic a level of injuries that even the worldwide resources of the International Red Cross cannot heal or repair them. The launch of that single weapons may in turn instigate a nuclear war that may eliminate most animal and plant species on earth.

How can this nuclear architecture be just? There is no tract or treatise anywhere in western political philosophy or eastern political philosophy that can possibly countenance (let alone justify) such an obscene and craven arrangement. Many people in the United States are unaware that we have in this country a “presidential first use policy” that enables a single person to instigate this harm. The eight other nuclear states have parallel arrangements for enabling a solitary leader, or tiny committee of leaders, to execute a launch. Such weapons eliminate from all people on earth the right of self-defense (the right underlying every other right). They also eliminate our capacity for mutual aid (there is no way we can assist one another once the weapons are launched).

The bills before you will not dismantle this nuclear architecture, but they are a key step in this dismantlement. Both national and international tools exist that have the power to undo this harm: the constitutions of various nations (US, India, France, Russia) have provisions that make it illegal for any form of weaponry that can be used without authorization by the legislature and the population; the international treaty banning such weapons is currently being ratified. We must

reanimate our belief in national and international law and use these precious tools to dismantle the nuclear architecture.

Finally, please let me describe to you three resources that may be of assistance:

1) Accompanying this letter, please find the graph enabling one to picture the worldwide nuclear architecture in a single image.

2) A concrete and scientifically grounded picture of what will happen if a nuclear weapon hits New York City is available in this article by Lynn Eden and Theodore Postol at the *Bulletin of Atomic Scientists*: <https://thebulletin.org/2015/02/what-would-happen-if-an-800-kiloton-nuclear-warhead-detonated-above-midtown-manhattan/> Alternatively, you may find it useful to watch this 8-minute video prepared by the International Red Cross and a German film company that elucidates scientific phenomena: https://www.youtube.com/watch?v=5iPH-br_eJQ

3) If you should encounter anyone who doubts that our country (and the other nuclear states) have arranged for a single individual (the president in the case of the United States) to initiate the launch, please direct their attention to this six-minute video of a conference held at Harvard University on November 4, 2017 entitled, “Presidential First Use of Nuclear Weapons: Is it Legal? Is it Constitutional? Is it Just?” There you will hear a former Secretary of Defense, a member of the House of Representatives, a Senator, a former missile launch officer, and several philosophers, scientists, and anthropologists confirm that this is indeed the arrangement:

<https://www.youtube.com/watch?v=Lr-bXzvQBw>

With hope for the passage of these bills and with thanks for the work that you do,



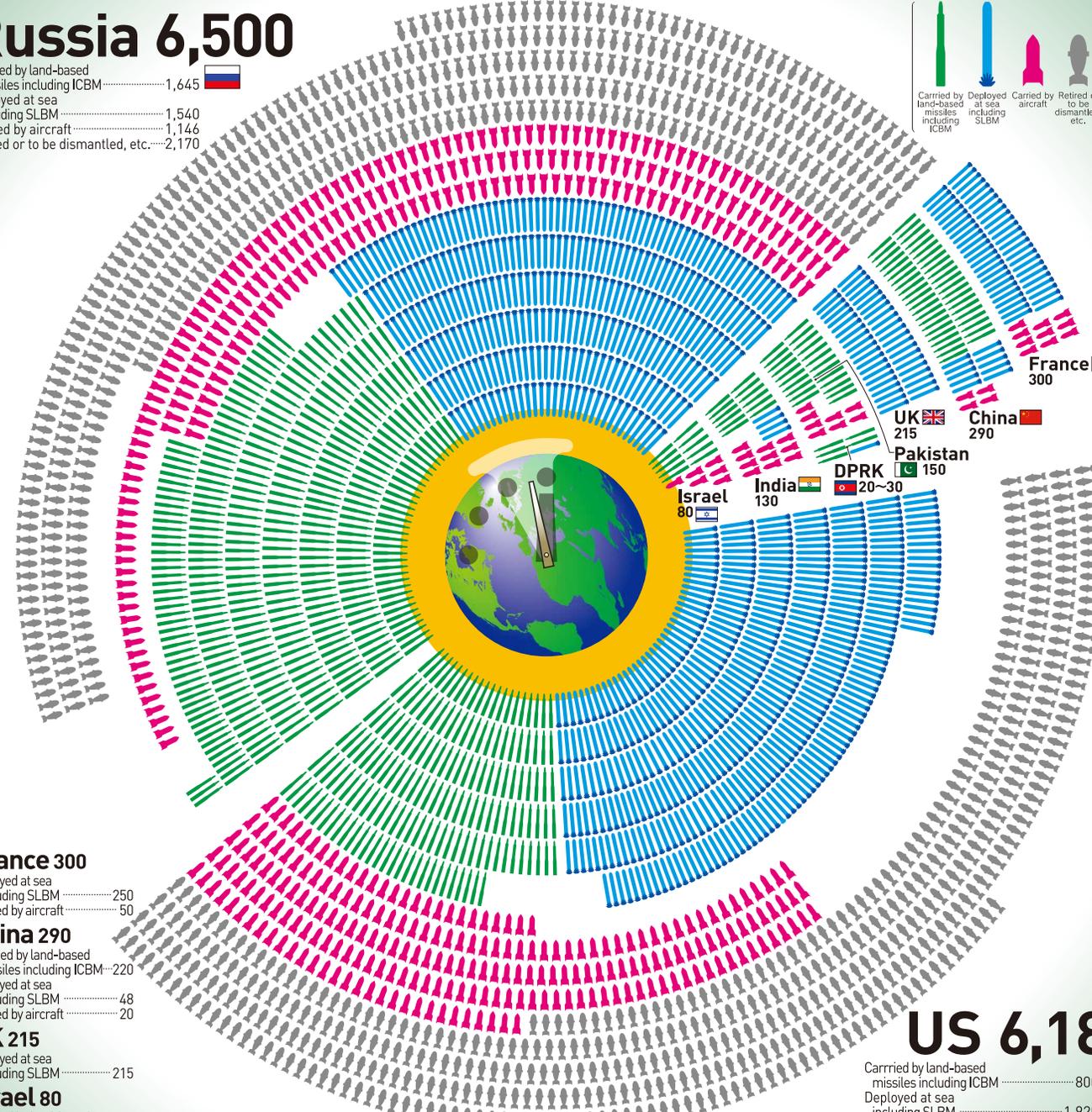
Elaine Scarry
Cabot Professor of Aesthetics and the General Theory of Value
author of *Thermonuclear Monarchy: Choosing between Democracy and Doom*
617-519-9735
escarry@fas.harvard.edu

THEY EXIST SO THEY CAN BE USED

The World's Nuclear Warheads Count June 2019

Russia 6,500

- Carried by land-based missiles including ICBM 1,645 
- Deployed at sea including SLBM 1,540
- Carried by aircraft 1,146
- Retired or to be dismantled, etc. 2,170



- #### France 300
- Deployed at sea including SLBM 250
 - Carried by aircraft 50

- #### China 290
- Carried by land-based missiles including ICBM 220
 - Deployed at sea including SLBM 48
 - Carried by aircraft 20

- #### UK 215
- Deployed at sea including SLBM 215

- #### Israel 80
- Carried by land-based missiles including ICBM 50
 - Carried by aircraft 30

- #### Pakistan 150
- Carried by land-based missiles including ICBM 114
 - Carried by aircraft 36

- #### India 130
- Carried by land-based missiles including ICBM 60
 - Deployed at sea including SLBM 20
 - Carried by aircraft 48

- #### DPRK 20~30
- Carried by land-based missiles including ICBM ?
 - Deployed at sea including SLBM ?

US 6,185

- Carried by land-based missiles including ICBM 800 
- Deployed at sea including SLBM 1,920
- Carried by aircraft 1,080
- Retired or to be dismantled, etc. 2,385

13,888

Decrease from 2018: -570

The Doomsday Clock
(see the center)

The Doomsday Clock is a symbol of the threat of nuclear annihilation. On the clock, midnight is the time of total destruction of humanity, and the minutes to midnight illustrate how close we are to such a "doomsday." Currently it is "2 minutes to midnight."
Source: Bulletin of the Atomic Scientists

**Public Comments of Jon Lipsky:
In relation to create a nuclear disarmament and nuclear weapons-free zone
advisory committee; and,
Calling on the New York Comptroller to instruct the pension funds of public
employees in New York City to divest from and avoid any financial exposure to
companies involved in the production and maintenance of nuclear weapons,
reaffirming New York City as a Nuclear Weapons Free Zone, and joining the
ICAN Cities Appeal and calling on the United States to support and join the
Treaty on the Prohibition of Nuclear Weapons.**

Honorable New York City Councilors, staff and visitors, I thank-you for the opportunity to address Introduction 1621-2019 and Resolution 0976-2019. My name is Jon Lipsky¹ and your legislation promotes world peace.

Nuclear weapons inherently produce nuclear waste that is not protective of human health and the environment. The United States is comprised of nuclear state-created-dangers and cover-ups of weapons-grade plutonium-239 manufacturing, waste and unfulfilled remediation. Plutonium-239, among many other nuclear weapon chemicals, is primarily anthropogenic with a half-life of over 24,000 years and capable of aberrations of human cells.

One such nuclear-Superfund site (1989-present) is the former Rocky Flats Nuclear Weapons Plant, Golden, Colorado (Rocky Flats).² I was the principal FBI agent who investigated crimes³ (1987-1992) at Rocky Flats where plutonium pit production ceased that resulted in federal criminal convictions.⁴ In 1989 the Rocky Flats contract operator sued the federal government, in part, because “[C]ompliance with the land disposal restrictions is currently impossible.”⁵ Thirty years after Rocky Flats, proliferation of nuclear weapons is frightfully increasing.

Despite the lack of nuclear repository facilities the U.S. National Nuclear Security Administration (NNSA) is **forcing** its plan to produce 80 weapons-grade plutonium-239 “pits”⁶ per year by 2030 at a cost exceeding \$1 trillion at Los Alamos, New Mexico and the Savannah River Site, South Carolina.⁷ The NNSA plan unfortunately is more nuclear-Superfund sites instead of infrastructure projects completed; misguided temporary nuclear waste storage sites instead of affordable housing; and, more citizens forced to live with radiation instead of affordable health plans.

Health and safety will be pretermitted, as it has in the past, with nuclear weapons and its veil of secrecy. As President Obama remarked in 2009 “the peace and security of a world without nuclear weapons.”⁸

¹ This public comment is limited in time and content. Please read - *The Ambushed Grand Jury: How The Justice Department Covered Up Government Nuclear Crimes And How We Caught Them Red Handed* - a non-fiction and non-profit book by Caron Balkany and Wes McKinley (2004) for detailed information. More at <https://rockyflatsambushedgrandjury.com/buy-the-book/>.

Various federal laws and rules constrain me from talking completely about the Rocky Flats criminal investigation. One example at <https://rockyflatsambushedgrandjury.com/wp-content/uploads/20051013-USDOJ-Letter-to-Lipsky.pdf>. The court subsequently allowed my testimony in re: Cook, et al, v. Rockwell International Corporation civil case, 90-K-181 (D. Colo.) as a subject matter expert witness.

I have been expressly threatened with Contempt violations, instructed to recant my Congressional testimony and threatened with prison time by government actors because of what I know concerning Rocky Flats. An example at <https://rockyflatsambushedgrandjury.com/jon-lipsky-threatened-with-contempt-of-congress-over-rocky-flats/>.

² USEPA. (2020). Superfund Site: Rocky Flats Plant (USDOE) Golden, CO. Accessed on January 17, 2020 at <https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.docdata&id=0800360>.

³ Lipsky, J. (1989). The Rocky Flats Plant, Application and Affidavit for Search Warrant of June 6, 1989, U.S. District Court for the District of Colorado case number 89-730M. Accessed on January 17, 2020 at <https://rockyflatsambushedgrandjury.com/wp-content/uploads/19890606-Rocky-Flats-Applicaton-and-Aff-for-SW-89-730M.pdf>.

⁴ United States District Court, District of Colorado. (1992). Information: United States of America v. Rockwell International Corporation and Plea Agreement and Statement of Factual Basis, case number 92-CR-107. Accessed on January 19, 2020 at <https://rockyflatsambushedgrandjury.com/rockwell-international-charged-federal-environmental-crimes-rocky-flats/>.

⁵ Rockwell. (1989). Rockwell Sues Government in Rocky Flats Dispute. Rockwell press release of 9/21/1989. Accessed on January 18, 2020 at <https://rockyflatsambushedgrandjury.com/rockwell-sues-government-in-rocky-flats-dispute/>.

In reference to U.S. District Court, District of Columbia. (1989). Rockwell International v. U.S. Department of Energy, U.S. Environmental Protection Agency, case number 1:89-cv-02607-LFO.

⁶ Medalia, J.E. (2014). U.S. Nuclear Weapon "Pit" Production Options for Congress. Congressional Research Service, p. 1. Accessed on January 17, 2020 at <https://fas.org/sqp/crs/nuke/R43406.pdf>.

⁷ NNSA. (2020). Notice of Availability of Final Supplement Analysis of the Complex Transformation Supplemental Programmatic Environmental Impact Statement. Federal Register, Volume 85, Number 5, pp. 887-888. Accessed on January 20, 2020 at <https://www.govinfo.gov/content/pkg/FR-2020-01-08/pdf/2020-00102.pdf>.

⁸ Obama, B. (2009). Remarks By President Barack Obama In Prague As Delivered. White House, Office of the Press Secretary. Accessed on January 18, 2020 at <https://obamawhitehouse.archives.gov/the-press-office/remarks-president-barack-obama-prague-delivered>.

As a student and researcher of Peace and Justice Studies, one of the questions I find myself constantly coming back to is how can we address harm? What are our options, after looking in the face of acute human suffering, for moving forward? And what are our moral responsibilities, as scholars, governments, aid workers, human beings, to respond? While there is no concrete answer, I believe that when we choose *to* respond, especially when we respond not just as oneself but as part of a greater community, there is immense power in that act.

My research on the harm caused by nuclear weapons testing across Micronesia on both indigenous populations and United States soldiers has shown me the grave consequences of failing to respond. The people I researched showed that the use of nuclear weapons does not have to be purposefully aggressive or in the context of war to inflict medical, environmental, and mental/emotional harm upon people and their families. Solely by standing as inadequately-protected witnesses to a nuclear weapons test, thousands of people have faced debilitating medical issues, various cancers, as well as the high medical costs that come with treating these problems. Furthermore, it should not be understated how emotionally vexing it is to cope with anxiety, stress, and depression that often culminates from living with life-threatening conditions, especially if one can see that these medical conditions seem to be passed down through generations, as some studies indicate.

However, what I find most remarkable about my research on the indigenous people of Micronesia and United States veterans alike, is that one of the deepest harms they feel is the pain of being unacknowledged. The United States and other countries that tested nuclear weapons in the Pacific have never formally apologized to any of the people whose land they used and destroyed, and a majority of the world is not even aware of the suffering caused by nuclear testing. People of Micronesia and US atomic veterans alike feel abandoned and hurt by governments' failure to even acknowledge that their suffering is real and that they must unjustly bear it. The harm in being silenced and in not being heard is dangerous, not only to those living with the pain, but also to everyone in a global community, as unnoticed harm is always susceptible to being reiterated again.

Therefore, what I find so remarkable about Int 1621-2019 is its implicit commitment to taking nuclear weapons and the harm they are capable of inflicting seriously. By speaking out about the horrific violence of nuclear weapons and demanding that they do not belong in New York City or anywhere in the world, our great city is acknowledging that the harm faced by nuclear weapons testings and bombs across the globe should never happen again. In a time where the White House is apt to ignore this harm and make frequent threats about the use of nuclear warfare, having the United States' largest city openly oppose nuclear weapons, in part to honor victims of nuclear testing, is immensely powerful. Furthermore, the steps proposed by Res 0976-2019 push NYC even further into a future where nuclear weapons are no longer seen as a "necessary evil" and a good investment, but instead as a weapon of inhumane violence that should never be created again. I am deeply grateful to the New York City Council members who sponsored this legislation, for being forward and proactive officials, and for acknowledging that the harm of nuclear weapons is not just a story in a history book, but is an actual lived reality to many people today across the globe.

Testimony by Ms. Setsuko Thurlow on Res. [976](#) and Int. [1621](#)
Prepared for Members of the Committee on Governmental Operations and the
Committee on Civil Service and Labor, New York City Council
via email: <hearings@council.nyc.gov>

24 Jan 2020

Dear Council and Committee members:

I am honored to submit written testimony in support of pending legislation, Res. 976 and Int.1621, and to have this opportunity to endorse progressive measures to curb the reckless nuclear brinkmanship that continues long since 75 years ago, when my beloved hometown Hiroshima was utterly destroyed by one atomic bomb. For the past 12 years I have travelled regularly to New York as part of the Youth Arts New York Hibakusha Stories Project. I have met with tens of thousands of young New Yorkers, to share my testimony of what really happens when a nuclear bomb explodes. Young people deserve to know what threatens their lives and future.

As a 13-year-old schoolgirl, I witnessed my city of Hiroshima blinded by the flash, flattened by the hurricane like blast, burned in the heat of 4000 degrees Celsius and contaminated by the radiation of one atomic bomb. A bright summer morning turned to dark twilight with smoke and dust rising in the mushroom cloud, dead and injured covering the ground, begging desperately for water and receiving no medical care at all. The spreading firestorm and the foul stench of burnt flesh filled the air.

Miraculously, I was rescued from the rubble of a collapsed building, about 1.8 km from ground zero. I felt hands touching my left shoulder, and heard a man saying, "Don't give up! Keep pushing! I am trying to free you. See the light coming through that opening? Crawl towards it as quickly as you can." As I crawled out, the ruins were on fire. Most of my classmates in the same room were burned alive. I can still hear their voices calling their mothers and God for help.

As I escaped with two other surviving girls we saw a procession of ghostly figures slowly shuffling from the center of the city. Grotesquely wounded people, whose clothes were tattered, or who were made naked by the blast. They were bleeding, burnt, blackened and swollen. Parts of their bodies were missing, flesh and skin hanging from their bones, some with their eyeballs hanging in their hands, and some with their stomachs burst open, with their intestines hanging out.

Within that single flash of light, my beloved Hiroshima became a place of desolation, with heaps of rubble, skeletons and blackened corpses everywhere. Of a population of 360,000 — largely non-combatant women, children and elderly — most became victims of the indiscriminate massacre of the atomic bombing. Even today, nearly 75 years later, people are still dying from the delayed effects of one atomic bomb: considered crude by contemporary standards for mass destruction.

Through months and years of struggle for survival, rebuilding lives out of the ashes, we, survivors, or 'Hibakusha', became convinced that no human being should ever have to repeat our experience of the inhumane, immoral, and cruel atomic bombing, and that our mission is to warn the world about the reality of the nuclear threat and to help people understand the illegality and ultimate evil of nuclear weapons. We believe that, "Humanity and nuclear weapons cannot coexist indefinitely." Thus, we have a moral imperative to abolish nuclear arsenals, in order to ensure a safe, sustainable, and just world for future generations. With this conviction we have been speaking out around the world for decades for the total abolition of nuclear weapons.

When I co-accepted the Nobel Peace Prize on behalf of the International Campaign to Abolish Nuclear Weapons I recalled the words I heard from the ruins in Hiroshima "Don't give up! Keep pushing! See the light? Crawl towards it." No matter what obstacles we face, we will keep moving and keep pushing and keep sharing this light with others. This legislation, Res. 976 and Int.1621, is part of the light for abolition.

On behalf of the survivors of Hiroshima and Nagasaki, I would like to express my deep gratitude and respect to all in the New York City Council who support this effort. It gives me great satisfaction that this bold act, originating as it does in the city where nuclear weapons research was first conducted at Columbia University, has renewed a focus on the humanitarian consequences of nuclear weapons, and how each of us, activists and elected officials alike, all have a role to play in protecting the future of our precious planet and only home. In this spirit, I urge you to vote in favor of nuclear disarmament bills to invest in New York City's future and send a message to Washington DC and the world to do the same.

Written Testimony on New York City Council Res 975 & INT 1621
January 28, 2020
Shigeko Sasamori

I am submitting this testimony with the assistance of Robert Croonquist. Over the course of 12 years I have participated in Hibakusha Stories, a program of Youth Arts New York. I have personally interacted with thousands of New York City high school students, sharing my story so that they will take leadership in ridding the world of nuclear weapons.

I was a 13 year-old student in Hiroshima, Japan when the United States dropped the atomic bomb on my city. Hearing the sound of a plane, I looked up to see a B-29 flying overhead. Seconds later I was knocked unconscious by the blast.

When I came to, I was so badly burned that I was unrecognizable. I repeated my name and address over and over until I was finally found days later by my father. My friend who was at my side when we looked into the sky died. We couldn't find her. And many classmates who were there died. Some of course survived, like me. One third of my body was burned. All my face, neck, back, half of my chest, shoulders, arms and both hands. It's a miracle to me.

Years later I traveled to the United States in 1955 as part of a group of young women known as the Hiroshima Maidens. While in New York, I underwent numerous plastic surgery operations and met my adoptive father, the great humanitarian and journalist from New Jersey, Dr. Norman Cousins. I have dedicated my life to making certain no one ever experiences what I experienced and have traveled around the world telling my story and sharing my love. I have met thousands of New York City students and after my testimony they have lined up to hug me and give me their love. So much love. I love these children and it breaks my heart that anything bad would ever happen to them.

New York has always been a home to me, from the time I came with the Hiroshima Maidens to my most recent visits, and I am proud that the New York City Council is providing world leadership in ridding the world of nuclear weapons. No more war. No more Hiroshimas! No more Nagasakis!

Thank you,

Shigeko Sasamori
Los Angeles, California, USA



Statement for NYC Council Res. 976 and INT 1621

Jan. 28th, 2020

Dear Esteemed NY City Council,

One of the roles given to a pastor is to care for his people – to ‘smell like the sheep’ as Pope Francis has said. When Pope Francis recently visited Japan, November 24th, 2019, he went as a pastor to show his care for the Catholic population there and for all people of good will.

It is especially significant that Pope Francis specifically focussed his journey on both Nagasaki and Hiroshima. At Nagasaki, he delivered a clear message calling for nuclear weapon abolition, and at Hiroshima he stressed the same and the need for peace in our world among nations.

We stand in solidarity with our Holy Father’s visit to these monuments of human destruction. The core Catholic teachings clearly lead us to the conclusion that the very possession of these devices is to be firmly condemned.

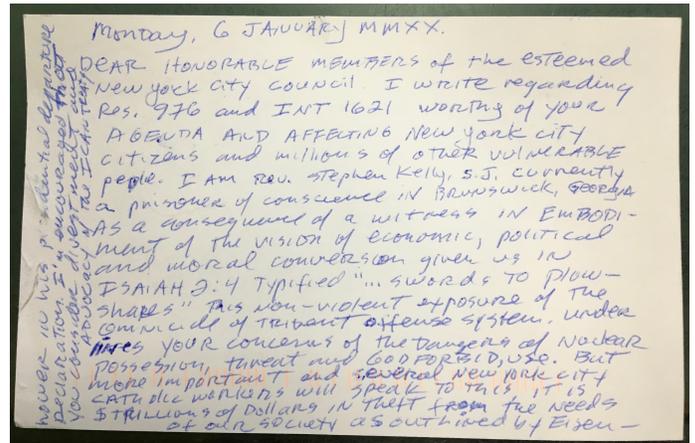
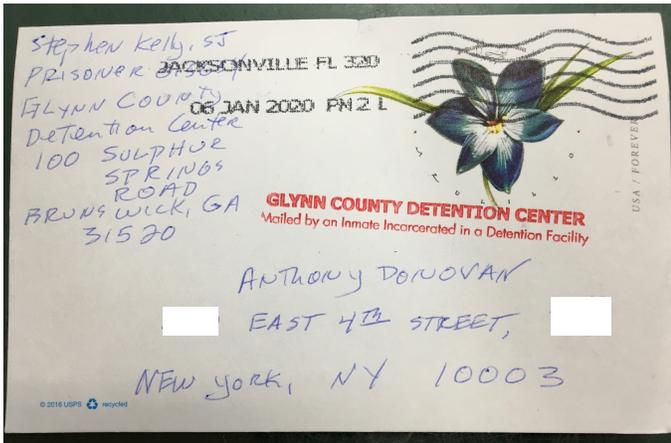
At a Vatican symposium in November 2017, that called for nuclear disarmament, Pope Francis said “[Nuclear weapons exist] in the service of a mentality of fear that affects not only the parties in conflict, but the entire human race. International relations cannot be held captive to military force, mutual intimidation, and the parading of stockpiles of arms.

Weapons of mass destruction, particularly nuclear weapons, create nothing but a false sense of security. They cannot constitute the basis for peaceful coexistence between members of the human family, which must rather be inspired by an ethics of solidarity.”

Our prayers and those of the entire Body of Christ accompany the Holy Father on this journey of peace.

We support and applaud the NY City Councils urgent attempts to eliminate this threat to God’s creation. May the Prince of Peace guide Pope Francis and all in our desire for a war-free world.

Cardinal Joseph Tobin, D.Ss.R.,
Archbishop of the Archdiocese of Newark
Newark, New Jersey



Statement for January 28th, 2020 NYC Council Hearing regarding Res. 0976 & INT. 1621

Fr. Steve Kelly, SJ has no other means of communication aside from a small white postcard from his prison.

He is a Catholic priest who for decades has been involved in social justice, who has spent many years in prison for civil disobedience against U.S. nuclear weapon policies.

He was chosen to deliver the eulogy for Fr. Dan Berrigan's funeral, and is featured in the documentary "The Nuns, The Priests and the Bomb".

He entered the Kings Bay Submarine Naval base in prayer and non violent civil disobedience along with 6 other Catholic Workers, specifically on the anniversary of Martin Luther King, Jr's assassination, April 4th, 2018. The nuclear warheads at this one base alone have the ability to destroy every major city on earth and end civilization. Their faith's call is to "Love One Another." For trying to awaken us to the potential horror of annihilation. All have been convicted of 3 felony counts and one misdemeanor. He's been in prison since.

Fr. Kelly's submitted statement reads:

"Monday, 6 January MMXX

Dear Honorable Members of the esteemed New York City Council.

I write regarding Res. 976 and INT 1621 worthy of your agenda and affecting New York City Citizens and millions of other vulnerable people.

I am Rev. Stephen Kelly, S.J. currently a prisoner of conscience in Brunswick, Georgia as a consequence of a witness in embodiment in the vision of economic, political, and moral conversion given us in ISAIAH 2:4 typified "...Swords to Plowshares".

This non-violent exposure of the omnicide of Trident offense system underlines your concerns of the danger of nuclear possession, threat and God forbid, use.

But more important, and several Catholic workers will speak to this, it is \$ trillions of dollars n theft from the needs of our society as outlined by Eisenhower in his presidential departure declaration.

I'm encouraged that you consider divestment and advocacy of the ICAN [TPNW] treaty."

Jeff Gipe
Visual Artist | Filmmaker | Rocky Flats Researcher
10 Suydam St. #2, Brooklyn, NY, 11221 | ph: (303) 906-1456

Members of the Committee on Governmental
Operations and Committee on Civil Service and
Labor, New York City Council

Via email: hearings@council.nyc.gov

January 23, 2020

Regarding New York City Council hearings on Int 1621-2019 and Res 0976-2019

The creation of the atomic bomb has caused untold harm. When its destructive force was realized, in 1945, J. Robert Oppenheimer - the "Father" of the Atomic Bomb – remarked, "We knew the world would not be the same. A few people laughed, a few people cried, most people were silent." A year later, in 1946, President Truman wrote in a letter that was presented to the United Nations at Hunter College, in New York,

In this crisis we represent governments but in a larger way, we represent the people of the world. We must remember that the people do not belong to the government but that the governments belong to the people. We must answer their demands, we must answer the world known for peace and security. In that desire, the United States shares ardently and hopefully.

The search of science for an absolute weapon has wreaked the nation in this country, but she stands ready to proscribe and destroy this instrument - to lift its use from death to life - if the world will join in a pact to that end.

Now, seventy-four years later, New York has the opportunity to help lead the way to peace and security. By adopting resolution 0976-2019, New York can demonstrate to the United States and the world that the people of this country yearn for a planet beyond nuclear fear.

Many Americans have a sense of the destructive capabilities of nuclear war but lesser known is the domestic toll. Over the past seven decades, nuclear production has continued to wreak the nation and impact our communities. At Rocky Flats, where my father worked, employees and nearby residents were not informed of the hazards they were subjected to while helping to manufacture nuclear weapons. Hundreds of plutonium accidents occurred at the plant and large releases of radioactive material have forever contaminated downwind communities. Thousands of former Rocky Flats workers, including my father, have fallen ill from toxic contamination. In 2015, McClatchy DC found that "A total of 107,394 workers have been diagnosed with cancers and other diseases after building the nation's nuclear." The human toll in communities downwind of the 300 nuclear production and testing sites is undoubtedly much greater. For the sake of our families and of generations to come, I ask that you consider adopting Resolution 0976-2019 on nuclear disarmament and pass INT1621-2019, to create a nuclear disarmament and nuclear weapons-free zone advisory committee.

Sincerely,

Jeff Gipe

January 22,2020

Re: NY City Council Res. 976 and INT. 1621

My father is Yuri Gorbachev, a world-famous Russian artist, cousin of Mikhail Gorbachev, and good friends with Mikhail's wife Raisa Gorbachev. In 1988, Raisa invited my father to show his artwork at the Soviet Cultural Foundation. She frequently exhibited passionate artists who were against war and nuclear weapons. Raisa also encouraged my father to take his family and migrate to New York City because she knew Russia would be going through difficult times. We migrated from Ukraine in 1991. In 1996, the United Nations commissioned my father to create original work into redesign the United Nations stamp. His *Green Parrot on Red Flower* painting is currently housed in their collection.

Mikhail Gorbachev has been very proactive in downsizing the volume and availability of nuclear weapons on the international level. He holds a strong position against further development, maintenance, and expansion of all nuclear arsenals. He is convinced that it is just a matter of time before nuclear weapons fall into the wrong hands and create a scenario of attack and instant retaliation. Sharing the same beliefs on this important matter, I too believe the world will greatly benefit from ceasing production and elimination of nuclear weapons.

The two prominent, leading nuclear countries are still Russia and the United States. Diplomatic tension continues to escalate between the two nations. While some of the reasons are due to irrational phobias and televised propaganda, they have recently become more similar socially, economically, and politically. I strongly believe trustworthy diplomatic relations are important and necessary to de-escalate the production and existence of nuclear war capabilities. There is much more to collectively benefit from having stronger relations versus being in opposition. Together, the two nations can stand and encourage the rest of the world to denuclearize.

I support the TPNW and a nuclear weapons divestment. New York is one of the greatest and most influential cities on Earth and it should stand firmly against any cooperation or ties to nuclear weapons manufacturing. Every one of us can play a small part in this brave contribution and set a positive example for future generations.

Michael Gorbachev
74th street
Brooklyn NY 11209

Please accept this written testimony regarding Res. 976 & INT 1621:

My grandfather, Harry S. Truman, never spoke to me about the atomic bombings of Hiroshima and Nagasaki. I learned about them like everyone else, in school. The textbooks didn't tell me much. There was a page or two of events and dates, a picture of the mushroom cloud, but nothing about what had happened to the people.

More than 20 years ago, when my son, Wesley, was 10, he came home from school with a book, *Sadako and the Thousand Paper Cranes*. It was the first personal story of the bombings I'd seen and I told Wesley that it was important to understand his great-grandfather's decision, but also to know what that decision cost the people of Hiroshima and Nagasaki.

Wesley's teacher, Rosemary Barilla, didn't just tell her students the story of the little girl who fought, uncomplaining, against radiation-induced leukemia. She taught them Japanese history and culture. They folded cranes in class. She even took them to a Japanese restaurant. She and Wesley brought Japan into our home.

I recounted that story to a Japanese newspaper. Not long after, I received a call from Masahiro Sasaki, Sadako's older brother, himself a Hiroshima survivor. We met in 2010 in New York. Masahiro and his son, Yuji, were donating one of Sadako's last original cranes to the 911 Tribute Center as a gesture of healing. During our meeting, Yuji dropped a tiny paper crane into my palm and told me it was the last one Sadako folded before dying. It was then that his father asked if I'd consider visiting Japan.

My family and I went to Hiroshima and Nagasaki in 2012. We attended both memorial services. In between, we met with more than two-dozen survivors. They came to us not with anger or recrimination, only the request that we listen to their stories and continue to tell them in the hope that the world understands the horror of nuclear war.

Understanding is effective, particularly with the young. But there are still too many people, some of them friends of mine, who believe nuclear weapons are a fine thing and great deterrent. You can't tell them they're wrong.

You take the moral, intelligent approach. You ban nuclear weapons from your countries, sue the owners over past use and divest yourself financially from any company that contributes to weapons construction. My grandfather stood by his decision, but he knew that it would take courage, cooperation and creativity to keep it from happening again, on a global scale.

Thank you.

Clifton Truman Daniel

Acronym Institute for Disarmament Diplomacy

International Campaign to Abolish Nuclear Weapons (ICAN) Founding Partner

Acronym Werks Central, 15-17 Middle Street, Brighton, East Sussex, BN1 1AL, U.K.
Website: www.acronym.org.uk tel: +44 (0) 1273 737219 email: info@acronym.org.uk

Written Evidence Statement and Testimony regarding: Legislation Resolution 0976-2019 on nuclear disarmament; and INT1621-2019, a bill to create a nuclear disarmament and nuclear weapons-free zone advisory committee, in conjunction with the public hearing on Tuesday, January 28 at 1 p.m., Council Chambers, New York City Hall, City Hall Park, New York, NY 10007.

From Dr Rebecca E. Johnson, Executive Director of the Acronym Institute for Disarmament Diplomacy (UK) , Co-Chair and first President of the International Campaign to Abolish Nuclear Weapons (ICAN) and member of the International Panel on Fissile Materials (University of Princeton)

Submitted by email *via* hearings@council.nyc.gov to the **Committee on Governmental Operations and the Committee on Civil Service and Labor, New York City Council**

25 January 2020

=====

Dear Council and Committee Members,

Thank you for inviting me to give evidence to the public hearing on Resolution 976-2019 on nuclear disarmament and INT1621-2019, a bill to create a nuclear disarmament and nuclear weapons-free zone advisory committee, to be held at New York City Hall on 28 January 2020. I regret that I am unable to travel to New York to give testimony in person, and therefore submit this written statement relating to the objectives and subject matter of this legislation.

1) My name is Rebecca Johnson. I write as director of the Acronym Institute for Disarmament Diplomacy, which holds ECOSOC accreditation with the United Nations, Co-chair and first president of the International Campaign to Abolish Nuclear Weapons (ICAN), and serving member of ICAN's International Steering Group (2017 Nobel Peace Laureate). I hold a Ph.D in international relations from the London School of Economics and Political Science (LSE), University of London. My doctoral dissertation explored the conditions for successful nuclear diplomacy, international law treaties and verification. Relevant capacities in which I have served include: Board Member and Vice Chair of the Bulletin of Atomic Scientists (2001-07); senior advisor to Dr Hans Blix, Chair of the International Weapons of Mass Destruction Commission (2004-2006); member of the Scottish Government's Working Group on nuclear issues (2008-11); and Green Party (England and Wales) Spokesperson on Security, Peace and Defence. I am a widely published author of books, reports, essays and articles, and commentator for the BBC, CNN and Al Jazeera on nuclear and security issues. I am currently UK representative on the International Panel on Fissile Materials (IPFM), which is based at the University of Princeton.

2) I also write as someone who fell in love with New York City when visiting in 1961. As a seven year old Hutterite girl from Pennsylvania, I was excited by the vibrant streets and views

Executive Director: Dr. Rebecca E. Johnson (email rej@acronym.org.uk, cell: 0773 336 0955)

Directors of the Acronym Institute: Professor Christine Chinkin (director Women, Peace and Security, LSE University of London), Dr Gari Donn (director, UN House Scotland), General Lord David Ramsbotham (Member of House of Lords), Nomi Bar Yaacov Adv. Non-Profit Non-Governmental Organisation, Registered in England 3149465

from the Empire State Building. Fears about New York were especially in my mind when everyone got frightened about the Cuban Missile Crisis the following year. I have continued to visit New York many times as an adult, and since 1990 have enjoyed the privilege of spending around 2-8 weeks per year in your wonderful, vibrant city due to my UN-related work on disarmament, human rights and environmental advocacy. For most of these visits, I have been participating in negotiations under the 1970 Non-Proliferation Treaty (NPT) and, more recently, the TPNW, which was negotiated and adopted in New York by two thirds of the UN General Assembly. I have so many friends here, and think of New York as my home from home (after London). For these personal reasons, I am writing to support your efforts to take forward nuclear free zone commitments, apply the humanitarian disarmament provisions of the 2017 Treaty on the Prohibition of Nuclear Weapons (TPNW), and end financial support for nuclear programmes.

3) My experience with nuclear free zone legislation and disarmament treaties dates back to the 1980s, when I became a full time nuclear disarmament campaigner, living for five years at the Greenham Common Women's Peace Camp in England and undertaking nonviolent initiatives to prevent the deployment of intermediate-range Cruise Missiles and other nuclear weapons in Europe.

4) In November 1983, a few months after NYC Council adopted Resolution 364 declaring the City a NWFZ, I was a plaintiff in the US Federal Court case 'Greenham Women Against Cruise Missiles and others v. President Ronald Reagan and others' which took place in New York. I appeared in person and spoke about the nuclear devastation of Hiroshima and Nagasaki and our efforts to stop such weapons being used again.¹ New York Congressman Ted Weiss and another US legislator joined the Greenham plaintiffs in this case, where we were represented by the New York based Center for Constitutional Rights (CCR). Though Judge Edelstein eventually dismissed our application for an injunction to prevent the imminent deployment of Cruise Missiles, the humanitarian and legal arguments we brought together for this US Federal Court helped achieve the 1987 Intermediate-Range Nuclear Forces (INF) Treaty, signed by President Ronald Reagan and Soviet General Secretary Mikhail Gorbachev, and later fed into the 1996 Advisory Opinion of the International Court of Justice (ICJ) on the Legality of the Threat or Use of Nuclear Weapons² and subsequent legal initiatives and nuclear treaties, including the TPNW.

5) Learning from the past can help us create a more secure future. I strongly support Resolution 0976-2019 and INT1621-2019. Both will make important contributions to disarmament and security. Resolution 976 recognises the past and looks forward to NYC's future at the forefront of US implementation of the TPNW through exercising municipal powers, education on nuclear abolition and peace, and divestment.

6) Having served on the Scottish Government's nuclear advisory committee, I also believe that it will be beneficial for New York City to have a nuclear disarmament and nuclear weapon free zone (NWFZ) advisory committee to provide a forum for discussions, oversight and

¹ Rebecca Johnson, 'Alice Through the Fence: Greenham Women and the Law'; Jane Hickman, 'Greenham Women Against Cruise Missiles and others v. President Ronald Reagan and others'; and Peter Weiss, 'Nuclear War in the Courts'; in John Dewar, Abdul Paliwala, Sol Picciotto and Matthias Ruete, *Nuclear Weapons, the Peace Movement and the Law*, Macmillan Press, 1986, pp 158-218. See also Owen Greene, Barry Rubin, Neil Turok, Philip Webber, Graeme Wilkinson, *London After the Bomb*, Oxford University Press, 1982; *The Effects of Nuclear War*, Office of Technology Assessment, Congress of the United States, Croom Helm, 1980; *Protect and Survive*, HMSO (UK Government, 1980).

² 'Advisory Opinion of the International Court of Justice on the legality of the threat or use of nuclear weapons', International Court of Justice, Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, I.C.J. Reports 1996. [Reported for July 8, 1996, General List No. 95].

accountability on matters relating to humanitarian disarmament, nuclear free security and implementation of the TPNW.

7) In 1987-88 I had direct experience of working for a NWFZ local authority when I was employed by the Borough of Lambeth, London, as an Emergency Planning Officer with responsibilities relating to 'Peace and Nuclear Affairs'. My post was established as a result of the Council legislation to make Lambeth a nuclear free borough. My duties included representing Lambeth on the London Fire and Civil Defence Authority (LFCDA), with responsibilities for advising elected officials, staff and other stakeholders on matters pertaining to nuclear threats and responses. My remit included: responsibility for the two nuclear command bunkers based in Lambeth Borough; research and public education on nuclear dangers that could affect health, environment, transportation, public facilities such as schools, hospitals etc.; emergency planning and response in the event of any nuclear or military threats and dangers; minimising risks from nuclear waste transports through the borough; advising on investment recipients of local authority funds; nonviolence training; and legal initiatives to facilitate peace and security.

8) After the Cuban Missile Crisis, civil society and municipal initiatives in many cities and countries raised awareness and advocated for divestment and disarmament. These people-based, civic initiatives were necessary because Cold War governments were failing to put our real security needs first. Dependent on their military-industrial establishments, nuclear leaders were caught up in arms racing and deploying nuclear missiles that they described as more "usable" -- as we are seeing again today. Military and governmental officials made miscalculations about each other that brought the world to the brink of nuclear war on several occasions.

9) When Presidents Reagan and Gorbachev signed the INF Treaty in 1987, it was a much-needed disarmament step that contributed to changing the world. Reagan and Gorbachev pulled back from the brink due to a combination of economic and political pressures from civil society activists, and hardhitting analyses about nuclear effects and consequences from scientists and doctors. As Gorbachev told an international publication in 1994: *"...There was an emotional side to it... I knew the report on 'nuclear winter'... Models made by Russian and American scientists showed that a nuclear war would result in a nuclear winter that would be extremely destructive to all life on Earth; the knowledge of that was a great stimulus to us, to people of honor and morality, to act in that situation."*

10) Since today's nuclear armed governments lack the necessary leadership qualities, we must look to ourselves and other democratic means to bring the nuclear ban into force and apply its provisions. Through Cities appeals and legislation such as Resolution 976 and INT1621-2019, we must increase uptake and implementation of TPNW obligations that fall within municipal powers. Divestment campaigns contributed towards stigmatising and ending apartheid in South Africa. When used in the 1980s to boycott and stigmatise companies involved in the financing, manufacture and deployment of nuclear weapons, divestment campaigns created economic and public relations pressures that are credited with putting domestic political pressure on President Reagan, contributing to his decision to meet General Secretary Gorbachev in Reykjavik in 1986, where banning and eliminating nuclear weapons was put on the table.³

11) Nuclear war and climate destruction are the greatest threats to human security, with political inaction and new technologies multiplying and accelerating the dangers. No wonder the Bulletin of the Atomic Scientists has moved the Doomsday Clock to just 100 seconds to Midnight. The

³ Timmon Wallis, "Dialogue and Resistance: An Evaluation of Two Approaches to Peace Campaigning at RAF Molesworth (1980-1987)", unpublished PhD thesis, Bradford: Bradford University, 1992, cited in Timmon Wallis, Briefing on "Economic Pressures and the INF Treaty: How Boycott and Divestment Campaigns Helped Halt the Nuclear Arms Race in the 1980s", nuclearban.US and Acronym Institute for Disarmament Diplomacy, January 2020.

INF Treaty has been killed off by US President Donald Trump and Russian President Vladimir Putin. Freed of its constraints, both are pursuing enhanced, more "usable" new weapons, including some that were prohibited by the INF Treaty. Non-proliferation cannot be progressed and sustained without nuclear disarmament. With most if not all nuclear armed leaders increasing the status and value they attach to nuclear WMD, enhancing their arsenals and trading nuclear threats, it is up to nuclear free governments and civil society to pull them back from the brink.

12) NYC Council backing for Resolution 0976-2019 and INT1621-2019 will send a powerful message to Presidents Trump, Putin and other nuclear weapon possessors and endorsers. Your proposed legislation will have positive legal, normative, awareness-raising and practical impacts, and will strengthen both the TPNW and the non-proliferation regime. This is vital, as the nuclear ban is now an essential legal, normative and political tool to prevent nuclear proliferation, use and war.

13) Passing your NYC Council legislation would be a positive contribution, building on what local governments and municipalities can do to devalue nuclear weapons, diminish their risks, close off sources of nuclear-weapon financing, and create the environment for your government - and others -- to take significant steps towards nuclear disarmament and strengthen local and global security. Where national leadership is lacking, it is important to keep moving forward at local, regional and international levels.

14) The TPNW is rooted in the humanitarian imperative to prevent nuclear use, war and proliferation. Paragraph 4 of the TPNW preamble sums up why state and municipal authorities must assume responsibility to take forward its relevant provisions even if federal and national governments are not yet ready: "the catastrophic consequences of nuclear weapons cannot be adequately addressed, transcend national borders, pose grave implications for human survival, the environment, socioeconomic development, the global economy, food security and the health of current and future generations, and have a disproportionate impact on women and girls, including as a result of ionizing radiation..."⁴

15) As well as its clear prohibitions on the development, testing, production, manufacture, acquisition, possession, stockpiling, stationing, transfer, use and threat of use, the Treaty enshrines principles and mechanisms for ending reliance on nuclear policies and eliminating arsenals. Applicable to non-state actors as well as states, the TPNW makes it illegal for anyone to assist others to violate the prohibitions.

16) The TPNW is no longer an abstract aspiration but an existing Treaty. To date the TPNW has 80 signatories and 35 states parties and is on schedule to enter into force in 2020 or soon after. As the most important legal addition to the global non-proliferation and disarmament regime since the NPT, it has to be taken seriously.

17) Of particular relevance to New York City Council legislation and responsibilities, the TPNW emphasised "the importance of peace and disarmament education in all its aspects and of raising awareness of the risks and consequences of nuclear weapons for current and future generations, and committed to the dissemination of the principles and norms of this Treaty".⁵

18) The TPNW recognises the "unacceptable suffering of and harm caused to the victims of the use of nuclear weapons (hibakusha)", including those affected by nuclear testing, indigenous

⁴ Treaty on the Prohibition of Nuclear Weapons, United Nations text adopted New York, 7 July 2017 (preambular paragraph 4).

⁵ Treaty on the Prohibition of Nuclear Weapons, United Nations text adopted New York, 7 July 2017 (preambular paragraphs 22 and 23)

people and women and girls (disproportionately affected by nuclear radiation).⁶ Also relevant for diversity, health, equality and human rights, the TPNW calls for "the equal, full and effective participation of both women and men" in promoting and attaining sustainable peace and security, and makes commitment "to supporting and strengthening the effective participation of women in nuclear disarmament".⁷

19) Since the TPNW was adopted, several cities and regional authorities in Britain have joined ICAN's Cities Appeal, starting with Manchester, which coordinates nuclear free local authority activities in the UK.

20) In 2013, when ICAN partners were briefing parliamentarians and communities about the humanitarian risks and consequences of nuclear programmes, we published a study on the humanitarian impacts if a nuclear warhead were detonated in Manchester with an explosive power of a hundred thousand tonnes (100 kilotons). The population of Manchester is just below 587,000. Taking into account the city's topography and population density the blast and thermal effects of such a bomb would cause around 81,000 immediate deaths, leaving 212,000 injured. It would destroy vital infrastructure, hospitals, schools, businesses, housing and commercial buildings, as well as irreplaceable historic, cultural and natural treasures.⁸ Imagine this scenario scaled up for London or New York.

21) The Manchester study deliberately focussed on the 'minimised' case of an average UK warhead exploding on a medium sized city. British nuclear warheads are frequently driven past Manchester when taken to Scotland for Trident deployment, so such an event might occur by accident, terrorism or miscalculations short of nuclear war. The study showed that the capacity of medical and local emergency services would be severely degraded. In the case of a weapon exploding at ground level, radioactive fallout would inflict further serious health impacts, adding radiation-induced problems for survivors and responders, ranging from acute sickness to immune suppression and impaired healing. Even outside the zones of direct damage, systems of communication and transport would be left inoperable. Survivors and people made homeless or fleeing the disaster zone in fear and desperation would overwhelm services in the rest of the country. Medical and blood transfusion services would be quickly overwhelmed, with the added complexity of massive disruptions to transport, computing and communications services that would severely restrict the ability of external providers to assist, resulting in the death of many "short-term survivors" who would not be able to receive the help that could save their lives.⁹

22) We also briefed elected officials on other relevant impact studies. One examined the impacts if just one UK nuclear submarine fired its Trident payload of 40 warheads on Moscow and four other Russian cities (in accordance with the so-called 'Moscow Criterion' that still influences UK nuclear policies).¹⁰ In addition to causing the direct deaths of some 10 million people, firing Trident in this way would cause devastating climate disruption that would adversely affect agriculture, natural ecosystems and the food resources of billions of people around the world. The UK reports drew on studies of nuclear weapons effects by US climate

⁶ Treaty on the Prohibition of Nuclear Weapons, United Nations text adopted New York, 7 July 2017 (preambular paragraphs 6 and 7)

⁷ Treaty on the Prohibition of Nuclear Weapons, United Nations text adopted New York, 7 July 2017 (preambular paragraphs 22-23)

⁸ Richard Moyes, Philip Webber and Greg Crowther, *Humanitarian Consequences: Short case study of the direct humanitarian impacts from a single nuclear weapon detonation on Manchester, UK*. Article 36, February 2013

⁹ Frank Boulton, *Blood Transfusion Services in the wake of the humanitarian and health crisis following multiple detonations of nuclear weapons*, Medact, UK, February 2013

¹⁰ John Ainslie, *If Britain Fired Trident: The humanitarian catastrophe that one Trident-armed UK nuclear submarine could cause if used against Moscow*, Scottish CND, February 2013; and Philip Webber, *The climatic impacts and humanitarian problems from the use of the UK's nuclear weapons*, Scientists for Global Responsibility, February 2013.

scientist Alan Robock and colleagues, which found that a nuclear winter could result from a relatively limited number of nuclear detonations on major cities¹¹, and follow up work on nuclear-induced famine by US physician Ira Helfand,¹² and other research. These studies help people understand what is at stake. They played a vital role in mobilising governments around the world to negotiate the TPNW and ban nuclear weapons. But they are still being ignored or dismissed by nuclear armed governments. Cities, however, cannot afford to dismiss these risks.

23) By applying the science and methodologies of these studies to cities people know or live in, responsible civic authorities, academics and campaign groups help citizens understand the nature and size of nuclear dangers and consequences. Away from the abstract theories of deterrence, this is what nuclear weapons are designed to do. This is what nuclear war looks like. In nuclear armed countries we often have to work from the bottom up and build local legislation and awareness to create pressures on federal and national decision-makers. It is to be hoped that NYC Council will facilitate similar studies for New York that could raise citizens' awareness of nuclear dangers and what is at stake.

24) TPNW entry into force will soon make it possible for the International Criminal Court (ICC) to legally recognise that any use or threatened use of nuclear weapons constitutes a crime against humanity and war crime. This would be consistent with what is already legally recognised with regard to biological, toxin and chemical weapons. In the ICC, charges and penalties fall on individuals. Nuclear weapons use would undoubtedly give rise to prosecution if there are survivors. Anyone that had assisted or enabled such a crime against humanity to be committed, including through financing weapons production, acquisition or stationing, would be considered criminally liable.

25) Many people and institutions are risk averse, especially if the consequences would affect them personally. The TPNW stigmatises nuclear weapons even when leaders are not ready to sign states up to its prohibitions. Initiatives such as 'Don't Bank on the Bomb' have already persuaded several banks to stop funding companies involved with activities that are prohibited under the TPNW.¹³ NYC Council legislation would strengthen global as well as local efforts to divest from nuclear weapons.

26) Finally, in giving support to NYC Council's initiatives Resolution 976 and INT1621-2019, I am conscious of how helpful it will be for other cities and countries, including mine, if NYC Council adopts and implements these important resolutions and decisions. Though London is in Mayors for Peace, partisan politics have dominated in recent years, making it very hard for us to get nuclear weapons risks and the TPNW meaningfully addressed in the London Assembly and Westminster Parliament. **Where New York leads, we hope London will follow.**



Dr Rebecca E. Johnson

Dated: 25 January 2020

¹¹ Alan Robock, I. Oman, G.I. Stenchikov, O.B. Toon, C. Bardeen, and R.P. Turco, "Climatic consequences of regional nuclear conflicts"; and C. Bardeen *et al.*, 'Climatic Consequences of Regional Nuclear Conflicts', 7 Atmospheric Chemistry and Physics (2007), available at <http://www.atmos-chem-phys.net/7/2003/2007>

¹² Ira Helfand, *Nuclear Famine: Two Billion People at Risk*, International Physicians for the Prevention of Nuclear War (IPPNW), Boston, December 2013.

¹³ Don't Bank on the Bomb is a project of ICAN, coordinated by Pax. See <https://www.dontbankonthebomb.com/>

Vote in Favor of Nuclear Disarmament Bills on Res. 976 and Int. 1621
New York City Council Joint Hearing of Committee on Governmental Operations and
Committee on Civil Service and Labor

Testimony by Kathleen Sullivan, PhD
Director, Hibakusha Stories
270 21st Street, Apt 3, Brooklyn, NY 11215

28 January 2020

I moved to New York City in 1999, after completing my doctoral research on nuclear weapons and nuclear power at Lancaster University in the North of England. I had been working mostly on nuclear waste issues in the UK having been involved with parliamentary expert panels and consensus conference formats exploring what to do with radioactive materials produced in reactors and for weapons. Coming from the rarified halls of academia and of the UK Parliament I found myself in 2000 working as a peace educator in New York City public schools where I was lovingly referred to as the "Nuclear Bomb Lady". For 5 years I directed the Nuclear Weapons Education and Action Project, sponsored by Educators for Social Responsibility in the very Columbia University neighborhood where the first fission experiments in the United States were conducted by Enrico Fermi. Over the years I would come to realize that the Manhattan Project was so-named due to the scientists and industrialists working on the early atom bomb in the Manhattan District. I came to learn that New York City was the place where much of the uranium was stored and later shipped to Los Alamos, New Mexico — where it was used in one atomic bomb that utterly destroyed the city of Hiroshima killing 120,000 people, mostly civilians, by the end of September 1945. Survivors from Hiroshima and Nagasaki are still dying to this day from the delayed effects of radiation related illnesses.

Working with the children of New York City was a spiritual promotion in my career. Never before have I witnessed such profound beauty and intelligence, energy and passion than in the young people of the New York City public school system. One of my former students will also submit testimony to this joint committee, Jasmine Infinity, who was a part of our SANITY students' group— SANITY standing for Students Against Nuclear Insanity for Tomorrow's Youth. The youth I worked with well understood the guns and butter argument, that what is spent on war is not spent on human needs. Many of the young people in our group lived in public housing in the Bronx. As we studied and protested together they questioned more deeply why people had to suffer for want of basic needs when the nuclear arsenal saw ever more resource allocation.

Today the Trump Administration plans to spend 1.2 trillion dollars on modernizing US nuclear weapons. What does one trillion dollars even mean? One metaphor suggests that if a person were to spend one million dollars every day since the dawn of the Common Era, that is year one for the world's most commonly used calendar, that person still would not have spent 1 trillion dollars. That is one million dollars every day for 2,020 years. That is 737,300 days spending 1 million each day. How many housing projects in our city could be modernized, cleaned up, made more livable? How many schools built? How much of our subway system fixed? How about homelessness becoming a forgotten reality? How many solutions to climate chaos could be invented and enacted? The nuclear modernization budget represents a shameful squandering of resources and intelligence. The only real benefit comes to shareholders of corporations who make their billions on instruments of omnicide that can lay waste the world.

Through the years I have continued to dedicate my life to engaging young people about the existential threats that we face, not only the threat of nuclear war by accident or by design, but the threat of global climate chaos, the latter becoming more of a daily reality. In the 1980s as a high school student growing up in the Reagan era, I really did not expect to live to adulthood. I was one of those children who had nightmares of nuclear conflagration. Knowing what I do through scholarship, advocacy and activism, the nightmares have never really left, but as a middle-aged adult in the Trump era they have returned to their technicolor vividness. How many of us would throw our heads and hands skyward should a nuclear bomb be used anywhere in the world, tipping us over the brink, wishing we had done something before it was too late? Of course, if the radioactive hellfire is

visited upon our beloved city, which is surely the target of intercontinental ballistic missiles on high alert at this very moment, we'd have no time to throw our hands in the air — the air would be on fire and we would all be carbonized before we knew what had happened.

After my tenure with Educators for Social Responsibility, I worked for the United Nations Department for Disarmament Affairs as an NGO consultant on the UN Study on Disarmament and Non-proliferation Education, under then Secretary General Kofi Annan. The idea behind the study was that young people seem to be generally concerned about the environment but less so about nuclear issues. To help reverse this trend a two-year study was undertaken by the United Nations that issued 34 recommendations for disarmament education — explicitly categorized as education *for disarmament* not education *about disarmament*. My experience with this international group of experts on education lead me to my next adventure in New York City public schools. With Robert Croonquist I co-founded Hibakusha Stories to bring living witnesses from Hiroshima and Nagasaki into the lives of New York City's children. To date more than 40,000 young New Yorkers have heard the first-hand testimonies of Hiroshima and Nagasaki.

Most everyone of these tens of thousands of students could not help but be moved by the elders who shared their memories; and reliving them brought emotion and discomfort but also a lot of love and connection between the survivors and the students. The young people of New York understand and are drawn to realness and authenticity.

On behalf of the hundreds of atomic bomb survivors and tens of thousands of students who have worked with us over the years, I commend New York City Council for the disarmament legislation before you. Particularly Council Member Daniel Dromm whose enlightened leadership has brought us to this point; and to all Council Members who have co-sponsored the legislation. My deep hope is that through the advisory committee we can develop a curriculum for the youth of New York to understand the nuclear legacy of our city and the daily risk we face to everything and everyone we love because of the existence of nuclear weapons — whether they are used intentionally or unintentionally. We could develop a gold standard lesson plan for all NYC students — an education *for disarmament* not only a history lesson of the nuclear arms race but an education about why these genocidal and omnicidal weapons must be forever abolished. The political weight of divestment from our pension fund is equally important. The first responders whose pensions are currently invested in the radioactive violence that could be projected upon them is such fallacious and mendacious thinking as to be rendered absurd.

New York City can be a shining example for our children and for our future, a counter to the madness and absurdity, by using our cultural and financial might to do the right thing. Now is the time to lead the way, thereby emboldening cities and citizens across the world to do the same.

**Vote in Favor of Nuclear Disarmament Bills on Res. [976](#) and Int. [1621](#)
New York City Council Joint Hearing of Committee on Governmental Operations and Committee
on Civil Service and Labor**

Testimony by Ira Helfand, MD of the International Physicians for the Prevention of Nuclear War
28 January 2020

Dear Committee Members,

I am submitting an article I wrote that describes the devastating global effects that would result if nuclear weapons were ever used, even in a regional exchange with a relatively 'small' number of weapons launched. We are closer to this reality than many people realize which is why the legislation on nuclear disarmament before you deserves your support, with the hoped for effect that cities across the nation and the world will follow your lead.

Climate Disruption and Global Famine: nuclear weapons impact on the environment

During the Cold War the enormous arsenals of nuclear weapons possessed by the United States and the Soviet Union were capable of catastrophic destruction on a global scale. A US National Academy of Sciences (NAS) study of the medical consequences of nuclear war concluded that, in a large scale nuclear conflict, several hundred million people would die directly and the subsequent famine would lead to the death of one to four billion people, most of the earth's population at that time.

The study highlighted a key insight: "the primary mechanisms for human fatalities would likely not be from blast effects, not from thermal radiation burns, and not from ionizing radiation, but, rather, from mass starvation."¹ Climate disruption, and the resulting disruption of food production worldwide would kill far more people than the direct effects of the nuclear explosions themselves.

With the end of the Cold War, there has been a dramatic decline in the number of nuclear warheads in the world. But the weapons remaining are still able to produce catastrophic humanitarian impacts. A 2002 study of the direct effects of a nuclear war involving post Cold War forces in the US and Russian arsenals showed that if only 300 Russian warheads got through to urban targets in the United States, 75 to 100 million people would be killed directly by the explosions, fires and radiation, and the entire economic infrastructure on which the rest of the population depended would be destroyed.² A US attack on Russian cities would produce similar results.

However, as suggested by the NAS study, these direct fatalities would constitute only a small portion of the total death toll. Recent climate studies have confirmed that even the reduced number of weapons remaining in the US and Russian arsenals can produce a nuclear winter, and they have shown that this catastrophic global cooling will persist for more than a decade. A conflict involving only those weapons that will still be allowed to the US and Russia when the New START treaty is fully implemented could

¹ Harwell M, Harwell C, 1986: "Nuclear Famine: The Indirect Effects of Nuclear War." In, Solomon F, Marston R (Eds.). The Medical Implications of Nuclear War. Washington, D.C.: National Academy Press, pp. 117-35.

² Helfand I, Forrow L, McCally M, Musil R, 2002: "Projected US Casualties and Destruction of US Medical Services From Attacks by Russian Nuclear Forces," *Medicine and Global Survival*, 7, 68-76.

inject some 150 million tons of soot into the upper atmosphere dropping temperatures around the world an average of 8°C. In the interior regions of North America and Eurasia temperatures would drop 25 to 30°C.^{3,4} In the temperate regions of the Northern Hemisphere there would be two to three years without a single day free of frost — the temperature would drop below freezing for some portion of every day. Under these conditions ecosystems would collapse and food production would halt. The vast majority of the human population would starve and it is possible we could become extinct as a species.

It would not require a full-scale nuclear war between the United States and Russia to cause catastrophic humanitarian impacts around the world. A more limited war between the nuclear superpowers, or a war between smaller nuclear powers, such as India and Pakistan, would also cause catastrophic regional effects, worldwide climate disruption, and staggering numbers of fatalities potentially threatening the survival of human civilization. These enormous global consequences of a limited regional nuclear war are less widely understood than the effects of a larger nuclear war and deserve to be considered in some detail.

In 2007, a study by Toon et al. examined the effects of a 'limited' regional nuclear war, using the example of India and Pakistan and assuming the use of only 100 Hiroshima-sized bombs, or less than 0.03% of the world's nuclear arsenal, targeted on urban areas. They found that up to 21 million people could be killed directly by the explosions, fires, and local radiation and that the conflict would loft up to 6.6 Tg (6.6 teragrams or 6.6 million metric tons) of black carbon aerosol particles into the upper troposphere.⁵

Robock et al. then calculated the effect that this injection of soot would have on global climate assuming a war in South Asia occurring in mid May. Their study employed a conservative figure of only 5 Tg of black carbon particles. They found that, "A global average surface cooling of -1.25°C persists for years, and after a decade the cooling is still -0.50°C. The temperature changes are largest over land. A cooling of several degrees occurs over large areas of North America and Eurasia, including most of the grain-growing regions." In addition the study found significant declines in global precipitation with marked decreases in rainfall in the most important temperate grain growing regions of North America and Eurasia, and a large reduction in the Asian summer monsoon.⁶

Two additional studies, one by Stenke et al, and the other by Mills et al, each using a different climate model have also examined the impact on global climate of this limited nuclear war scenario and they have both found comparable effects^{7,8}

³ Robock A, Oman L, Stenchikov G, 2007: " Nuclear winter revisited with a modern climate model and current nuclear arsenals: Still catastrophic consequences," *J. Geophys. Res.*,112, D13107

⁴ Toon O, Robock A, Turco R, 2008: "Environmental consequences of nuclear war," *Physics Today*, 61, No. 12, 37-42

⁵ Toon O, Turco R, Robock A, Bardeen C, Oman L, Stenchikov G, 2007: " Atmospheric effects and societal consequences of regional scale nuclear conflicts and acts of individual nuclear terrorism," *Atm. Chem. Phys.*, 7, 1973-2002.

⁶ Robock A, Oman L, Stenchikov G, Toon O, Bardeen C, Turco R, 2007a: "Climatic consequences of regional nuclear conflicts," *Atm. Chem. Phys.*, 7, 2003-2012.

⁷ <http://www.atmos-chem-phys-discuss.net/13/12089/2013/acpd-13-12089-2013.html>

⁸ Mills M, Toon O, Taylro J, Robock A, 2014: "Multi-decadal global cooling and unprecedented ozone loss following a regional nuclear conflict," *Earth's Future*, 2, 161-176

A number of studies have subsequently attempted to estimate the impact this climate change would have on food production.

Ozdogan et al⁹ examined the impact on corn and soybean production in the US Corn Belt where more than 70% of US grain is produced. The calculated change in crop yield was based on the decline in precipitation, solar radiation, growing season length, and average monthly temperature predicted in Robock's study.

The calculations in this study are probably conservative, as the study did not consider two other environmental factors, which would be expected to produce a further significant decline in yield. It did not factor in the increase in UV light secondary to ozone depletion, and, perhaps more importantly, it did not consider daily temperature extremes, which may lead to complete crop failure.

Despite this conservative bias, the study shows very significant declines in both corn and soybean production. Averaged over 10 years, corn production would decline by 10% at all four sites. But there would be a great deal of variation from year to year, and losses would be most severe in year 5, averaging more than 20%. For soybeans the decline in production would be about 7%. Again the losses would be most severe in year 5, averaging more than 20%.

In a separate study, Xia and Robock¹⁰ examined the decline in Chinese middle season rice production in response to this 5 Tg event. This study used a different crop model, which also considered changes in monthly precipitation, solar radiation and temperature. Like Ozdogan's study it did not consider the effect of UV light increases or daily temperature extremes, or the possible decline in available fertilizer, pesticide and gasoline. Again, despite this conservative bias, the study showed a significant decline in Chinese middle season rice production. Averaged over 10 years, the shortfall would be 15.1 million Metric tons per year, about 12% of the total crop. In the case of Chinese rice production the decline would be most severe in the first 3 years.

The impact on rice production was found to vary widely by province. In some areas in the South and East of China, production would actually rise. For example, in Hainan rice yield would increase by 5 to 15% per year.

In other areas to the North and West the decline would be much more severe than the national average. In heavily populated Sichuan the decline would average about 50% over the ten year period and in the first two years after the war it would be greater than 60%, rising to a 90% decrease in the 3rd year. These regional variations would, at the very least, cause severe distribution problems.

In a follow up 2013 study, Xia, Robock and their colleagues looked at the impact of the climate change following limited nuclear war on rice, maize and, wheat production in China.¹¹ For this study they used

⁹ Ozdogan, M, Robock A, and Kucharik C, 2013: "Consequences of a regional nuclear conflict for crop production in the Midwestern United States," *Climatic Change*, **116**, 373-387

¹⁰ Xia L, Robock A, 2013: "Impacts of a nuclear war in South Asia on rice production in mainland China," *Climatic Change*, **116**, 357-372,

¹¹ Xia L, Robock A, Mills, Stenke, Helfand I, 2015: "Decadal reduction of Chinese agriculture after a regional nuclear wa," *Earth's Future*, **3**, 37-48,

the 2007 climate change projections by Robock et al that were used in the earlier studies of US maize and Chinese rice production, and also the subsequent climate projections of Stenke et al and Mills et al. There were some variations in the crop outputs found using the different climate models, but they all showed significant declines in crop size. For maize the average decline was about 16% over a full decade. For middle season rice the projected decline was somewhat larger than in their earlier estimates: 20% for the first 5 years and 17% over the course of 10 years. The most disturbing new projection related to the Chinese winter wheat crop which is usually just a little bit smaller than middle season rice crop. The effect on winter wheat was much more severe, averaging about 39% for the first 5 years and 31% for a full decade. In the first year, the projected decline in winter wheat was more than 50%.

Declines in food production of the magnitude suggested by these studies would have a major impact on human nutrition. As of September 2016 the UN Food and Agriculture Organization estimated that world grain reserves would be 664 million metric tons in 2017. Expressed as days of consumption, this reserve would last for only 92 days.¹² Furthermore, the UN Food and Agriculture Organization estimates that in 2016 there were 795 million people in the world who already suffer from malnutrition.¹³

Given this precarious situation, even small further declines in food production could have major consequences. The large and protracted declines in agricultural output predicted by Ozdogan and Xia are unprecedented in modern times, and the full extent of their impact on human nutrition are difficult to predict.

Normally a decline in agricultural production affects food consumption by raising the cost of food; the decline in “accessible” food, the amount of food that people can afford to buy, is much greater than the decline in “available” food, the actual agricultural output. The impact of rising food prices is, of course, felt disproportionately by people who are already malnourished precisely because they cannot, at baseline prices, afford to buy enough food.

At the time of the great Bengal famine of 1943, during which three million people died, food production was only 5% less than it had been on average over the preceding five years, and it was actually 13% higher than it had been in 1941 when there was not a famine. But in 1943, after the Japanese occupation of Burma, which had historically exported grain to Bengal, the decline in food production was coupled with panic hoarding and the price of rice increased nearly five fold, making food unaffordable to large numbers of people.¹⁴ These two factors, hoarding and the severe increase in rice prices, caused an effective inaccessibility of food far more severe than the actual shortfall in production.

We would have to expect panic on a far greater scale following a nuclear war even if it were a ‘limited’ regional war, especially as it became clear that there would be significant, sustained agricultural shortfalls over an extended period.

¹² <http://www.fao.org/worldfoodsituation/csdb/en/>

¹³ <https://www.wfp.org/hunger/stats>

¹⁴ Sen A, Poverty and famines. Oxford: Oxford University Press. 1981.

It is probable that there would be hoarding on an international scale as food exporting nations suspended exports in order to assure adequate food supplies for their own populations. In the last decade and a half there have been a number of examples of nations banning grain exports. In September 2002, Canada, faced with a sharp decline in wheat production because of drought conditions, suspended wheat exports for a year. The next year the European Union took similar action, as did Russia. And in August 2004 Vietnam indicated it would not export rice until the following spring.¹⁵ India banned rice exports in November 2007, which, followed by restrictions on rice export in Vietnam, Egypt, and China in January 2008, contributed to historic increases in world rice prices. In 2010, Russia, responding to the severe drought conditions that year again suspended grain exports.¹⁶ In the event of a regional nuclear war, the grain exporting states would be faced with major crop losses and the prospect of bad harvests for the next several years. It is probable that they would take similar action, and refuse to export whatever grain surplus they might have, retaining it instead as a domestic reserve. It is also probable that there would be widespread speculation on agricultural markets.

Even if we do not take into account the way that rising food prices exacerbate the effects of a fall in food production, the declines in available food predicted by Ozdogan and Xia would be devastating.

For the 795 million people who are currently malnourished, the majority of their caloric intake is derived from grain. For example, in Bangladesh the figure is about 78%. We cannot know with certainty that a 10-20% decline in grain production would translate directly into a 10-20% decline in grain consumption for all 795 million. For example, some of the malnourished are subsistence farmers who live in areas where grain production might not decline. But we do know that the chronically malnourished cannot survive a significant, sustained further decline in their caloric intake. With a baseline consumption of 1750 calories per day, even a 10% decline would lead to an additional deficit of 175 calories per day. While many of the malnourished might survive the first year, it is realistic to fear that they would not survive if these conditions persisted for a decade.

The agricultural disruption caused by a limited nuclear war would also pose a threat to the several hundred million people who enjoy adequate nutrition at this time, but who live in countries that are dependent on food imports. The nations of North Africa, home to more than 150 million, people import more than 45% of their food.¹⁷ Malaysia, South Korea, Japan and Taiwan, as well as a number of countries in the Middle East, import 50% or more of their grain.¹⁸ The anticipated suspension of exports from grain growing countries might cause severe effects on nutrition in all of these countries. The wealthier among them might initially be able to obtain grain by bidding up the price on international markets, but as the extent and duration of the crop losses became clear, exporting countries would probably tighten their bans on exports threatening the food supplies of all these importing countries.

¹⁵ Brown L, 2010: *Outgrowing the Earth*. New York: WW Norton & Co.

¹⁶ Khrennikov I, 2010: "Medvedev orders review of Russian grain export ban at harvest end." <http://www.businessweek.com/news/2010-10-04/medvedev-orders-review-of-russia-grain-export-ban-at-harvest-end.html>.

¹⁷ www.ers.usda.gov/publications/gfa16/GFA16CountryTablesNAfrca.xls.

¹⁸ www.iucn.org/themes/wani/eatlas/html/gm19.html.

In addition, there are some 1 billion people in China who have not shared in the economic growth of the last three decades and would have great difficulty buying food given the major short falls in Chinese food production that are projected.

Combined with the 795 million people who are currently malnourished, and the populations of food importing countries, this would place the number of people potentially threatened by famine at well over two billion.

Two other issues need to be considered as well. First, there is a very high likelihood that famine on this scale would lead to major epidemics of infectious diseases. The prolonged cooling and resultant famine in 536-545 AD was accompanied by a major outbreak of plague which developed over the next half century into a global pandemic.¹⁹ The famine of 1816 triggered an epidemic of typhus in Ireland that spread to much of Europe²⁰ and the famine conditions in India that year led to an outbreak of cholera that has been implicated in the first global cholera pandemic.²¹ The well studied Great Bengal Famine of 1943 was associated with major local epidemics of cholera, malaria, smallpox, and dysentery.²²

Despite the advances in medical technology of the last half century, a global famine on the scale anticipated would provide the ideal breeding ground for epidemics involving any or all of these illnesses. In particular, the vast megacities of the developing world, crowded, and often lacking adequate sanitation in the best of times, would almost certainly see major outbreaks of infectious diseases; and illnesses, like plague, which have not been prevalent in recent years might again become major health threats.

Finally we need to consider the immense potential for war and civil conflict that would be created by famine on this scale. Within nations where famine is widespread there would almost certainly be food riots, and competition for limited food resources might well exacerbate ethnic and regional animosities. Among nations, armed conflict is a very real possibility as states dependent on imports attempt to maintain access to food supplies.

It is impossible to estimate the additional global death toll from disease and further warfare that this 'limited regional' nuclear war might cause, but, given the world wide scope of the climate effects, the dead from these causes might well number in the hundreds of millions.

The newly generated data on the decline in agricultural production that would follow a limited, regional nuclear war in South Asia support the concern that more than two billion people would be in danger of

¹⁹ Keys D. Catastrophe. London : Century. 1999.

²⁰ Stommel H. Volcano weather: The story of 1816, the year without a summer. Newport, Rhode Island: Seven Seas Press. 1983.

²¹ Stommel H, Stommel E, 1979: " The year without a summer,". Scientific American. 240:176-1869

²² Sen. op.cit.

starvation. Epidemic disease and further conflict spawned by such a famine would put additional hundreds of millions at risk. Death on this scale would not mean the extinction of our species, but it would almost certainly mean the end of modern industrial civilization. No civilization in human history has withstood a shock of this magnitude and there is no reason to expect that ours would either.

Testimony to the New York City Council Hearing on Resolution 0976 – 2019 and INT 1621 – 2019, January 28, 2019.

Submitted by Betty A. Reardon, Founding Director Emeritus of the International Institute on Peace Education and the Global Campaign for Peace Education

First, I thank the City Council of New York for this hearing, a clear demonstration that some of our governmental bodies still attend to the concerns of the electorate and listen directly citizens. This demonstration stands as a source of hope for our younger citizens. It is for their future that I urge you to adopt the Resolution 0976 and pass INT 1621.

I offer this testimony as a teacher, a classroom teacher who was taught the skills of the profession by the 13-16 olds who daily challenged my capacities to provide them the foundations of an education for responsible citizenship. It was with less urgency than today's youngsters who now challenge the adults of the world to exercise that same responsibility. But it was evident that they hoped for a just world and were willing to work for it, as are youth activists now challenging adult society. All of us, whether teachers and parents or not, have a responsibility to do all that is possible in our power to meet their challenge and free their future, held hostage to the greed and power of future blind leadership, feigning deafness to their rightful demands.

We know that there are two main interrelated areas of actions to free youth's future from the greed and irresponsible power now leading us to the "unparalleled catastrophe," invoked by Einstein in calling us to think differently about nuclear weapons, so exponentially more lethal than any others in our varied and extensive arsenals. As noted in other

testimony, these two areas, of action, integral one to the other are: Sustained, concerted confrontation of climate change, a long range and multifaceted task; And the abolition of nuclear weapons, a more directly focused task, requiring first and foremost acknowledging the truths about these weapons pointed out in today's testimonies.

Nuclear weapons are omnicidal, threatening the viability of our planet. They are immoral, counter to the ethical standards of most philosophies and religions. And they are illegal under existing international law as noted in the ICJ Opinion and the nuclear ban treaty. The resolution and bill before you today are acknowledgment of these "inconvenient truths," and as such, a step toward the validation of youth's right to a future.

Others are testifying to the lethality and illegality of nuclear weapons. I want to use my time to speak to their immorality. Not the immorality cited by virtually every religious faith in the US in statements issued in the 1980s, or in recent compelling pronouncements by Pope Francis; I speak rather of the moral context in which we now raise the young, the demoralizing social/emotional climate and the lessons in social ethics arising from the possession and potential use of these weapons. The young whom we hope to educate to construct alternatives to the present nuclear armed security system are enveloped in the cynicism and fear that pervades and sustains that system. We see it in their attitudes and behaviors.

Every teenager who "acts out" or has trouble with the law is not suffering from nuclear anxiety. But all our young are coming of age in a situation with few social or political constraints on behaviors that place self-interest over any commitment to the welfare of the larger community, and in which use of the weapons becomes ever more possible. That situation is not only detrimental to their own human development, but

to society in general and to the possibilities of an adequate global response to the two existential threats. Adequate responses require multi-sectoral, global solidarity, i.e. caring for each other and the future of Earth. The local and municipal actions such as those you now consider and taken in other cities manifest such solidarity and are essential to the requisite global responses. Essential also are the questions implied in the attitudes and behaviors of many of our young who so blatantly resist and reject authority, be it in the family, the schools or the community and public spaces.

Among the kinds of questions some of our young pose to authorities who have not won their confidence or respect are: “What quality of security does your present national security system and its weapons of mass destruction provide for our generation? Who or what is being made secure?”

“How can you expect us to care for and respect others when our country is prepared to “wipe millions off the face of the Earth” in the name of that national security that manifests little care, not only for our future, but for our daily wellbeing?” And some clearly are asking, “Why should we delay any available and immediate satisfaction to prepare for a future so uncertain, not only for us, but for the world itself? How can we trust that government is ‘of, for and by the people,’ when for 75 years it has let all citizens remain hostage to these weapons?”

Of course, you have often heard such questions, but I ask you to listen to them now with a focus on probable and preferable futures for this planet, as you deliberate these measures toward making youth’s future both possible and of a quality worth preparing for.

Give, some thought as well to the millions of youth throughout the world who challenge rather than simply reject authority. What they reject is the cynicism and fear of adult society, challenging us, as they

demonstrate by the thousands, “If our governments and leaders do not have the foresight, courage and conscience to make the changes that might give us a chance at life, we, ourselves will take the risks that knowledge dictates to conscience. We will do it in coordination and cooperation with other youth around the world, even those of nations we have been told so threaten us that we must continue to maintain these weapons. It is not other peoples, but rather maintaining these weapons and the failure of leadership to address the truth that threatens us.” They speak truth to power. I salute any teachers who may have helped them to learn to think so clearly that courageous action must be the response. Let us all listen and manifest similar courage to face truth and act accordingly.

We live in a time when many political decisions are made within a mindset that perceives truth, not only as inconvenient, but as irrelevant, and sees facts as tools to be manufactured toward selfish, shortsighted ends. It is also a time of courage and responsible citizenship among young activists and the myriad numbers of civil society who verified the truths of nuclear weapons (blessings also on their teachers) and facilitated the nuclear weapons ban treaty. Indeed, they initiated the process that lead this hearing. With them I celebrate that City Council members are here today to consider truth and weigh facts, as hopeful a sign as is the goal of the hearings. It is a powerful lesson for the youth of our city.

During the early years of the 1980s when nuclear weapons and their consequences were part of the popular discourse, teachers were at pains to keep children from the destructive fear that for some had produced nightmares. It was recounted that one little boy sought to assure his classmates that it would be OK, because his parents were doing something about it. May there be a day when children in our city schools can say. “It will be OK, because our City Council did something about it.”

January 28th NYC Council Public, Re:resolution. No. 0976 and INT. No.1621

I am requesting that the NYC Comptroller divest NYC's public pension funds from any companies involved in the production and maintenance of nuclear weapons and to reaffirm NYC as a Nuclear Weapons Free Zone.

Besides being a U.S. citizen and resident of New York City.

I am also a U.S. Army veteran who served in Vietnam from 1969 to 1970.

While in Vietnam I was exposed to Agent Orange and currently I am being treated for Parkinson's disease. (Agent Orange is a known cause of Parkinson's)

So you may understand why I believe it is government's obligation to support and work for the wellbeing of all people and not support the proliferation of Nuclear weapons or other weapons of mass destruction including chemical weapons.

Please support Resolution. No. 0976 and INT No. 1621

Frank Toner

Billings Street

Bellerose Manor, N.Y. 11427

Statement for NY Council Res.976 and INT 1621

Dear New York City Council,

In these times of uncertainty and upheaval in many parts of the world, it is vitally important that earnest and concerted efforts are made to resolve problems through dialogue and diplomacy. We welcome such initiative of the NY City Council to abolish nuclear weapons. Such resolutions send a powerful message and recognition of the urgency of putting an end to the threat that these weapons pose to humanity.

His Holiness the Dalai Lama has for decades, advocated non proliferation of nuclear weapons and eventual elimination, due to its imminent danger to humanity.

We hope to see vigorous efforts being made to achieve a world without nuclear weapons.

Respectfully,

Ngodup Tsering
Representative of His Holiness the Dalai Lama to North America

Office of Tibet,
1228 16th Street, NW
Washington, DC 20036
Ngodup Tsering
<rep.us@tibet.net>

January 28th NYC Council Public, Re: Res. 0976 and INT. 1621

Dear Sir/Madam:

Please consider this Testimony -

The military forces (FARCES) continue to ramp up their expenditures at a time when less than 3% could CURE world hunger!

This madness must be stopped now.

Furthermore, doing this can also lead to better health and lower overall expenses...Please do review the primer below which can also impact climate chaos and plastic oceanic plagues.

Thank you !

https://1drv.ms/w/s!AtF-bp5-5OWlp21spn4fhO_TVPZw?e=iw8IO9

--

"My friends, love is better than anger. Hope is better than fear. Optimism is better than despair. So let us be loving, hopeful and optimistic. And we'll change the world." - Jack Layton

James Mansfield

<admin@walletswellness.com>

Resolution 976 & Int 1621

I am Jamie Bauer, I'm a native New Yorker, and I retired from New York City Transit in 2014, after 33 years of service. I'm a Civil Engineer and an Urban Planner; I purposefully picked a socially responsible career that allowed me to serve the public and the city that I love.

There is nothing that makes a retiree happier than getting that NYCERS check the first of every month. I live on my pension, and when inflation eats away at it I will supplement it with the savings from my 401K and 457.

But unlike my 401K and 457, which are invested in socially responsible funds, I have no control over the money in the pension system. Money that I contributed. There is no way that I would invest my money in nuclear weapons production, and I implore you to pass Res 976 so that NYC will divest public employee pension funds from companies involved in nuclear weapons production and maintenance.

Thank you.

Jamie Bauer
Jane Street
New York, NY 10014
bauwau2u@gmail.com

Hearing on Res No. 976 and Int. No. 1621

Hearing Participants:

When my daughter was only 5 years old, I used to stand on the street corner at 83rd St. in Brooklyn with a card-table holding educational info on SALT I and II Treaties, encouraging citizens to sign support for the U.S.-U.N. Treaties, while she played with her little dolls and toys. That was over 33 years ago, and once again I must voice my support for the Resolutions 976 and 1621. Recently, at a friend's funeral memorial, I met a wonderful member of [New York Campaign to Abolish Nuclear Weapons \(NYCAN\)](#), and immediately signed on and have given my support, as my daughter and grandson are truly at risk given the reckless, dangerous escalation in Nuclear Expansion funded liberally by the current administration in Washington, DC.

Keep our children, and grandchildren and our beautiful city of NY free from the risks of nuclear war and support Nuclear Disarmament and the Treaty on the Prohibition of Nuclear Weapons. Our lives and health depend on your vote!!

Respectfully,

Eleanor Ommani
Bayridge Parkway, Brooklyn, NY 11209
<ellieomm@optonline.net>

NYC Council Res. 976 and INT 1621

To: NYC Council
From: Father Raymond P. Roden, PsyD
Pastor, Our Lady of Sorrows RC Church
Corona, NY 11368
Date: January 27, 2020
Re: NYC Council Res. 976 and INT 1621

From the diaries of Dorothy Day (*The Duty of Delight*, pp 201-202). June, 1955. Following Catholic Worker Civil Disobedience against a statewide compulsory nuclear Civil Defense drill. Quoting Catholic philosopher Jacques Maritain: **"We are turning towards people, to speak and act among them, on the temporal plane, because, by our faith, by our baptism, by our confirmation, tiny as we are, we have the vocation of infusing into the world, wheresoever we are, the sap and savor of Christianity."**

An article the next day in the NEW YORK MIRROR described the day this way:

As 679 warning sirens wailed, millions of New Yorkers took shelter in the city's greatest air raid drill--- an exercise marred by only 29 arrests and, in spots, by errors, lethargy and defiance, but hailed nonetheless as a "complete success" by authorities.

An imaginary H-bomb fell at the corner of North 7th Street and Kent Avenue in Brooklyn, "wiping out" vast areas of the city and claiming 2,991,185 "fatalities"! Another 1,776,899 men, women and children were listed as "injured" as imaginary flames roared through the area. Robert Condon, City Civil Defense Director, called the drill "a complete success as far as public reaction goes".

. . .The drills became an annual event, and with them, the protests,

<frayroden@gmail.com>

NEW JERSEY GENERAL ASSEMBLY RESOLUTION 230 [2019]

Bill Title: Urges federal government to ratify Treaty on the Prohibition of Nuclear Weapons and pursue other measures to reduce danger of nuclear war

Zia Mian, Alan Robock, Frank von Hippel, Sharon Weiner and Andrew Zwicker

On May 23rd [2019], the New Jersey General Assembly approved Resolution 230, urging the federal government to pursue a broad range of measures to reduce the danger of nuclear war and to join the United Nations Treaty on the Prohibition of Nuclear Weapons. California and some American cities have already adopted similar resolutions to call for action in Washington on nuclear weapons. Here's why.

It has been understood since the U.S. destroyed Hiroshima and Nagasaki at the end of World War II that the explosion of a single nuclear weapon can destroy an entire city. One modern U.S. warhead exploding over a large city would on average kill half a million people.

The U.S. has about 4,000 warheads in its operational stockpile, including about 1,000 ready to launch within minutes. Plans include options to use these nuclear weapons first in a conflict. President Barack Obama wanted to declare a no-first-use policy but was told that it was a bad time.

Scientific work has shown that, beyond the already catastrophic scale of death and destruction from blast, fire and radiation at the target, the environmental effects from the soot produced by cities set ablaze by nuclear attack could have global effects lasting for more than a decade. These include destruction of the ozone layer and growing seasons shortened by late and early frosts. Large-scale nuclear war could destroy modern civilization and condemn billions to starvation and death.

Most people assume that if something hasn't happened, it won't happen. But that is psychology, not reality. Some of those who have spent their careers managing U.S. nuclear weapons believe that we have been extraordinarily lucky that nuclear weapons have not been used since Hiroshima and Nagasaki.

The nuclear age has been marked by many crises, close calls, nuclear threats, and faulty warning and command-and-control systems. The U.S. and Russian hair-trigger launch posture in combination with fear, misperception, accident or false warning could trigger a nuclear war.

The future of civilization depends on the unpredictable psychologies of the people commanding the U.S., Russian, United Kingdom, French, Chinese, Israeli, Indian, Pakistani and North Korean nuclear weapons.

In the U.S. system, the president has sole nuclear launch authority. It would take only a moment to issue the order, and a few minutes later, the nuclear missiles would fly.

Hard-won nuclear arms control agreements are being dismantled. In 2002, President George W. Bush quit the 30-year-old ABM treaty that limited ballistic missile defenses in order to avoid a futile and dangerous offense-defense arms race. Last month, the Trump Administration gave six months' notice that the U.S. will exit the 30-year old Intermediate-range Nuclear Forces Treaty, which eliminated thousands of medium and intermediate-range land-based nuclear missiles.

The last and most important nuclear-arms-control treaty is New START, which limits the long-range missiles and warheads with which Russia and the U.S. can attack each other and allows rigorous on-site inspections to verify those limits. It will expire in 2021. It could be extended for an additional five years by executive agreement but the Trump Administration has not been interested in discussing that option.

The future looks bleak as the U.S. is currently in the beginning stages of a plan to modernize its entire nuclear arsenal. There are to be new long-range land-based nuclear missiles, new ballistic-missile submarines, new bombers and air-launched cruise missiles, modernized warheads and an upgraded nuclear weapons production infrastructure. The Trump Administration is building smaller nuclear warheads that will lower the threshold for use.

This plan is scheduled to be completed in the 2040s. Over these coming 30 years, the cost of modernization, maintenance and operation of these weapons is expected to be at least \$1.7 trillion.

Once completed, these programs will ensure nuclear weapons remain at the center of U.S. national security policy for the rest of the century. Most of these programs are just starting, however, so there is time to reconsider before much more money is spent.

It is important to remember that the U.S. is bound by the 1970 Nuclear Nonproliferation Treaty to work in "good faith" for nuclear disarmament and to achieve this goal. Assembly Resolution 230 specifically calls on the U.S. to "actively pursue a verifiable agreement among nuclear-armed states to eliminate their nuclear arsenals." The U.S. could make an effort to start such talks.

One new road to the goal of ending the nuclear danger was created in July 2017 at the United Nations, when 122 countries agreed to a treaty on the prohibition of nuclear weapons. The new treaty has so far been signed by 70 countries. It offers a set of principles, commitments, and mechanisms for eliminating nuclear weapons. The U.S. has been opposed.

Assembly Resolution 230 seeks to shine a bright light on the need for the United States to pursue alternatives to nuclear modernization and using nuclear weapons first. It also calls for supporting the new prohibition treaty. By such actions, the United States could begin to pursue a less dangerous future and help the effort to free the world from nuclear weapons.

About the authors

Zia Mian is co-director of Princeton University's Program on Science and Global Security.

Alan Robock is distinguished professor in Environmental Sciences at Rutgers University.

Frank von Hippel is emeritus professor in Princeton University's Woodrow Wilson School of Public and International Affairs.

Sharon Weiner is a visiting scholar at Princeton University's Program on Science and Global Security and has worked in Congress, the Pentagon and the White House.

Andrew Zwicker is a member of the state Assembly, chairman of its Science, Innovation, and Technology Committee and head of the Science Education Department at Princeton University's Plasma Physics Laboratory.

This article was published in the *NJ Star Ledger*, on 26 May 2019

<https://www.nj.com/opinion/2019/05/lets-not-spend-17-trillion-on-our-nukes-a-group-of-nj-professors-say-lets-get-rid-of-them-and-the-threat-of-a-catastrophic-war.html>

SUSAN SOUTHARD, MFA
P. O. Box 2264 • Southern Pines, NC 28388
Tel. 480-897-6711
Email: susansouthard@cox.net
www.susansouthard.com

January 25, 2020

Members of the Committee on Governmental
Operations and Committee on Civil Service and Labor
New York City Council
Via email: hearings@council.nyc.gov

Dear Council and Committee members,

I am writing to add my voice in strong support of the visionary RES 0976-2019 on nuclear disarmament and INT 1621-2019 to create a nuclear disarmament and nuclear weapons-free advisory committee.

I am the author of *Nagasaki: Life After Nuclear War*, which tells the stories of five survivors of the 1945 nuclear attack on the city of Nagasaki, and the enduring impact of nuclear war on them and the entire city over the next 70 years. *Nagasaki* received the Dayton Literary Peace Prize and the J. Anthony Lukas Book Prize, sponsored by the Columbia School of Journalism and Harvard University's Nieman Foundation for Journalism. *Nagasaki* was also named a best book of the year by *The Washington Post*, *The Economist*, and the American Library Association.

As an American journalist who spent 12 years interviewing Nagasaki survivors, physicians, and atomic bomb specialists; conducting research; and writing *Nagasaki*, since the book was published in 2015, I have spoken before the United Nations and at international disarmament conferences, universities, and public forums across the United States and abroad, telling the true and often unknown story of the humanitarian impact of nuclear weapons.

I am also a former resident of New York City.

Now, the survivors of Nagasaki and Hiroshima are aging, and their voices are slowly disappearing. They are the only people in history who have experienced nuclear warfare, and their message is urgently important to be heard as part of your efforts to remarkable anti-nuclear efforts in New York City.

For many people across the world, the historical image of the atomic bombings of Japan was—and still is—a mushroom cloud rising over Hiroshima or Nagasaki. These nuclear attacks are seen as abstract events of the past. But for *hibakusha*—atomic bomb survivors—of those cities, the war did not end in August 1945; for them, even now, the war is not yet over.

The sheer magnitude of those nuclear explosions, along with the incomprehensible number of people killed and injured, make it difficult to grasp what the people of Nagasaki and Hiroshima experienced. The explosive power of a single bomb crushed their homes, offices, schools, and hospitals, killing and trapping family members, friends, coworkers, and neighbors for miles. The force of the blast caused people's eyeballs to pop out of their sockets. The unimaginable heat released by the bombs melted iron, steel, and human skin—and caused fires to break out across the cities, resulting in conflagrations that burned people alive.

Within weeks of the bombing, adults and children began experiencing mysterious and excruciating symptoms: vomiting, fever, dizziness, bleeding gums, and hair loss. Purple spots began appearing all over their bodies—the effects of their high-dose, whole-body radiation exposure at the moment of the blast. Many died in agonizing pain within a week of the appearance of their first symptoms.

Over the next nine months, pregnant women whose fetuses had been exposed in utero suffered spontaneous abortions, stillbirths, and infant deaths—and many of the babies who survived birth developed physical and

mental disabilities. Over the next few years, inside crude huts in the atomic ash, people cared for their injured, irradiated, and often dying loved ones even as they themselves were injured or ill. For many, the extreme psychological anguish from the instantaneous disappearance of their city and the loss of entire families and communities never lifted. Suicides were common.

Three years after the bombing, leukemia and other cancer rates among *hibakusha* spiked, wreaking new terror among survivors. For decades, expectant parents who had been exposed to the bombs' radiation were petrified of the potential genetic effects on their newborn infants. Many hovered over their children for years, afraid that each cough or stomach ache could lead to severe illness or death. Even today, radiation scientists are actively studying second and third generation *hibakusha* for genetic effects potentially passed down to them from their parents and grandparents, reminding us how much we *still* don't understand about the insidious nature of radiation exposure to the human body.

The world's nuclear-armed nations insist that nuclear weapons exist as a deterrent to war—an irony that is not lost on *hibakusha*, who find it absurd and angering that nuclear weapons are framed as instruments of peace.

On the morning of August 9, 1945, sixteen-year-old Taniguchi Sumiteru was delivering mail on his bicycle in the northwestern corner of the city, over a mile from the hypocenter. The tremendous force and searing heat of the bomb's blast rushed at him from behind. He was blown off his bicycle and slammed face-down onto the road. He did not know yet that his entire back was burned off.

Taniguchi should have never survived, but he did, lying on his stomach for three years and seven months before he could sit, stand, and eventually walk. Even in his late eighties, he seethed when he heard arguments that nuclear weapons keep the peace. For Taniguchi, always drained from the physical pain he endured each day, there was only one meaning for the word "peace," and it did not include nuclear weapons. "The atomic bomb," he would say quietly, "is a destroyer of peace."

Whether by military order, accident, or an act of terrorism, and with immensely more powerful nuclear weapons today, we are now at extremely high risk for far worse humanitarian and environmental nuclear disasters than Nagasaki and Hiroshima. The only way to prevent such cataclysmic annihilation is the complete elimination of all nuclear weapons and the establishment of a new era without these instruments of mass terror positioned throughout the world. No other measure can achieve this goal.

In memory of the hundreds of thousands who died 71 years ago and in the years that followed, and the countless more *hibakusha* who faced the terrors of post-nuclear survival, may their courage, strength, and perseverance infuse us with these same qualities so that every nation finds within itself the courage to eliminate nuclear weapons at home and advocate for this mission across the globe.

On behalf of peace and dignity for people and all life throughout the world, I commend you for your creation of RES 976 and INT 1621. This is historic legislation and I, in my strongest voice possible, ask you to pass these measures, not only for your beautiful city, but to lead the way for other cities across the United States and the world to unequivocally reject the use or possession of nuclear weapons by anyone or any nation, under any circumstances.

In honor of Mr. Taniguchi and countless more *hibakusha*, past and present, who have fervently fought for over seven decades to ensure that Nagasaki is the last atomic-bombed city in history, I send you my sincere thanks for your strong leadership in confronting and taking action against the lie of nuclear weapons security and toward a nuclear-free world.

Sincerely,

Susan Southard
Author/Lecturer | *Nagasaki: Life After Nuclear War*
www.susansouthard.com | susansouthard@cox.net



**TESTIMONY OF THE NEIGHBORHOOD DEFENDER SERVICE
OF HARLEM**

before the

New York City Council Committee on Hospitals

IN RELATION TO

OVERSIGHT - PRENATAL CARE IN NYC HOSPITALS

by

**ZAINAB AKBAR
MANAGING ATTORNEY
FAMILY DEFENSE PRACTICE**

January 21, 2020

Testimony of Zainab Akbar

I am Zainab Akbar, the Managing Attorney of the Family Defense Practice at the Neighborhood Defender Service of Harlem (NDS). NDS is a community-based defender office that provides high-quality legal services to residents of Northern Manhattan and a social justice leader. In 1990, NDS created a new model for a community-based, collaborative, client-centered approach to representing clients that has led to improvement of defense services throughout New York State and the rest of the country. Since 1990, NDS has grown from a pilot project of the Vera Institute of Justice into an independent, full-service legal and social service provider. We remain committed to a broad approach that addresses the social justice issues affecting our clients, their families and their communities.

In 2014, NDS introduced the Family Defense Practice. The Family Defense Practice exclusively represents parents from Northern Manhattan in abuse and neglect proceedings in Family Court. NDS' community-based, collaborative, client-centered model has served our clients well in Family Court. NDS should serve as a model office as New York State seeks to improve parental representation across the State. NDS' Family Defense Practice has represented thousands of parents from Northern Manhattan, many of whom come to court within a few days of having given birth.

I want to address what it means for our clients to have access to pre-natal care. When I say "access," I don't mean whether or not our clients can physically walk into a hospital or clinic and been seen by medical professionals. True access, particularly for pregnant people who might already otherwise feel vulnerable as they move through the experience of pregnancy, must mean that pregnant people feel confident and safe that they are making the best decisions for themselves and their families when they walk into a hospital or clinic seeking pre-natal care. This committee should consider the following: Who has access and why? Who does not have access and why not? What barriers exist for some populations to truly have access to pre-natal care? How does the close relationship between ACS and public hospitals impact true access to pre-natal care?

Trust between a client or patient and their health care provider is the cornerstone of quality, ethical, and effective care. Across professions, individual codes of ethics mention forming a trusting therapeutic alliance, with an emphasis on privacy and confidentiality, as a major tenet of ethical practice. This is true for Social Workers¹, Psychologists², General Medical Practitioners³ and Ob-Gyns⁴. Reported trust between patients and their

¹ Revised Code of Ethics, National Association of Social Workers (2017), *available at* <https://www.socialworkers.org/about/ethics/code-of-ethics/code-of-ethics-english>

² Ethical Principles of Psychologists and Code of Conduct, American Psychological Association (2017), *available at* <https://www.apa.org/ethics/code/>

³ Code of Medical Ethics, American Medical Association, *available at* <https://www.ama-assn.org/delivering-care/ethics/code-medical-ethics-overview>

⁴ Code of Professional Ethics, American College of Obstetricians and Gynecologists, *available at* <https://www.acog.org/About-ACOG/ACOG-Departments/Committees-and-Councils/Volunteer-Agreement/Code-of-Professional-Ethics-of-the-American-College-of-Obstetricians-and-Gynecologists?IsMobileSet=false>

health care provider is a reliable predictor of everything from willingness to engage in and continue treatment⁵, to continuity of provider and medication compliance⁶, to likelihood of engaging in recommended health behaviors⁷, to getting a flu shot⁸ or vaccinating children for measles⁹. A simple Google search shows article after article recommending that one of the first priorities to ensure a healthy pregnancy and baby is finding a provider that can be trusted. In contrast, lack of trust in a provider results in lower rates of care-seeking, less access to preventive services, and worse surgical treatment outcomes,¹⁰ especially for pregnant patients who are worried about contact with ACS and removal of their children. Historically rooted mistrust of health care institutions by members of marginalized communities, specifically Black¹¹, Latinx¹², Trans¹³, and Indigenous¹⁴ communities, has led to an epidemic of poor health outcomes.

New York City's Health and Hospitals Corporation's (HHC) own policy requires informed consent before a pregnant person or their newborn baby is tested for drugs. HHC's policy also prohibits the reporting of a positive drug test to ACS without any other evidence of harm to a child.¹⁵ Yet our experience as advocates shows that pregnant people of color are drug tested—often without being asked for their consent let alone informed of the potential consequences of consenting—disproportionately in New York City hospitals as compared to white pregnant people, in particular if they have health insurance through Medicaid. The experience of our colleagues at Brooklyn Defender

⁵ F.L. Altice et al., "Trust and the Acceptance of and Adherence to Antiretroviral Therapy," *Journal of Acquired Immune Deficiency Syndrome* 28, no. 1 (2001): 47–58 [Crossref](#), [Medline](#), [Google Scholar](#); and A.S. O'Malley et al., "The Role of Trust in Use of Preventive Services among Low-Income African-American Women," *Preventive Medicine* (forthcoming). [Crossref](#), [Medline](#), [Google Scholar](#)

⁶ Thom et al., "Validation of a Measure of Patients' Trust." [Google Scholar](#)

⁷ D.G. Safran et al., "Linking Primary Care Performance to Outcomes of Care," *Journal of Family Practice* 47, no. 3 (1998): 213–220. [Medline](#), [Google Scholar](#)

⁸ Aaron E. Carroll, "Still Not Convinced You Need a Flu Shot?, First, It's Not All About You", *The New York Times* (Jan 15, 2018)

⁹ Emily Oster and Geoffrey Knocks, "After a Debacle, How California Became a Role Model on Measles", *The New York Times* (Jan 16, 2018)

¹⁰ T.A. LaVeist et al., "Attitudes about Racism, Medical Mistrust, and Satisfaction with Care among African American and White Cardiac Patients," *Medical Care Research and Review* 57, supp. 1 (2000): 146–161 [Crossref](#), [Medline](#), [Google Scholar](#); and W.D. King, "Examining African Americans' Mistrust of the Health Care System: Expanding the Research Question," *Public Health Reports* 118, no. 4 (2003): 366–367. [Crossref](#), [Medline](#), [Google Scholar](#)

¹¹ Prather, C., Fuller, T. R., Jeffries, W. L., 4th, Marshall, K. J., Howell, A. V., Belyue-Umole, A., & King, W. (2018). Racism, African American Women, and Their Sexual and Reproductive Health: A Review of Historical and Contemporary Evidence and Implications for Health Equity. *Health equity*, 2(1), 249–259. doi:10.1089/heq.2017.0045, available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6167003/>

¹² Vega, W. A., Rodriguez, M. A., & Gruskin, E. (2009). Health disparities in the Latino population. *Epidemiologic reviews*, 31, 99–112. doi:10.1093/epirev/mxp008, available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5044865/>

¹³ Du Bois, S. N., Yoder, W., Guy, A. A., Manser, K., & Ramos, S. (2018). Examining Associations Between State-Level Transgender Policies and Transgender Health. *Transgender health*, 3(1), 220–224. doi:10.1089/trgh.2018.0031, available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6308272/>

¹⁴ Disparities Fact Sheet, Indian Health Service: The Federal Health Program for American Indians and Alaska Natives, October 2019 available at <https://www.ihs.gov/newsroom/factsheets/disparities/>

¹⁵ Khan, Yasmin. Family Separation in our Midst, April 17, 2019, available at <https://www.wnyc.org/story/child-removals-emergency-powers/>

Services, the Bronx Defenders, and the Center for Family Representation is the same. This is despite the nearly decade-old published opinion of the American Congress of Obstetricians and Gynecologists' Committee on Healthcare of Underserved Women that explicitly discourages obstetricians from taking any steps based on a patient's substance abuse that would expose that patient to any civil or criminal consequences, including but not limited to loss of custody of children.¹⁶ The Committee Opinion identifies such reporting as a factor that "may dissuade women from seeking prenatal care and may unjustly single out the most vulnerable, particularly women with low incomes and women of color."¹⁷ It goes on to encourage Obstetricians and Gynecologists to work with policy makers and legislators to "retract punitive legislation and identify and implement evidence-based strategies outside the legal system to address the needs of women with addictions."¹⁸

Disproportionate and nonconsensual drug testing of pregnant people of color is not without context. Our country's medical system is steeped in a history of white supremacy. Until relatively recently, for example, medical students were taught that black and brown bodies had different biological responses than white bodies. Today, this system continues to provide disparate care to patients of color, from under-treating people of color for pain to over-diagnosing people of color with mental illness. Our country's shameful history of addressing drug use follows a similar pattern: dehumanizing, criminalizing and caging of black and brown people who use drugs while looking the other way or responding with sympathy, compassion, and support when white people use drugs. If we know our history, it should come as no surprise that low-income parents of color and their babies are being drug tested without their consent in New York City Hospitals. And it is no coincidence that it is the same communities that are at higher risk for maternal mortality and morbidity. By testing pregnant people without consent and then reporting that information to ACS, hospitals are discouraging members of already-marginalized communities from seeking care when they are pregnant, further raising the rates of maternal mortality and morbidity.

Although the reality of this disproportionate testing might shock some New Yorkers, it is common knowledge among low-income communities and communities of color. Every day New Yorkers must face a choice between getting appropriate medical care and exposure to a system that has the power to tear your family apart, with impacts lasting for generations into the future. NDS regularly provides representation to parents facing this terrifying reality, including the following three client stories, all from 2019.

- Ms. R had three children at the time ACS filed against her. ACS asked for a removal and NDS won a hearing returning the children home. Ms. R was pregnant at the time and receiving regular prenatal care at Bronx Lebanon Hospital. Prior to filing the

¹⁶ Substance Abuse Reporting and Pregnancy: The Role of the Obstetrician-Gynecologist, Committee Opinion, Committee on Health Care for Underserved Women, American College of Obstetricians and Gynecologists, January 2011, available at <https://www.acog.org/Clinical-Guidance-and-Publications/Committee-Opinions/Committee-on-Health-Care-for-Underserved-Women/Substance-Abuse-Reporting-and-Pregnancy-The-Role-of-the-Obstetrician-Gynecologist>

¹⁷ Id.

¹⁸ Id.

court case, Ms. R signed a HIPAA release authorizing ACS to speak to her Ob-Gyn. The Ob-Gyn subsequently alerted ACS when Ms. R gave birth. ACS filed a case against Ms. R making no new allegations of neglect regarding the newborn, instead alleging “derivative neglect” based on earlier allegations that Ms. R had addressed.

Ms. R’s cases were all ultimately dismissed. Towards the very end of her case, she gave birth to another healthy child; for that child, Ms. R did not alert ACS of her pregnancy or go to any prenatal appointments. ACS became aware of the baby while Ms. R was still under supervision and did not file a court case against her. When NDS later inquired of Ms. R, she said that she avoided prenatal appointments because she was afraid that the hospital would judge her for having an open ACS case, and call in another report against her.

- Ms. M. was pregnant, with a 10-year-old child at home. During her pregnancy, she regularly attended prenatal care at Mount Sinai. During a routine visit, Ms. M’s doctor asked her if she would consent to a drug test, and she declined. The doctor then said that she was going to drug test Ms. M regardless of her not consenting. The test was positive for marijuana. When Ms. M gave birth, she was again tested, and she and her baby both tested positive for marijuana. ACS filed a case alleging that both the newborn and the 10-year-old were neglected, based solely on the positive drug tests and despite CPS’s investigation revealing that both the baby and older child were reported to be thriving, well-bonded with no concerns reported from the school or any other collateral sources. The case against Ms. M was ultimately dismissed.
- Ms. B. was receiving prenatal care at Harlem Hospital. Harlem Hospital called in a report to ACS because the Ms. B. signed herself out, against medical advice—but only after she had been waiting to be seen for hours in a dirty room and after she explained to staff that she needed to go home to let a repairman into her apartment for necessary repairs, and that she would immediately return to the hospital after. Following that experience, she received the rest of her prenatal care at Mt. Sinai Hospital. During her labor at Mt. Sinai, the hospital labelled Ms. B as “aggressive” and drug-tested her without her consent. Ms. B tested positive for marijuana and her baby tested negative. Mt. Sinai reported Ms. B to ACS. During the investigation, staff at Harlem Hospital reported to ACS that they believed Ms. B might suffer from a mental illness based on her leaving her pre-natal appointment early. ACS filed a case against Ms. B alleging derivative neglect based on a 10-year old closed case and the positive marijuana toxicology; the case was ultimately dismissed.

The existing relationship between ACS and HHC hospitals does not reflect the responsibility either agency owes to the New Yorkers they are obligated to serve. HHC must re-orient its priorities towards thoughtfully supporting parents and families and leave behind non-consensual drug testing during the perinatal period and knee-jerk reporting of low-income parents. The best way to end these practices is for City Counsel to create strong enforcement mechanisms to prevent hospitals from conducting non-consensual drug testing, and to penalize hospitals that violate patient trust in this way. It is also important that this body continue to support the work of NDS and its peer organizations across the city, so that we can ensure that pregnant people and new parents

understand their rights, and we can continue providing robust representation at the earliest moment when it is needed.

Testimony from Leslie Cagan in support to Res. 0976 and Intro. 1621

Leslie Cagan

- *Peoples Climate Movement-NY*
- *Coordinator of the June 12, 1982 Nuclear Disarmament March and Rally in Central Park.*
- *Lifelong organizer in peace and justice movements in NYC and nationally.*

I am here to add my voice to the growing chorus of New Yorkers supporting passage of Res. 0927 and Intro. 1621 - two steps the City Council can and must take to re-affirm this city's long-standing opposition to nuclear weapons.

For decades, the people of this city have petitioned, lobbied, marched, rallied and engaged in nonviolent civil disobedience as part of the global movement to rid the world of the most horrific weapons ever produced ...nuclear weapons. Our city government and our elected officials have gone on record in their opposition to nuclear weapons. We should be proud of this history.

But our work is far from over. Today, our city, this nation and the entire world face the two greatest existential threats ever: the nightmare of a global climate crisis unfolding faster and more intensely than scientists predicted even a few years ago, and the ever-present threat of the use of nuclear weapons either by accident or design.

Nine nations have nuclear weapons: the UK, France, China, North Korea, India, Pakistan, Israel and, of course, Russia and the United States which together have more than 90% of those weapons. So, one might ask, what is the point of NYC passing these two items? The point is this: Each of us, as citizens of the world, must find and use every tool available to bring us back from the edge of disaster. There is no time to waste.

As we think globally, we must act locally. Our cities have always been sites of resistance and anchors of opposition to injustice and deadly policies. Our opinions matter, but more critically our actions are what is most important. The City Council of NY has the opportunity to strengthen the global movement to rid the world of nuclear weapons. We urge you to use the powers of your office to take these concrete steps – and to do so without further delay.

My name is Vicki Elson, Executive Director of the Treaty Awareness Campaign.

Part of our work, as members of ICAN, the International Campaign for the Abolition of Nuclear weapons, is to visit the UN missions here in New York City.

One day, we were visiting the UN Mission of Antigua Barbuda. We were talking about the 122 countries that adopted the Treaty on the Prohibition of Nuclear Weapons, and the countries that have already signed and ratified it. We were talking about ICAN's Nobel Peace Prize. We were asking how we could support Antigua Barbuda in signing sooner rather than later.

They were saying that yes, they're going to sign the Treaty but it's going to take a while, lots of red tape, hoops to jump through...

Then we started telling them about what's happening here in the US – what the people in this room are doing all over the country, working with organizations, faith communities, schools, universities, banks, hospitals, cities, counties, states, and Congress to bring an end to the 75-year nightmare of nuclear weapons.

And I watched the person's face change. She said, "You know what? I'm going to light some fires under some people TODAY." I'm happy to report that Antigua Barbuda has since signed and ratified the Treaty.

What we do here in the US and what happens here in New York City has an impact. It tells the rest of the world that there are strong currents here in solidarity on this issue. We look forward to the day, sooner or later, when US policy will change to reflect the fact that nuclear weapons of mass extinction are obsolete and indescribably dangerous, sucking trillions of dollars and our best scientists away from the green technologies we need to survive the climate emergency. Here in the Big Apple, today, you have an opportunity to accelerate that change.

New York City has already voted to divest from fossil fuels, a magnificent step toward being on the right side of history, survival, and sanity. We're asking the City to do the same with nuclear weapons. Thank you so very much.

**This week of next Vote in Favor of Nuclear Disarmament Bills on Res. [976](#) and Int. [1621](#)
New York City Council Joint Hearing of Committee on Governmental Operations and
Committee on Civil Service and Labor**

Testimony by Nick Ritchie, PhD
Department of Politics
University of York UK
28 January 2020

The importance of delegitimising nuclear weapons and nuclear violence¹

Reducing and eventually eliminating the risk of nuclear violence remains a challenging task. Currently, countries that possess nuclear weapons and those to whom the United States has extended its nuclear protection in the form of security commitments, see considerable value in the long-term retention and deployment of nuclear weapons. The value of nuclear weapons is framed primarily in terms of security through the practice of nuclear deterrence.² Deterrence rests on the possibility of catastrophic harm through nuclear violence and inducement of sufficient a level of caution into state interactions through fear of such a possibility as to preclude serious war and thereby stabilise relations between the major powers.

Nuclear weapons undoubtedly have the potential to induce caution and thereby change the behaviour of political actors. However, historical and psychological research shows that the political effect of deterrence is not an automatic outcome of the deployment of nuclear weapons or something intrinsic to the weapons themselves.³ Numerous studies have shown that there are fundamental uncertainties associated with the theory and practice of nuclear deterrence.⁴ Research has shown that nuclear weapons do not induce a common and rational logic of escalation and control between nuclear-armed adversaries in a crisis.⁵ Deterrent threats rather destabilise by incentivising risk taking, galvanising resistance, and intensifying crises.⁶

Proponents of nuclear deterrence might readily accept this uncertainty by arguing that the risk of things going wrong is very small. Yet the fallibility of nuclear deterrence is of paramount concern because even if the probability of something going wrong is small – either with nuclear weapons technology, organisational procedures, or the practice of nuclear deterrence in a crisis – the effects of the deliberate or accidental detonation of even a single modern nuclear weapon promises to be catastrophic. Recent UN research shows that the human, environmental and economic effects of multiple nuclear detonations would

¹ This chapter summarises a paper on “Pathways to nuclear disarmament: delegitimising nuclear violence” presented to the UN Open Ended Working Group on “Taking forward multilateral nuclear disarmament negotiations”, Palais des Nations, 11 May 2016.

² Other values are often assigned to nuclear weapons in terms of domestic politics and collective ideas of national identity. I explore this in “Valuing and Devaluing Nuclear Weapons,” *Contemporary Security Policy*, 34: 1, 2013, pp. 146–173

³ See Jervis, R., *Perception and Misperception in International Politics* (Princeton: Princeton University Press, 1976); George, A. and Smoke, R., *Deterrence in American Foreign Policy* (New York: Columbia University Press, 1974), and MccGwire, M., ‘Deterrence: The problem not the solution’, *International Affairs*, 62: 1, 1986, pp. 55-70.

⁴ Adler, E., ‘Complex Deterrence in the Asymmetric-Warfare Era’, in T. V. Paul, M. Morgan and J. Wirtz (eds.) *Complex Deterrence: Strategy in the Global Age* (University of Chicago Press: Chicago, 2009), pp. 88-90.

⁵ See Bowen, W., ‘Deterrence and Asymmetry: Non-State Actors and Mass Casualty Terrorism’ in I. Kenyon and I. Simpson (eds.) *Deterrence and the New Global Security Environment* (London: Routledge, 2006), pp. 50-51; Booth, K., *Strategy and Ethnocentrism* (London, Croom Helm, 1979). Jervis, R., ‘The Confrontation between Iraq and the US: Implications for the Theory and Practice of Deterrence’, *European Journal of International Relations* 9: 2, 2003, pp. 322-23; George, A. and Smoke, R., *Deterrence in American Foreign Policy* (New York: Columbia University Press, 1974) Chapter 17.

⁶ Burke, A., ‘Nuclear reason: at the limits of strategy’, *International Relations*, 23: 4, 2009, pp. 506-29.

be unmanageable.⁷ Environmental modelling shows that even a relatively modest nuclear exchange would have a disastrous impact on the global climate caused by the tremendous amount of smoke released into the atmosphere.⁸

Supporters of nuclear weapons counter that the precise reason for deploying them is so that they will never be used. They are 'political' as opposed to 'war-fighting' weapons whose purpose is solely to deter (or the far more specious argument that they are 'used' everyday simply by existing). That might be the intent but the logic of nuclear deterrence rests on detailed, permanent and active plans, operational capabilities, organisational infrastructure and political will to deliver and detonate nuclear warheads on other societies. The risk of nuclear deterrence not working is a necessary feature of the system. The very logic of nuclear deterrence rests on the possibility of deliberate or uncontrolled escalation to nuclear violence. The Cold War experience demonstrated that nuclear deterrence in practice is a game of nuclear brinkmanship and provocative threat making based on 'threats that leave something to chance' – the chance being massive and indiscriminate nuclear violence.⁹ The continuing risk of nuclear violence has generated deep concern about the creeping permanence of nuclear weapons, frustration at the slow pace of nuclear disarmament, and cynicism about the nuclear-armed states' commitment to nuclear disarmament under the Non-Proliferation Treaty (NPT).¹⁰

Building on the idea of 'humanitarian disarmament'¹¹ in 2017 122 UN member states voted to adopt the Treaty on the Prohibition of Nuclear Weapons (TPNW). This was achieved against the wishes of the world's most powerful states that continue to view nuclear weapons and their potential use as legitimate, including the United States. Proponents of humanitarian disarmament argued that the singularly destructive power, the transboundary health, environmental and intergenerational effects, and the scale of human suffering caused by the use of nuclear weapons would breach international humanitarian law in practically all conceivable circumstances.

Devaluing nuclear weapons

The purpose of the TPNW for a number of civil society campaign organisations, such as the International Campaign to Abolish Nuclear Weapons (ICAN), was to establish a new legal instrument to explicitly stigmatise and prohibit any use of nuclear weapons *and* their possession following the path of biological and chemical weapons. This stands in contrast to diplomatic efforts that have focussed on trying to reduce the value and the role of nuclear weapons through the actions of the nuclear-armed states that deploy them. It is useful at this point to distinguish between reducing the *value* of nuclear weapons and reducing the *legitimacy* of nuclear violence.

The post-Cold War nuclear disarmament process has generally focussed on efforts to reduce the value assigned to nuclear weapons by nuclear-armed states. The security values

⁷ Borrie, J. and Caughley, T., *An Illusion of Safety: Challenges of Nuclear Weapon Detonations for United Nations Humanitarian Coordination and Response* (Geneva: UNIDIR, 2014).

⁸ For example, Toon, O., Robock, A. and Turco, R., 'Environmental Consequences of Nuclear War', *Physics Today*, December 2008, pp. 37-42; Mills, M., Toon, O., Turco, R., Kinnison, D., and Garcia, R., 'Massive Global Ozone Loss Predicted Following Regional Nuclear Conflict', *Proceedings of the National Academy of Sciences*, 105: 14, 2008, pp. 5307-12. For an overview and further references see Starr, S., 'Catastrophic Climatic Consequences of Nuclear Conflict', research paper commissioned by the Independent Commission on Nuclear Non-Proliferation and Disarmament, October 2009.

⁹ Schelling, T., *The Strategy of Conflict* (Cambridge, Mass: Harvard University Press, 1960), p. 187.

¹⁰ Explored further in Nick Ritchie, "Waiting for Kant: Devaluing and Delegitimising Nuclear Weapons", *International Affairs*, 9: 3, 2014, pp. 601-623

¹¹ Lewis, P., '[A New Approach to Nuclear Disarmament: Learning from International Humanitarian Law Success](#)', *International Commission on Nuclear Non-Proliferation and Disarmament, Paper No. 13, January 2009*.

assigned to nuclear weapons have diminished since the end of the Cold War as the international social, economic and political landscape has changed, but this has been a limited process of what we might call 'surface devaluing'. This refers to a number of changes that have occurred in the nuclear policies of nuclear-armed states, particularly the US and Russia. They include: a general move away from nuclear defence and towards expeditionary conventional warfare; reducing the vast excesses of Cold War legacy nuclear forces; marginalising the idea of using nuclear weapons for battlefield 'war-fighting' (with exceptions in Russia and Pakistan); shifting some roles previously assigned to nuclear weapons to conventional weapons (mainly in the US); and consolidating formal declaratory policies about who might qualify for a nuclear attack and under what conditions.¹²

All of this is welcome, but it represents only limited or partial process of reducing the value of nuclear weapons. 'Deeper' forms of devaluing that require more explicit changes to nuclear doctrines that would restrict the practice of nuclear deterrence have been largely rejected. These include measures that have been widely advocated by non-nuclear armed states and civil society, such as a no-first use agreement, de-alerting deployed nuclear weapon systems to increase decision-making time in a crisis, and legally-binding 'negative security assurances' that nuclear-armed states will not attack non-nuclear armed states with nuclear weapons. Nevertheless, the five states recognised by the NPT I 1968 as 'nuclear weapon states' (the US, UK, China, Russia and France) say the 'surface devaluing' outlined above is excellent progress and fulfils requirements for meeting their nuclear disarmament responsibilities under Article VI of the NPT.¹³

Focussing disarmament diplomacy on efforts to reduce the security value assigned to nuclear weapons by nuclear-armed states in terms of nuclear warhead numbers, types of nuclear delivery vehicles, and changes in nuclear doctrine does a number of things:

- 1) Whilst it might accept that the risk of nuclear violence must be taken seriously, it suggests that the problem is not the weapons themselves or the practice of nuclear deterrence, but who has them, in what numbers, and how they are configured.
- 2) It says the risk of nuclear violence can be safely managed for the foreseeable future through adjustments to nuclear posture, doctrine, consolidation of nuclear forces, and vigorous counter-proliferation to stop other countries acquiring their own nuclear weapons.
- 3) It devolves agency for nuclear disarmament to the nuclear-armed states and their agendas and relationships.
- 4) It leaves the logic and practice of nuclear deterrence undisturbed and leaves the legitimacy of nuclear weapons intact as far as the nuclear-armed states and their allies are concerned.

This is evidenced in statements that accompany nuclear weapon reductions that often restate an unequivocal commitment to nuclear deterrence and the necessity of nuclear weapons for national security.

Delegitimising nuclear weapons

The humanitarian initiative and the TPNW shifted the focus from devaluing nuclear weapons to delegitimising and stigmatising nuclear violence. In doing so, it has challenged the very legitimacy of valuing nuclear weapons at all – irrespective of whether a particular

¹² See Ritchie, 'Waiting for Kant'.

¹³ For example, Statement by the P5, NPT Preparatory Committee, General Debate, Vienna, 3 May 2012.

government values its weapons, its particular doctrine, or its operational posture in one way or another.

The TPNW is built on the argument that nuclear weapons are illegitimate because of the appalling and foreseeable humanitarian, health and environmental consequences of practically any use under any circumstances. The risk of nuclear violence posed by the continued existence, spread, and modernisation of nuclear weapons is framed as unacceptable and the purported security benefits of nuclear deterrence rejected.¹⁴ The TPNW's coalition of states was no longer prepared to accept the slow and open-ended 'step-by-step' nuclear disarmament agenda endorsed by the nuclear-armed states and their allies. Their reaction borne out of frustration with the pace of disarmament has been to challenge the legitimacy of nuclear weapons based on the humanitarian consequences of their use, and to do so in a multilateral legal instrument under the auspices of the United Nations.

The unacceptability of nuclear violence is rooted in a collective moral revulsion and rejection of specific categories of violence, especially massive, inhumane and indiscriminate forms of violence. This has been progressively codified in legal rules and normative principles governing the conduct of war, in particular international humanitarian law applicable in armed conflict, but also international human rights law and international environmental law. The legitimacy and authority of these norms and rules rests on their universality. According to these norms and rules, nuclear weapons are the very worst of all.

Delegitimising nuclear weapons through prohibition

The legitimacy of a particular practice such as possessing or using nuclear weapons tends to rest on four broad factors: 1) legal validity; 2) the justifiability of prevailing rules that permit that practice; 3) popular consent; and 4) equality or non-discrimination. Delegitimising nuclear weapons therefore suggests a set of processes to: 1) undermine claims to legal validity; 2) demonstrate withdrawal of consent for practices that legitimise nuclear weapons; 3) highlight and address the discriminatory character of the nuclear weapons control regime under the NPT; and 4) challenge the justifiability of the rules that serve as a source of legitimacy for nuclear weapons.¹⁵

An obvious way of maximising the delegitimation of nuclear weapons is through a comprehensive, non-discriminatory and unequivocal legal prohibition – one based on an alternative set of rules rooted in universal international humanitarian law rather than rules that permit the selective possession of nuclear weapons. This would undermine existing claims for the legal validity of possessing and using nuclear weapons by the NPT's five nuclear weapon states. It would address the inequality of the NPT that discriminates between nuclear and non-nuclear weapon states. It would represent a withdrawal of consent for current practices that tacitly legitimise nuclear weapons by states that sign and ratify the TPNW.

A key difference between a focus on delegitimising nuclear violence and a focus on measures by nuclear-armed states to reduce the value assigned to their nuclear weapons, is that the problem is explicitly the weapon, not specific practices or specific actors. The threat

¹⁴ On reframing see Borrie, J. "Humanitarian reframing of nuclear weapons and the logic of a ban", *International Affairs*, 90: 3, 2014, pp. 625-46.

¹⁵ I explore this further in "Legitimising and Delegitimising Nuclear Weapons", in Borrie, J. and Caughley, T. *Viewing Nuclear Weapons Through a Humanitarian Lens* (Geneva: UNIDIR, 2014). It draws on Beetham, D. *The Legitimation of Power* (Basingstoke, Macmillan, 1991) and Rathbun, N. "The Role of Legitimacy in Strengthening the Nuclear Non-Proliferation Regime", *The Nonproliferation Review*, 13: 2, 2006, pp. 227-252.

to peace and security is not nuclear proliferation (which is a term that confines nuclear dangers to the acquisition of nuclear weapons by additional states), the threat is the existence of the weapons themselves irrespective of the possessor. Nuclear weapons in this framing are a collective international liability rather than an individual national asset. The underlying argument is that a stable and secure global society does not need nuclear scaffolding and that nuclear weapons constitute a continuing threat to global society rather than a necessity.

Emphasising the illegitimacy of nuclear weapons shifts the direction of disarmament diplomacy away from an exclusive focus on trying to change the policies of the nuclear-armed states. It moves it towards changing the normative international environment in which nuclear weapons and nuclear-armed states are embedded. It shifts the centre of power in disarmament diplomacy away from the agency of those that have nuclear weapons, their relationships with each other, and their nuclear weapon programmes. Instead, it empowers a much broader community of states to change the international social structure of nuclear legitimacy and illegitimacy, and the relationship between nuclear-armed and non-nuclear-armed states.

Delegitimising nuclear weapons is therefore about challenging the international social acceptability of valuing nuclear weapons. It is a process of widening and deepening a collective normative censure of nuclear violence. It is about codifying that censure in a legal form to maximise its authority and normative effect. This might be limited or it could be significant, we don't know yet. But a 'non-paper' circulated by the US to its NATO allies on 17 October 2016 on "Defence impacts of potential United Nations General Assembly nuclear weapons ban treaty" suggests the TPNW could have a significant impact on NATO nuclear operations.¹⁶ It is about diminishing nuclear weapons as a currency of power in the international system and extending the informal stigmatisation of the *use* of nuclear weapons captured in the idea of a "nuclear taboo" to the *existence* of nuclear weapons.¹⁷

The TPNW performs that role. It is an unequivocal delegitimation through a legal instrument that categorically prohibits the possession and use of nuclear weapons based on universal principles of unacceptable harm. It has the potential to precipitate a deeper, sharper, stigmatisation of nuclear weapons and thereby generate possibilities for change. The overarching purpose is to challenge and destabilise the acceptability of nuclear violence in global and national politics, to create 'a crisis of legitimacy' for nuclear weapons, and possibilities for change in the nuclear policies and practices of the nuclear-armed and their allies, change that otherwise does not seem forthcoming.¹⁸

This might be achieved in a number of ways. Institutionalising a prohibitory norm in treaty law through the TPNW further enhances the legitimacy of the claim that nuclear weapons are morally unacceptable and in doing so strengthen the norm's authority.¹⁹ Institutionalised prohibitions can compel non-adherents to justify their actions through the

¹⁶ Cheshire, C. United States Mission to NATO, Non-Paper to the Committee on Proliferation, "Defence impacts of potential United Nations General Assembly nuclear weapons ban treaty", 17 October 2016.

¹⁷ Tannenwald, N. "The Nuclear Taboo: The United States and the Normative Basis of Nuclear Non-Use", *International Organization*, 53: 3, 1999, p. 463. As Tannenwald explains it, underpinning the taboo "is the belief that nuclear weapons, because of their immense destructive power, flagrantly violate long-standing moral principles of discrimination and proportionality in the use of force. These principles, in turn, have at their core the moral intuition that it is wrong to kill noncombatants, or more generally, the innocent, and to cause excessive destruction." Tannenwald, N, "Stigmatizing the Bomb: Origins of the Nuclear Taboo", *International Security*, 29: 4, 2005, p. 11.

¹⁸ Reus-Smit, C. "International Crises of Legitimacy", *International Politics*, 44: 1, 2007, p. 157.

¹⁹ Chayes, A and Shelton, D. "Commentary" In Shelton, D. (ed) *Commitment and Compliance: The Role of Non-Binding Norms in the International Legal System* (Oxford: Oxford University Press, 2003), p. 527.

lens of the new regime by virtue of the regime's existence.²⁰ New regimes can give new meanings to specific actions (such as nuclear sharing in NATO) whether a non-adherent wants it to or not. Once established a new regime cannot easily be ignored. Treaty instruments also create legal, diplomatic and political constituencies committed to embedding, expanding and reproducing the regime's prohibitions and obligations. These constituencies continue the 'strategic social construction' of the norm's entrepreneurs to actively construct linkages between existing norms in world politics and the emergent norm of unconditional prohibition and to assign positive and negative meanings to actions and circumstances that reinforce or transgress that norm.²¹ Nina Tannenwald argues that processes of stigmatising the use of nuclear weapons take four forms: bottom-up societal pressure for normative change; normative power politics whereby states publicly delegitimise weapons deemed advantageous to adversaries; decisions of individual decision-makers whose actions delegitimise use; and iterative behaviour over time that can become customary and eventually constitute non-deliberative norm adherence.²²

When society collectively labels a practice such as the possession and use of nuclear weapons (or piracy, or slavery) as illegitimate it moves it beyond the realm of 'normal' and acceptable behaviour within that society. When illegitimacy is rooted in moral revulsion then that practice can become stigmatised.²³ This is a process of separation, one that discriminates between those actors that engage in unacceptable behaviour and those that do not. Nonconformity is punished by shaming, moral opprobrium, sanction, and exclusion insofar as this is possible.²⁴ A stigma of this sort constitutes a prohibitory norm. Such a norm cannot prevent a prohibited act if the means remain available, but it can mobilise sustained opposition and restrain behaviour. But a stigma does more than that: it can also shape actors' identities in terms of whether an actor understands itself as the sort that accepts or conforms to prohibitory norms or one that does not. This can result in changes in behaviour for actors that identify as norm adherents.²⁵ As Brian Rappert notes, "in the case of chemical and biological warfare capabilities in the build-up to WWII, the stigma against certain categories can affect whether they are judged as compatible with 'military culture.' A perceived lack of such a fit can affect what resources militaries dedicate to these options and, in turn, their ultimate utility. In such ways, norms and interests are not mutually exclusive."²⁶

Conclusion

In sum, there are two broad approaches to nuclear disarmament: first, a disarmament process guided by assessments by the nuclear-armed states about the value of their nuclear weapons in their security environment; second, a process that delegitimises nuclear weapons by undermining the legitimacy of valuing them in any way irrespective of their perceived utility by those that possess them because of the unacceptable effects of their use.

²⁰ Muller, H. "The Internationalization of Principles, Norms, and Rules by Governments: The Case of Security Regimes" in Rittberger, V. (ed) *Regime Theory and International Relations* (Oxford: Clarendon Press, 1983), p. 383.

²¹ Finnemore, M. and Sikkink, K. "International Norm Dynamics and Political Change", *International Organization*, 52: 4, 1998, p. 888.

²² Tannenwald, "Stigmatizing the bomb", p. 13.

²³ Nadelman, E., "Global Prohibition Regimes: The Evolution of Norms in International Society", *International Organization*, 44: 4, 1990, p. 480.

²⁴ Adler-Nissen, R. "Stigma Management in International Relations: Transgressive Identities, Norms, and Order in International Society", *International Organization*, 68: 1, 2014, pp. 147-176.

²⁵ Price, R. "A Genealogy of the Chemical Weapons Taboo", *International Organization*, 49: 1, 1995, p. 87.

²⁶ Rappert, B. "A Convention Beyond the Convention: Stigma, Humanitarian Standards and the Oslo Process", *Landmine Action*, London, 2008, p. 18.

The TPNW was born out of exasperation with first approach and the slow pace of nuclear disarmament, the continuing dangers of a nuclear-armed world, and a seemingly implacable commitment to the nuclear deterrence by nuclear-armed states. Instead, states across Asia, Africa, South America and Europe sought to delegitimise and stigmatise nuclear weapons through a legal prohibition. The nuclear-armed states and their allies have rejected this approach and attempted instead to delegitimise the TPNW. They have expressed deep opposition to the delegitimation of nuclear weapons and the practice of nuclear deterrence *because* they deem nuclear weapons and nuclear deterrence as legitimate. It is resistance to a process of delegitimation that appears to have led nuclear-armed states to largely exclude themselves from the Humanitarian Impact of Nuclear Weapons inter-governmental conferences in 2013 and 2014, the UN Open-Ended Working Groups on next steps on multilateral nuclear disarmament in 2013 and 2016, and the negotiation of the TPNW in 2017. As Nina Tannenwald observed in 2005, “The absence of a formal legal prohibition on nuclear weapons stems primarily from the fact that the great powers do not want it”.²⁷ Indeed, the US ‘non-paper’ to NATO on a ban treaty stated “efforts to negotiate an immediate ban on nuclear weapons or to delegitimize nuclear deterrence are fundamentally at odds with NATO’s basic policies on deterrence and our shared security interests.”²⁸

The TPNW is unlikely to cause immediate change in the nuclear policies and practices of the nuclear-armed. Processes of delegitimation can take time and can evolve in complex ways as the identities, practices, and policies of delegitimation are negotiated through interaction with competing identities, practices and legal doctrines, such as the right to self-defence. The emergence of a so-called ‘nuclear taboo’ stigmatising the use of nuclear weapons, the 1996 Advisory Opinion of the International Court of Justice on the legality of the threat or use of nuclear weapons, the delegitimation of explosive nuclear testing through a series of treaties and protests culminating in the 1996 Comprehensive Test Ban Treaty (CTBT), and the delegitimation of the acquisition of nuclear weapons through the NPT and nuclear weapon-free zones are key registers in a long term project of rendering the possession of nuclear weapons unacceptable by all states, but in particular and necessarily those that currently possess them.

This will require significant support from non-nuclear weapon states and civil society organisations and a sustained collective determination to exert normative pressure on nuclear-armed states and their allies drawing on the authority of the TPNW. States remain the locus of power in international politics, and the TPNW will need 50 ratifications to enter into force. But other sites of power such as cities, corporations (especially financial institutions), religious organisations, and unions can have a decisive effect on the thinking and decisions of states. A decision by New York City, one of the world’s most powerful and iconic cities, to support the delegitimation of nuclear weapons would lend considerable authority to the TPNW, and the global campaign to prohibit, stigmatise and eliminate nuclear weapons from human affairs.

²⁷ Tannenwald, “Stigmatizing the bomb”, p. 47.

²⁸ Cheshier, C “Defence impacts of potential United Nations General Assembly nuclear weapons ban treaty”.

Dear Esteemed New York City Council,

I urge that you vote in support of the captioned bills for several reasons.

I'm one of the few people alive today in the U.S. who has witnessed the detonation of nuclear weapons and can therefore testify from personal experience about their devastating power and the radiation they emit.

Soon after graduating from college in June of 1952 I was drafted into the U.S. Army (the Korean War was on at the time) and after receiving basic training was sent to the Army's Signal Corp. Photo School in Fort Monmouth, New Jersey where I was taught how to operate speed graphic press cameras, develop the 4"x5" sheet film they use and print pictures from them. After graduating I was sent to the Atomic Energy Commission's nuclear test site in Mercury, Nevada where I was assigned to performing radiation detection work during a series of eleven tests of nuclear weapons that were held there throughout the spring of 1953. The work consisted of developing what were known as film badges that all those employed at the test site were required to wear. The badges consisted of 1" X 1-1/2" film encased in a cloth cover that were essentially the same as what dentists at the time used to x-ray teeth. As the wearers received radiation the films would darken in the same manner they would if exposed to x-rays and after the wearers deposited their badges at my lab with their names on them I would develop them with the same procedures that were used to develop camera films. After they were developed I'd place each into a densitometer which was a machine that could tell how much radiation the wearers had received by measuring the darkness of the films. I would then enter these amounts next to each wearer's name in a register of test site workers that was maintained in the lab and if the amount of radiation from a badge, when combined with any previous radiation amounts incurred by the same wearer, exceeded the maximum permitted then the wearer was required to cease working at the test site.

The film badge processing was performed in a building called the Control Point, which was located midway between where the detonations of the nuclear weapons took place (known as Yucca Flat and Frenchman Flat) therefore I had a front row seat for all eleven of the ones that occurred while I was there and it was an awesome experience!

Although one might think that the first evidence of the detonations would have been the sound; it wasn't. As sound travels about a mile in 4.7 seconds, and the Control Point was an average of nine miles from the detonations, it took the sound of each blast about forty seconds to reach the Control Point. Therefore the first evidence of the explosions was the brilliant light they gave off, in fact it's was so bright that all observers were required to wear densely darkened goggles. The goggles were so dense that one could stare at the sun with them on without squinting. In view of this I have the opinion that anyone with the misfortune of looking in the direction of a nuclear weapons explosion might go blind or sustain serious injury to their eyes.

As is well known, the negative effects from the detonation of nuclear weapons are threefold:

- physical damage and/or destruction of property
- bodily injury and/or death caused by the shock waves
- bodily injury and/or death caused by radiation

I was present at the Nevada Test Site when several incidents occurred there that led to these results.

Regarding physical damage to property, two houses similar to the kind found in many of our country's towns were constructed in the proximity of where a 16 kiloton weapon was to be detonated. When the explosion occurred, which was on March 17, 1953, the house that was situated about three quarters of a mile away was completely destroyed (see attached photo) and the one about a mile and half away was badly damaged.

Fortunately no one was injured or killed as a result the shock waves given off by any of the nuclear weapons detonated at the test site but from an inspection of mannequins that had been placed in the house located three quarters of a mile from the explosion on March 17th it was clear that if they had been humans they surely would have been killed.

As for bodily injury and death caused by radiation, there were numerous incidents of this but the two groups who suffered the most were residents of St. George, Utah and soldiers at the test site.

Winds blowing eastward after each test carried radioactive dust toward southeastern Utah where St. George was the largest community and doctors there recorded marked increases in various types of cancers during the years after the tests ceased. The detonation that produced the largest amount of radiation to reach St. George was a 32 kiloton weapon that was dropped over Yucca Flat from a plane on May 19, 1953 and I witnessed the explosion.

Soldiers stationed at Camp Desert Rock, an army base adjacent to Mercury, were ordered to witness the detonations from foxholes situated at various distances from the towers where the nuclear weapons were installed, some as close as a mile away. After the devices were detonated they were instructed to proceed to the area below the towers as though they are attacking an enemy and this resulted in them receiving substantial amounts of radiation which in time would cause many to sustain disablement and death. I witnessed several of these detonations.

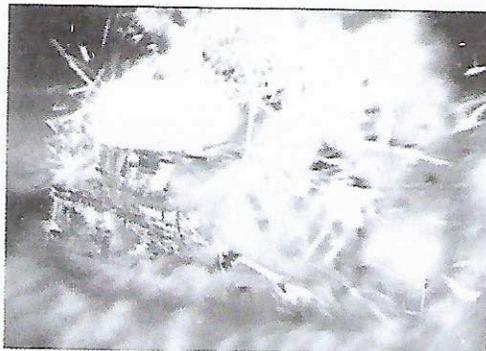
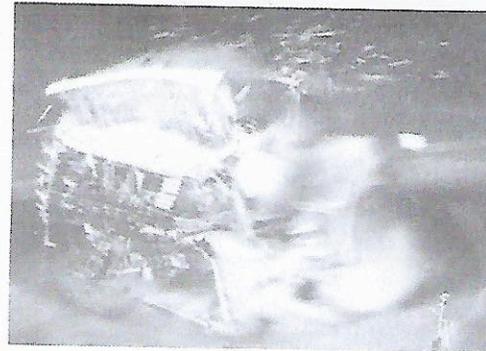
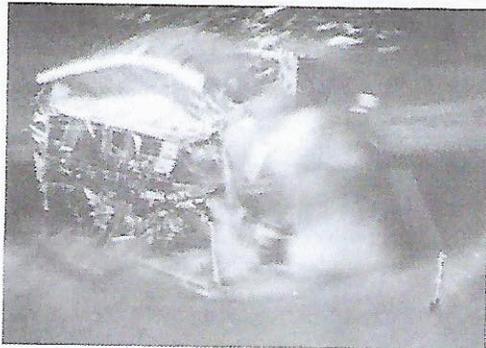
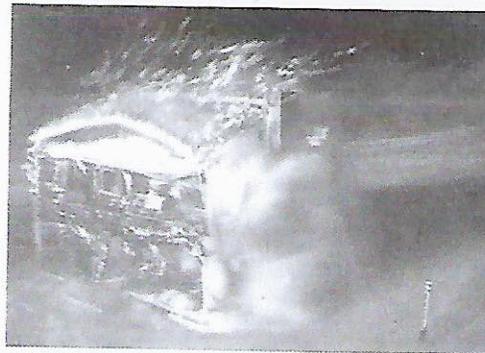
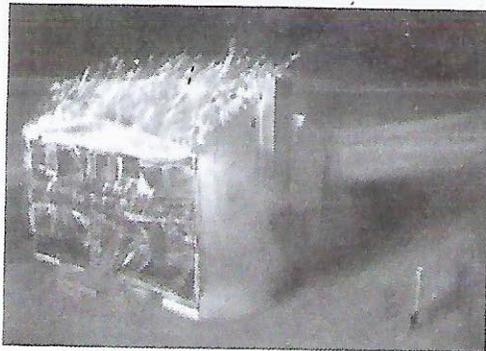
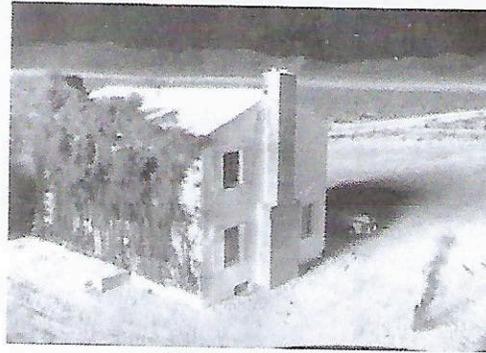
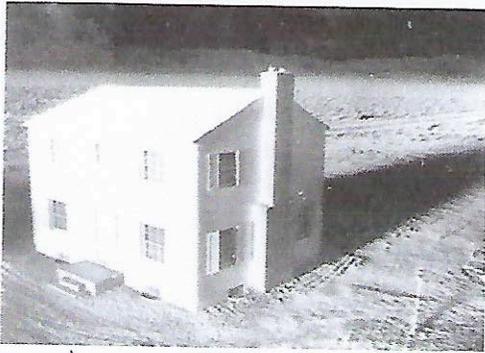
As I reflect on the incredible amount of destruction, bodily injury and death that the nuclear weapons detonated while I was at the Nevada Test Site are capable of causing, the largest of which had the explosive power of 43 kilotons (43,000 tons of TNT), whereas a thermonuclear weapon has been tested elsewhere with an explosive power of 50,000 kilotons (50,000,000 tons of TNT), I feel obligated to do everything in my power to prevent the production, maintenance, testing and usage of all nuclear weapons and I therefore urge the New York City Council to vote in favor of Int 1621 and Res 0976.

* * * *

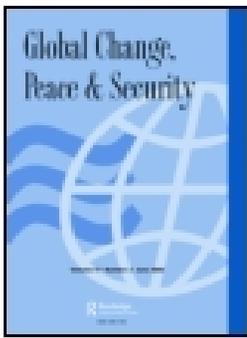
As a postscript to the above I should explain why I, a resident of Connecticut, have involved myself with a matter of concern to the New York City Council. The fact is that I'm a New Yorker at heart! I was born in Brooklyn, as was my mother and maternal grandparents. My wife was also born there as were her parents and grandparents. Although I later settled in a suburb of New York City I spent my entire working years employed in Manhattan. My father, who was born in upstate New York, also settled in a NYC suburb but managed a branch office of his family's tug and barge business that was located in Manhattan. My mother's grandfather established a marine towing business in Manhattan in 1860 and the company he founded operated it from an office there until they moved it elsewhere several years ago although they continue to operate a large fleet of tugs in New York harbor.

Thomas S. Dwyer Jr.
8 Obtuse Rd.
Newtown, CT 06470

House Destroyed by Annie Shot



Time-sequence photos of the house 3,500 feet from ground zero during the March 17, 1953, weapon effects test at Yucca Flat. Shooting 24 frames per second, the time from the first to last picture was two-and-one-third seconds. The camera was completely enclosed in a two-inch lead sheath as a protection against radiation. The only source of light was that from the blast. In frame 1, the house is lit by the blast. In frame 2, the house is on fire. In frame 3, the blast blows the fire out, and the building starts to disintegrate. Frames 4 through 8 show the complete disintegration of the house. Source: DOE, NNSA-Nevada Site Office.



Global Change, Peace & Security

formerly *Pacifica Review: Peace, Security & Global Change*

ISSN: 1478-1158 (Print) 1478-1166 (Online) Journal homepage: <http://www.tandfonline.com/loi/cpar20>

Impacts of the nuclear ban: how outlawing nuclear weapons is changing the world

Ray Acheson

To cite this article: Ray Acheson (2018): Impacts of the nuclear ban: how outlawing nuclear weapons is changing the world, *Global Change, Peace & Security*, DOI: [10.1080/14781158.2018.1465907](https://doi.org/10.1080/14781158.2018.1465907)

To link to this article: <https://doi.org/10.1080/14781158.2018.1465907>



Published online: 03 May 2018.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)



Impacts of the nuclear ban: how outlawing nuclear weapons is changing the world

Ray Acheson

Women's International League for Peace and Freedom – Reaching Critical Will, New York, NY, USA

ABSTRACT

The process to negotiate and adopt the Treaty on the Prohibition of Nuclear Weapons has already had significant impacts on nuclear weapon law, politics, economics, and social and academic discourse. While the full range of effects of the nuclear ban is not yet known, economic divestment and changes to nuclear weapon discourse are well underway. This article examines how some of the expectations and hopes of the Treaty's advocates are being fulfilled, and what else might be possible.

ARTICLE HISTORY

Received 26 February 2018
Accepted 8 April 2018

KEYWORDS

Gender; human security;
international law;
international relations;
international relations theory;
militarism

The adoption of the Treaty on the Prohibition of Nuclear Weapons (TPNW) on 7 July 2017 was not an end, but a beginning. The nuclear ban was conceived as part of a set of tools that could help change the political, legal, social and economic landscape related to nuclear weapons.¹ Knowing full well that the nuclear-armed states were unlikely to support such an instrument, let alone engage in its negotiation, those advocating for the ban aimed to create new law that would disrupt dominant narratives, shake up the status quo, and create new opportunities and incentives for nuclear disarmament.

Doing something against the wishes and commands of the most militarily and economically powerful countries in the world was a difficult prospect for some governments. But the logic of the nuclear ban was compelling enough for most of them. Nuclear weapons have catastrophic humanitarian and environmental consequences and must never be used again. The only way to ensure that they are never used again is to eliminate them. This core belief motivated the majority of countries to support the negotiation of the TPNW.

Given the vested interests of a few powerful countries in favour of retaining nuclear weapons, a key goal of those pursuing the Treaty was to delegitimize and stigmatize these weapons. Making them illegal, for everyone, is a key part of this process. This has been true for biological and chemical weapons, antipersonnel landmines, and cluster bombs. These weapons have not magically disappeared, but their prohibition has led to their stigmatization, to elimination processes, and to condemnation of their use. Those

CONTACT Ray Acheson  ray@reachingcriticalwill.org  Women's International League for Peace and Freedom – Reaching Critical Will, 777 UN Plaza, 6th Floor, New York, NY 10017, USA  @achesonray, @RCW_, @WILPF

¹See for example Ray Acheson et al., *A Treaty Banning Nuclear Weapons: Developing a Legal Framework for the Prohibition and Elimination of Nuclear Weapons* (New York: Women's International League for Peace and Freedom and Article 36, April 2014), <http://www.reachingcriticalwill.org/images/documents/Publications/a-treaty-banning-nuclear-weapons.pdf>.

supporting the nuclear ban expect that the prohibition of nuclear weapons could have similar effects.

The nuclear ban also promised a departure from the past practice of allowing the nuclear-armed states to dictate the terms of nuclear disarmament initiatives. Over the last 70 years, attempts to convince or cajole the nuclear-armed states to comply with their nuclear disarmament obligations have been unsuccessful. While the United States and Russia dismantled thousands of warheads after the Cold War, and have reached a number of nuclear arms limitation agreements with each other, all of the nuclear-armed states have continued to invest billions in modernizing and extending the lives of their nuclear arsenals. They have broken disarmament commitments, backtracked on previous rhetoric for nuclear abolition, and been dismissive of the views of those governments and peoples that reject nuclear weapons – even while they react with sanctions and even violence when faced with the threat (or perceived threats) of nuclear proliferation.

This situation has been untenable for years, but those without nuclear weapons felt unable to change it. Until the nuclear ban. Understanding that the alternative to the ban was to merely continue 70 years of inaction on disarmament and confronted with a new nuclear arms race, the vast majority of countries determined that together they could make a difference.

They were not disappointed. Not only did they manage to negotiate and adopt a strong new treaty, but it is already starting to have some of the impacts that its earliest proponents hoped it could.

Achieving entry into force

One hundred and twenty-two governments voted for the Treaty's adoption on 7 July 2017. When the instrument opened for signature on 20 September 2017, over 50 countries signed immediately. Since then, governments around the world have initiated their internal processes to sign and ratify the Treaty. Fifty ratifications are necessary for the Treaty's entry into force. In the meantime, parliamentarians and other political figures in countries around the world – including those countries whose governments have not necessarily been supportive of the nuclear ban – have been pledging to work to achieve their government's ratification of the Treaty. About 600 parliamentarians have so far signed the Parliamentary Pledge,² which is coordinated by the International Campaign to Abolish Nuclear Weapons (ICAN).

ICAN is also actively encouraging supportive countries to undertake their ratification processes, and is working in countries that have so far not supported the ban to shift positions. This requires educating governments about the Treaty's benefits, its consistency with their rhetoric and commitments to nuclear disarmament, and on what changes are necessary (or not necessary) to be in compliance with this new instrument.

Generating cognitive dissonance

These conversations themselves have an impact on the status quo. The process to ban the bomb has, more than any other disarmament initiative before it, exposed the cognitive

²See <http://www.icanw.org/projects/pledge> for current signatories.

dissonance of ‘nuclear deterrence’, illuminating its corrupt self-serving rationale and its influence over international affairs. Those engaged in banning nuclear weapons took away the veil of legitimacy and authority of the nuclear-armed states – dismantling their arguments, disrupting their narratives, and ultimately standing up to their projection of power.³

With the TPNW now firmly on the table, debates about the ban and about nuclear weapons are only increasing. This means new opportunities for public discussion about the nature of nuclear weapons, about the policies and practices that sustain them and put the world at risk, and about alternatives for global security.

In this context, the tension between many governments’ stated commitment to achieving a nuclear weapon free world and their actual policies that support the maintenance of these weapons is becoming clearer and more public. Several countries, such as Norway, Italy, Sweden, and Switzerland, are undertaking investigations into the legal and political implications of joining the TPNW. Some government officials already seem to be struggling with the dissonance between their current policies and their own rhetoric. The Norwegian prime minister, for example, said in an interview with Norwegian Broadcasting Service (NRK Dagsrevyen) that while Norway supports the North Atlantic Treaty Organization (NATO)’s strategic doctrine, which includes nuclear weapons, Norway itself does not have a policy of being under a nuclear umbrella. Attempting to dissociate Norway from the use of nuclear weapons, she nevertheless admitted that Norway supported NATO having and being willing to use nuclear weapons, including in ‘defence’ of Norway.⁴

This kind of intellectual wrestling with the reality of being complicit within the system of nuclear ‘deterrence’ – the practice and policies which put the world at risk of annihilation – is a product of the stigmatization process. Stigmatizing nuclear weapons is proving to be essential – and rather straightforward. There is already a baseline from which to further undermine the justifications for these weapons. Even the countries that declare nuclear weapons essential for their security already respond with righteous indignation and economic sanctions against any new country that is suspected of developing a nuclear weapon capacity. If a North Korean or Iranian bomb is so awful that anything is justified to stop it, how is an American or Russian bomb any different? If we are afraid of nuclear weapons in Trump’s hands, aren’t we really afraid of nuclear weapons altogether? Regardless of which country or leader uses these weapons, the results will be the same. This is what it means to stigmatize the weapons, rather than those that wield them.

Facilitating economic divestment

Another product of the stigmatization process is economic divestment. One of the key aspirations for the nuclear ban was that it could prohibit the financial investment in nuclear weapon production and maintenance. While this does not appear as a specific

³See for example Alexander Kmentt, ‘The Development of the International Initiative on the Humanitarian Impact of Nuclear Weapons and Its Effect on the Nuclear Weapons Debate’, *International Review of the Red Cross* 97, no. 899 (2015): 681–709; Nick Ritchie, ‘Valuing and Devaluing Nuclear Weapons’, *Contemporary Security Policy* 34, no. 1 (2013): 146–73; and Matthew Bolton and Elizabeth Minor, ‘The Discursive Turn Arrives in Turtle Bay: The International Campaign to Abolish Nuclear Weapons’ Operationalization of Critical IR Theories’, *Global Policy* 7, no. 3 (2016): 385–95.

⁴Transcript from NRK Dagsrevyen interview with Norway’s Prime Minister Erna Solberg, December 19, 2017, <https://tv.nrk.no/serie/dagsrevyen>.

prohibition in the TPNW, it is included in the prohibition on assisting, encouraging or inducing anyone to engage in any activity prohibited by the Treaty.

In practical terms, this means that states parties to the TPNW would need to withdraw any government money (such as pension funds) from companies that produce nuclear weapons. It also means that banks, pension funds and other financial institutions will face pressure to withdraw their money from such companies. In this way, the nuclear ban is likely to have a significant impact on nuclear weapon modernization programmes and financial investments in nuclear weapons, delivery systems, and related infrastructure.

Companies get and stay involved in the nuclear weapons business because it brings them significant income with low financial risk or investment. The work and relationships with governments involved in nuclear weapons facilitate other profitable activities, e.g. in the development and marketing of nuclear power stations, in physical security, or in surveillance, intelligence, and counter-proliferation. The prohibition on 'assistance' with prohibited acts has a material impact on the corporations involved in the production of nuclear weapons. It helps to undermine these companies' rationale for being involved with the nuclear weapons business. For nuclear warheads per se, only a fairly small number of companies are involved, but many of these companies greatly value their wider international business.

The divestment campaign accompanying the treaty banning cluster munitions has been successful in affecting the financial interests of corporations producing these weapon systems and related components. Even within countries that have not joined the Convention on Cluster Munitions, companies have ceased production on these illegal weapons. For example, the last company producing cluster munitions in the United States, Textron, announced in August 2016 that it would no longer produce these weapons. The US government has not allotted funds for cluster munition production since 2007, even though it did not join the Convention adopted in 2006.⁵

Many investment firms and pension funds are already divesting from nuclear weapons – including in those countries that have not yet joined the TPNW. The Norwegian government announced it will exclude investments in BAE Systems, AECOM, Fluror Corp, Huntington Ingalls Industries and Honeywell because of these companies' involvement in the production of key components for nuclear weapons.⁶ The largest Dutch pension fund, the civil servants fund Stichting Pensioenfond (ABP), has decided to end its investments in producers of nuclear weapons. The pension fund recognizes that the TPNW was decisive in its decision.⁷

As of 2016, about 390 financial institutions around the world invested 498 billion USD in 27 companies involved in the production, maintenance and modernization of nuclear weapons.⁸ However, a number of institutions have already excluded nuclear weapon production from their investment portfolios, or are in the process of making this change. Don't

⁵Thomas Gibbons-Neff, 'Why the Last U.S. Company Making Cluster Bombs Won't Produce them Anymore', *The Washington Post*, September 2, 2016, <https://www.washingtonpost.com/news/checkpoint/wp/2016/09/02/why-the-last-u-s-company-making-cluster-bombs-wont-produce-them-anymore>.

⁶Alan Tovey, 'BAE Ditched by Norway's \$1 Trillion Investment Fund over Nuclear Weapon Concerns', *The Telegraph*, January 16, 2018, <http://www.telegraph.co.uk/business/2018/01/16/bae-ditched-norways-1-trillion-investment-fund-nuclear-weapon>.

⁷Maike Beenes, 'Largest Dutch Pension Fund to Divest from Nuclear Weapons', *Don't Bank on the Bomb*, January 11, 2018, <https://www.dontbankonthebomb.com/largest-dutch-pension-fund-to-divest-from-nuclear-weapons>.

⁸See the latest figures from Don't Bank on the Bomb, <https://www.dontbankonthebomb.com/who-invests>.

Bank on the Bomb, a report issued by the Dutch civil society organization Pax Christi Netherlands (PAX), keeps track of the companies involved in nuclear weapons as well as the banks and other institutions investing in them, and promotes actions that everyone can undertake as part of a nuclear weapon divestment campaign.

Challenging ‘realism’ and smashing the patriarchy

As well as economic divestment, the nuclear ban has also enabled ideological divestment from ‘deterrence’ and other arguments used to justify the maintenance and possession of nuclear weapons. It has also exposed and challenged patriarchal tactics used to suppress the perspectives and agency of anyone who might challenge those in a dominant position.

Outlawing nuclear weapons in an international agreement that the nuclear-armed states did not negotiate has created much consternation in the political, diplomatic and academic spheres. Scepticism about the utility of the TPNW has been greatly encouraged by the nine countries that possess nuclear weapons: China, France, India, Israel, Pakistan, North Korea, Russia, United Kingdom and United States. Some US allies – those that claim security from US nuclear weapons and rely on the myth of ‘extended nuclear deterrence’ for their perceived protection – have also contributed to the embittered naysaying about the ban.

Their arguments are generally that the proponents of the ban do not understand the security concerns of countries with nuclear weapons – that they are naive, irrational, irresponsible, impractical and even emotional.

The governments supporting the ban were largely those of the global south. Almost all countries in Africa, Latin America, the Caribbean and Southeast Asia supported the initiative. A cross-regional ‘core group’ of countries, consisting of Austria, Brazil, Ireland, Mexico, Nigeria and South Africa, together with a number of others such as Costa Rica, Jamaica, Malaysia, New Zealand and Thailand, drove the process forward despite the opposition to it. These governments were encouraged and supported by ICAN, representing almost 500 organizations in over 100 countries, as well as the International Committee of the Red Cross and the global Red Cross and Red Crescent movement.

When the governments possessing or supporting nuclear weapons accuse these countries and civil society groups of being naive, irrational, irresponsible and emotional, it comes across both as racist and patriarchal. These accusations assert that the dominant countries’ perspective on security and nuclear weapons is the only acceptable option. That the ‘security interests’ of countries with nuclear weapons are more important than the rest of the world’s concerns with the catastrophic humanitarian and environmental consequences of the use and possession of nuclear weapons.

The basis upon which these assertions are made is usually unjustified, misinformed, and rooted in a material or political commitment to the status quo. These claims bear some scrutiny. What is ‘practical’? What is ‘rational’? How do we measure these concepts and who determines the measurements? In the dominant discourse, those who are the most negatively affected by nuclear weapons development, testing, stockpiling and threatened use – women, indigenous peoples, the poor, inhabitants of the areas in which the weapons are stored – are not considered reliable sources for these determinations.

Instead, critiques coming from those affected, or from anyone who wants to elevate the voices and perspectives of those affected, are dismissed as ‘emotional’. This dismissal is

highly gendered. When those flexing their 'masculinity' want to demonstrate or reinforce their power and dominance, they try to make others seem small and marginalized by accusing them of being emotional, overwrought, irrational or impractical. Women have experienced this technique of dismissal and denigration for as long as gender hierarchies have existed. The denial of reason in one's 'opponent' is destabilizing. It is an attempt to take away the ground on which the other stands, projecting illusions about what is real, what makes sense, or what is rational. It means putting self as subject and the other as object, eliminating their sense of and capacity for agency.

In the case of the nuclear ban, it is not just the reason or rationality of those supporting the prohibition and elimination of nuclear weapons that is denied by the nuclear-armed states. It is also the lived experience of everyone who has ever suffered from a nuclear explosion, or mining of nuclear material, or dumping of nuclear waste.

Objectification of others and control of 'reality' are integral to patriarchy, as they are to concepts like 'nuclear deterrence' and 'geostrategic stability' as a mechanism to maintain the current global hierarchy. The nuclear-armed states resisted the development of the humanitarian discourse because it focuses on what nuclear weapons actually do to human bodies, to societies, to the planet. Such evidence undermines the abstraction of nuclear weapons as deterrents or protectors, and refocuses attention on the fact that they are tools of genocide, slaughter, extinction.

Within this patriarchal construct of the world order, disarmament seems impossible – like a utopian vision of a world that cannot exist because, the argument goes, there will always be those who want to retain or develop the capacity to wield massive, unfathomable levels of violence over others, and therefore the 'rational' actors need to retain the weapons for protection against the irrational others. The refusal by the nuclear-armed states to constructively engage with the humanitarian discourse represents an acceptance of human beings intentionally put in harm's way – as objects, viewed within an abstract calculus of casualty figures. It stands in stark contrast to the concepts and laws of human rights and dignity and poses a serious challenge to global justice.

This approach also insists upon the notion that states, as coherent units, must always be at odds with one another, seeking an 'accommodation' of their differences rather than collectively pursuing a world in which mutual interdependence and cooperation could guide behaviour through an integrated set of common interests, needs, and obligations, considerations that characterize human security, distinguishing it from state centred notions of security. Policy decisions are based on conceptions of power imbued with mistrust, threat, fear and violence. Such policies do not allow for other types of inter-state engagement or relationship between citizens and states; they dismiss such alternatives, characteristic of feminist and human security-based approaches, as utopian and unrealistic.

This practice of clinging to the established theory of 'realism' limits the range of acceptable responses to the nuclear ban treaty and accurate analyses of its potential or actual impacts. It also limits the ability of the theory's advocates and adherents from confronting the challenges that nuclear weapons pose to security and stability, at national and international levels.

In his history of scientific revolutions, Thomas Kuhn argues that each shift in science is hard come by, due to resistance of scientists to let go of existing theories.⁹ Students study

⁹Thomas S. Kuhn, *The Structure of Scientific Revolution* (Chicago, IL: University of Chicago Press, 1962).

the precepts of paradigms to prepare for membership in the community with which they will later practice. Each person whose research is based on these shared paradigms is committed to the same rules and standards. When scientists, as a community, are confronted with information that is inconsistent with the collective understanding of how the world works, there is generally broad resistance to these challenges. Even when confronted with 'severe and prolonged anomalies', they are unlikely to renounce the paradigm that has led them into crisis until they have a new theory ready to take its place.¹⁰

We are in a paradigm shift around nuclear weapon theory now. It took courage for states negotiating and signing the TPNW to stand up to the nuclear-armed states – courage that was denied them repeatedly by those entrenched in the dominant discourse of realism and international relations theory. A handful of governments have thus far controlled the narrative and even much of the scholarship on nuclear weapons for so long that most of the world believes they have the legitimate right to do so. But they do not. The adoption of the nuclear ban makes this very clear. Undertaken by a collective partnership of civil society and diplomatic actors in the face of strong opposition by the nuclear-armed states and some of their nuclear-supportive allies, the process to ban the bomb has confronted structures of power within international relations. Academics and others engaged in the production of knowledge will need to contend with this new reality moving forward, which in turn will have an impact on what are considered legitimate actions and processes in the future.

Supporting and sustaining the resistance

The story of the nuclear ban – and why it could be achieved now – must be seen in the much larger context of broad global resistance to injustice and oppression. Nuclear weapons are part of bigger systems of patriarchy, racism, militarism and capitalism – systems that have been challenged throughout history, and that are being challenged now in new ways, from new collectives of people around the world.

Women and LGBTQIA people are leaders in the current anti-nuclear movement, challenging the normative discourses that traditionally allow certain perspectives to be heard. Women also played a leading role amongst the diplomats in the process to ban nuclear weapons, with some delegations to the negotiations even being comprised solely of women. People of colour also played a leading role in the nuclear ban. The process was galvanized and led by the nonwhite world, both in terms of governments and civil society. ICAN campaigners from Brazil to Kenya to the Philippines were instrumental in advocacy while most of the governments involved in the process are also from the global south. Indigenous nuclear weapon test survivors from Australia and the Marshall Islands gave testimony during negotiations alongside Japanese atomic bomb survivors. Nuclear weapon policy has long been recognized as racist and colonial.¹¹ Banning nuclear weapons meant taking a stand against these policies, working together at the United Nations where all countries are supposed to have an equal say.

¹⁰*Ibid.*, 77.

¹¹See for example Vincent J. Intondi, *African Americans Against the Bomb: Nuclear Weapon, Colonialism, and the Black Freedom Movement* (Stanford, CA: Stanford University Press, 2015); and Kjølvi Egeland, 'UK Nukes: Why the World Is Asking Britain to Disarm', *New Internationalist*, October 26, 2016, <https://newint.org/contributors/kjolv-egeland>.

As with all other social justice issues, laws will not fix everything straight away – and whatever gains are made are assaulted by push back from those who fear loss of their privilege and power. But things do change. The nuclear ban must be seen in this context: in the context of resistance to injustice, inequality and oppression; and in the context of making meaningful change through acts of courage. This is something that the nuclear ban has offered to the world: an act of resistance and hope; an example of creating change in the face of powerful opposition. Regardless of whatever else the nuclear ban brings from here, this in itself has incredible significance.

Disclosure statement

No potential conflict of interest was reported by the author.

Notes on contributor

Ray Acheson is the Director of Reaching Critical Will, the disarmament programme of the Women's International League for Peace and Freedom (WILPF). She represents WILPF on the International Steering Group of the International Campaign to Abolish Nuclear Weapons (ICAN).

Testimony for January 28th NYC Council Public Hearing, Re: Res. 0976 and INT. 1621

January 20, 2020

Dear Esteemed New York City Council,

I am writing in memory of my late partner, Bayard Rustin, to urge the NY City Council to pass Res. 0976 and INT. 1621 in support of the Treaty on the Prohibition of Nuclear Weapons and divestment from the nuclear industry.

Bayard, a long-time New Yorker, is mainly known as a civil rights activist and the organizer of the 1963 March on Washington for Jobs and Freedom. He had a long history of involvement with a variety of social justice issues including economic justice, immigrant and refugee affairs, and LGBT rights. During the Koch administration he testified twice before the New York City Council in support of laws protecting the LGBT community.

His work against militarism and atomic/nuclear weapons began in the 1940s with the American Friends Service Committee. He traveled the country speaking out against militarism and the dangers of the arms race. Learning of the destruction of Hiroshima and Nagasaki, he reflected on the threat that such awesome power posed to human survival.

In the late 1950s he was arrested not far from these chambers when he refused to take shelter during an air raid drill. Joining Dorothy Day and other peace activists, he remained in City Hall Park during a time of mandatory evacuation to underground shelters.

Working with the British Committee for Nonviolent Action, he helped organize a delegation to travel to the Algerian Sahara to protest French testing of an atomic bomb in 1959. He marched with the Campaign for Nuclear Disarmament from London to Aldermaston, England, after addressing a crowd at Trafalgar Square.

In 1964 he spoke here at an anti-Vietnam War rally here on the anniversary of the destruction of Hiroshima.

Were he with us today, I know he would be here urging the NY City Council to move forward on these initiatives.

Walter Naegle
West 28th Street
New York, NY. 10001

Walter Naegle
West 28th Street
New York, NY.

] January 21, 2020

State Senator Scott Weiner
California State Legislature
Sacramento, California

Dear Senator Weiner,

I am writing to express my support for your effort to have my late partner, Bayard Rustin, pardoned by Governor Gavin Newsom for a 1953 conviction on a morals charge.

Although Bayard passed away in 1987, such a pardon would be a symbolic gesture recognizing a violation of the concept of equal justice under the law. During the 1950s, gay men were victimized by laws that were not equally applied to heterosexuals. The rampant homophobia of our society led to stigmatization of gay men, often resulting in the loss of employment, damage to familial relationships, and sometimes even suicide.

Bayard, who was an activist in the fight for universal human rights for more than 60 years, was a confident and courageous individual who did not let this arrest deter him from his life's work, despite attempts by the enemies of freedom and civil rights to silence him. Sadly, many others who were victims of laws enacted during that homophobic period did not fare so well.

I am grateful for the work you have done in California to advance an agenda of civil rights and equality for all, an agenda that reflects the values of Bayard and his close associate, Dr. Martin Luther King, Jr.

Do let me know if there is anything I can do in support of this effort.

Sincerely yours,

Walter Naegle
Surviving partner of Bayard Rustin.

Testimony in favor of New York City Council Resolution 0976-2019
Timmon Wallis, PhD

Hello, my name is Timmon Wallis. I'm Executive Director of NuclearBan.US, which works with individuals, faith communities, businesses, colleges, cities and states to help them align themselves with the Treaty on the Prohibition of Nuclear Weapons by boycotting and divesting from the companies involved in the nuclear weapons business. Like everyone else here, I have a lot more to say about nuclear weapons than can be said in two minutes.

So I'm going to restrict myself to one very small point on which I can speak with some authority, since it was the subject of my PhD thesis. It has to do with President Reagan and the INF Treaty of 1987.

As you may recall, Ronald Reagan was elected President in 1980, with an obsessive hatred of the Soviet Union and a massive \$1.5 trillion program to upgrade and modernize every nuclear weapon in the US arsenal. Seven years later, he was sitting down with the President of the "evil empire" to sign the most comprehensive disarmament treaty ever agreed up to that point.

How do we explain that? Was it the pressure on the federal government from countless petitions and phone calls, cities declaring themselves Nuclear Free Zones, resolutions calling for a Nuclear Freeze? Was it a million people marching in the streets here in New York City in 1982?

All of these things helped to create the conditions necessary for a change of policy, but all of them put together were still not enough to make that change happen. What finally tipped the balance was economic pressure on the companies involved in the nuclear weapons business: consumer boycotts launched against General Electric and Morton Salt, and divestment campaigns targeting Ford Motor Company, AT&T and many others. Cities like Chicago and Oakland were not only divesting, but also refusing to award city contracts to these companies.

It is impossible to overstate the impact this was having on these companies. And it was then these companies who finally convinced the Reagan administration to change course.

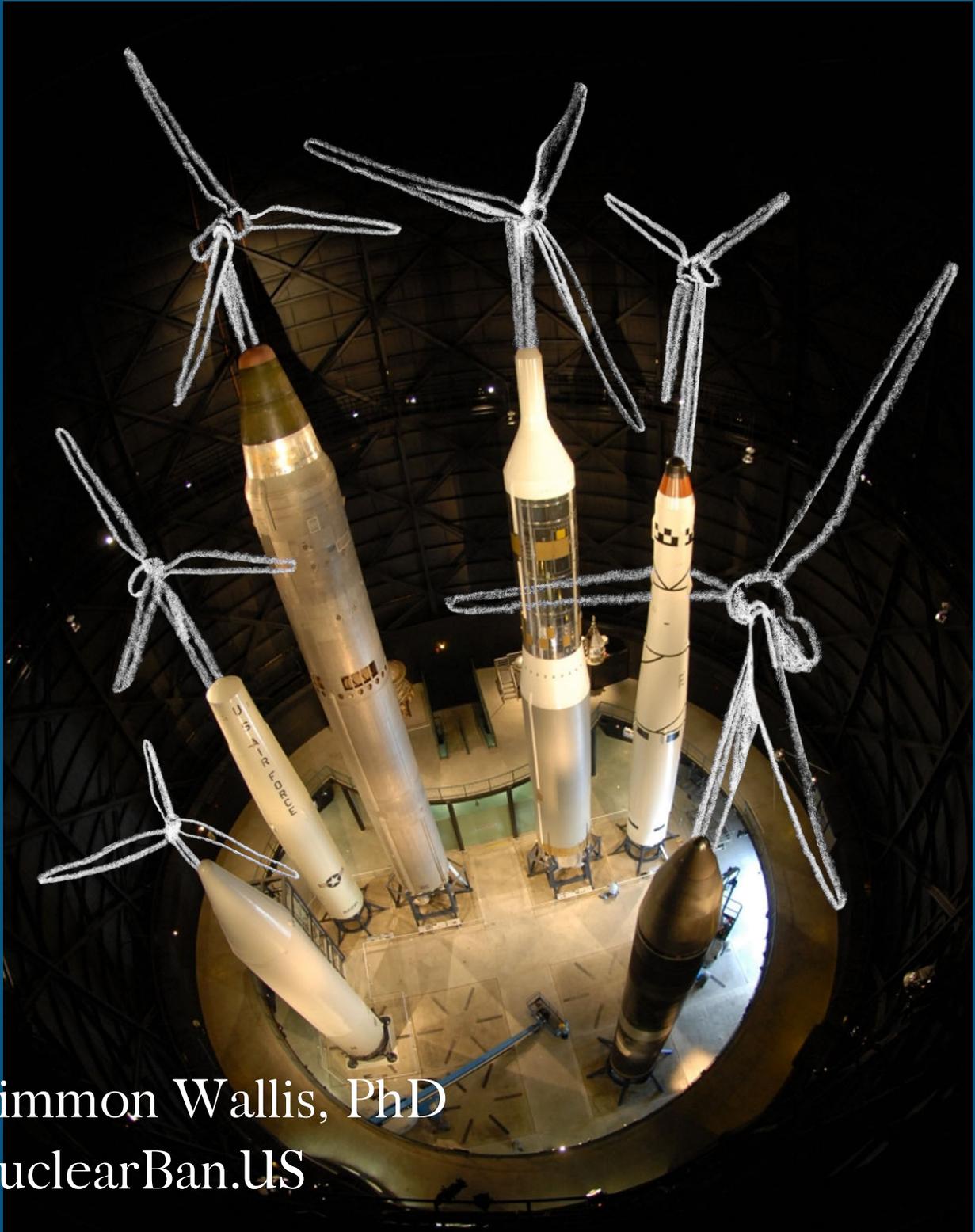
That is the very short version of a lot of detailed research. We already know from lots of other campaigns that the best way to a politician's heart is through their corporate campaign contributors. And if that's what it took to freeze the nuclear arms race in the 1980s, that's what we need to be doing now to finally eliminate these weapons before they eliminate us. That's why this divestment resolution is so important, especially coming from a city as large and important as New York City. Thank you for taking this hugely significant step. You are helping to turn the dream of a nuclear-free world into a reality.

Dr. Timmon Wallis, NuclearBan.US, 59 Gleason Rd, Northampton, MA 01060

Additional background information: T. Wallis, *Economic Pressures and the INF Treaty: How Boycott and Divestment Campaigns Helped Halt the Nuclear Arms Race in the 1980s*

Warheads to Windmills

How to Pay for a Green New Deal



Timmon Wallis, PhD
NuclearBan.US

*This is for our children and grandchildren,
and for all those working to ensure a safe and healthy future for us all.*

Cover photo: National Museum of the USAF

Cover artwork: Emily Wallis

Author: Timmon Wallis has a BA in Human Ecology and a PhD in Peace Studies. He has written and campaigned extensively on peace and environmental issues over several decades and his most recent book is *Disarming the Nuclear Argument: the Truth about Nuclear Weapons*, published by Luath Press, Edinburgh, 2018. He is currently the Executive Director of NuclearBan.US, a partner of the International Campaign to Abolish Nuclear Weapons, which won the 2017 Nobel Peace Prize for its work facilitating the UN Treaty on the Prohibition of Nuclear Weapons.

Acknowledgements: Thanks to Vicki Elson, Randy Kehler, Jeff Korff, Dalyan Babcock, Daniel Bullen, Sarah Bloomgarden, Andy Larkin, Janet McKenna Lowry, Nancy Horn, Paul Niquette, Peter Kobel, Sheila Siragusa, Anthony Donovan, Susi Snyder, David Grant, Peter Bergel, Jackie Balance, Rita Webb, Stephen Verchinski, Ellis Brooks, David Andersen, Marty Nathan and Eileen Kurkoski for research, editing, graphics, suggestions, feedback and other support that made this report possible.

NuclearBan.US
59 Gleason Rd,
Northampton, MA
01060 USA

www.nuclearban.us
(413) 727-3704
info@nuclearban.us
@nuclearban_us

Our survival as a planet depends on drastically curbing greenhouse gas emissions in the very near future.

Our survival also depends on completely eliminating the danger of nuclear weapons.

By fortunate coincidence, the resources (federal funding, private funding, scientific and technical expertise, jobs and infrastructure) currently being wasted on nuclear weapons can be shifted to the production of green technologies to address the climate crisis.

Table of Contents

EXECUTIVE SUMMARY	6
INTRODUCTION.....	8
FACING UP TO THREE LIFE-THREATENING EMERGENCIES.....	9
The climate crisis.....	9
The nuclear nightmare	10
Nuclear weapons are also a climate issue.....	11
Inequality and injustice – The third emergency	12
The global dimension.....	13
SOLUTIONS – A GREEN NEW DEAL	14
Addressing the climate crisis – why a Green New Deal?	14
What is meant by a Green New Deal?.....	15
What are the specific targets of a Green New Deal?.....	16
Reaching GND goal #1: Electrifying transportation.....	17
Reaching GND Goal #2: 100% Clean and renewable electricity	19
Reaching GND Goal #3: Electrifying commercial and residential buildings.....	24
Reaching GND Goal #4: Banning HFCs.....	24
Reaching GND Goal #5: Agricultural reforms	25
Reaching GND Goal #6: Industrial reforms.....	25
Reaching GND Goal #7: Reforestation and land restoration.....	25
How can a Green New Deal address inequality and injustice?.....	26
How much will a Green New Deal cost?.....	28
How can a GND ensure emission targets are met globally?	31
SOLUTIONS – THE NUCLEAR BAN TREATY.....	33
Addressing the nuclear nightmare – why abolition?.....	33
What is the Nuclear Ban Treaty?	34
What does signing the Nuclear Ban Treaty mean for the US?.....	35
Eliminating nuclear weapons – how can it be done?	36
What do we currently spend on nuclear weapons?	38

IT'S NOT JUST ABOUT THE MONEY	41
What jobs will be required to implement a Green New Deal?	41
Research agenda for a Green New Deal	42
What skills are being wasted on nuclear weapons?	43
Mapping nuclear weapon jobs to a Green New Deal	44
Building the global consensus needed to solve these problems	45
CONCLUSIONS	47
What you can do now	48
Appendix 1: Nuclear power is not the answer	49
Appendix 2: Biomass and biofuels are not the answer	53
Appendix 3: Carbon capture and storage	54
Appendix 4: Sample of job opportunities for engineering graduates	55
Appendix 5: Calculating the overhead cost of nuclear weapons	56
Appendix 6: Calculating the estimated cost of building 100% renewable electricity ..	57
Appendix 7: Renewable Energy and Related GND Jobs	58
Appendix 8: Nuclear weapons jobs	60
Endnotes	62

A note on terminology used in this report:

- “Carbon” is short-hand for carbon dioxide and equivalent greenhouse gases.
- “CO₂e” stands for carbon dioxide equivalent and is the standard measurement for all greenhouse gases converted to their equivalent amount of carbon dioxide.
- “MMT” is the quantity of carbon or CO₂e emitted in million metric tons.
- “MW” stands for megawatts, or a million watts, or a thousand kilowatts (kW).
- “GW” stands for gigawatts, or a thousand megawatts.
- “kWh” stands for kilowatt hours, and is a measurement of how many kilowatts of electricity is used over a period of time, for instance in a year.
- “Capacity” is the maximum amount of MW or GW an electricity generating source is supposed to be able to deliver at any one time.
- “Capacity factor” is the percentage of time that an electricity generating source is normally operating at full capacity.
- An electricity generating source, such as a power plant or a wind farm, will have a capacity measured in MW or GW and a capacity factor of perhaps 50% for a power plant or 20% for a wind farm (since the wind doesn’t always blow). With 8,760 hours in a year, a 100 MW wind farm with a capacity factor of 20% would produce 175,200 MWh of electricity in a year (100MW x .20 x 8760 = 175,200).

EXECUTIVE SUMMARY

Three emergencies that threaten our existence

1. Climate

- **We have 10 years to make drastic changes.** The latest Inter-governmental Panel on Climate Change (IPCC) report gives us until 2030 to make radical cuts in greenhouse gas emissions, and until 2050 to reduce these emissions to zero (net), if we are to avoid the worst effects of climate change.
- Damage from extreme weather events cost the US \$400 billion in 2018, and this cost could easily reach \$3 trillion per year by 2050.
- The cost of air pollution from burning fossil fuels is estimated to be as much as \$176 billion per year, or as much as \$5.2 trillion total by 2050.
- There is currently not enough **investment in green technologies.**
- Many of the **scientists needed for green innovation** are tied up in nuclear weapons and other life-damaging businesses.
- Whatever we do in the US will be insufficient if the rest of the world doesn't also make a rapid shift to a green economy, and there is currently too much **animosity and competition** among nations to come together to solve this problem in the time we have left.

2. Nuclear weapons

- Nuclear weapons are unthinkably **dangerous** to every living being on earth, whether they are detonated by accident or on purpose, no matter where.
- The Bulletin of Atomic Scientists has its "Doomsday Clock" currently set at 2 minutes to midnight.
- These weapons are now militarily obsolete; using them would be suicidal.
- They are extremely **expensive**, and Department of Defense figures reveal only a fraction of their full cost.
- Taxpayers are currently paying as much as \$70 billion per year for nuclear weapons-related costs.

- Current plans to "modernize" the nuclear stockpile will cost the US over \$1.7 trillion over the next 30 years (and even this could be an underestimate).
- The Department of Defense budget is now approaching \$750 billion per year.
- Other military-related spending (tucked inside the Department of Energy budget, for example) brings the total to nearly \$1 trillion for FY2020 (money that could be used for medical care, education, housing, food, and programs that sustain life). **This is more than the rest of the world combined spends on the military.**
- The US has built a reputation of invading and bombing other countries, assassinating opponents in other countries, interfering in other countries' elections, pulling out of treaties, and ignoring global agreements.
- US nuclear weapons are a very explicit threat to utterly destroy any country at will.
- **They undermine the very foundation of international cooperation and the goodwill essential for solving global crises like climate.**

3. Inequality and injustice

- We have now reached grotesque and unsustainable levels of inequality in the US and in the world.
- The top 0.1% of US households now have the same amount of wealth as the bottom 90%.
- Globally, the richest 1% of the population now owns more than 45% of the world's total wealth.
- This harms everyone, rich and poor alike.
- We need buy-in and participation from all demographics to solve problems that affect everyone.
- Many "solutions" to climate change continue to harm and exploit poor and indigenous communities, while enabling business as usual for wealthy polluters.

We have the solutions

A Green New Deal

- A “Green New Deal” is a mass mobilization of resources to make the changes by 2030 that can lead to a **carbon neutral economy by 2050**.
- This means moving swiftly to electric cars and heating and 100% clean, renewable energy by 2030, plus completing changes to industry and agriculture by 2050.
- Nothing short of this will achieve the required cuts to greenhouse gas emissions in the timescale we have left.
- A GND will require as much as **\$9 trillion of investment over the next 30 years**, or as much as \$300 billion per year.
- But that’s not a cost as much as a capital investment, since it will be recouped by future sales of electricity, electric vehicles, electric public transport fares, and other income.
- **A GND would produce enormous savings, millions of jobs, and other benefits, including healthier air.**
- A GND would require many green-collar workers: PV installers, wind turbine construction workers, electric car and bus production line workers, etc.
- A GND must also have a large number of experts in science, technology, engineering, and math (STEM) to solve some highly complex and technical problems like large-scale battery storage, more efficient solar panels, zero emission airplane fuels, etc.

The Nuclear Ban Treaty

- The US has been legally committed to eliminating nuclear weapons since the Non Proliferation Treaty (1970).
- **The Nuclear Ban Treaty (2017) now outlaws everything to do with nuclear weapons.**
- The Treaty creates a pathway for **multilateral, verifiable nuclear disarmament**.
- Unlike the climate crisis, getting rid of nuclear weapons does not require a re-tooling of the entire economy.

- **The money saved can be redirected to green technologies essential for solving the climate crisis.**
- **Scientific talent can be redirected to crucial research needed for a GND.**

Jobs, justice and cooperation

- A GND can provide millions of decent, well-paid jobs, lower the cost of basic necessities like heating and electricity, and subsidize the transition to a renewable economy.
- Private investment and charity cannot solve inequality and injustice – a GND must focus on lifting the most vulnerable out of poverty and providing real opportunities for working and middle class families.
- A GND for the US must include investing considerable support in other countries.
- There must be a fundamental change in the way the US treats the rest of the world.
- A GND cannot focus exclusively on what’s “best” for Americans.
- We’re all in this together, and without a strong commitment to international cooperation and solidarity, we will not survive as a species.

We can pull together as a planet, pay for a Green New Deal, eliminate nuclear weapons, and prioritize justice. This is not optional. Our children are speaking out to demand sensible action to safeguard our future.

“You are not mature enough to tell it like it is. Even that burden you leave for us children... You say you love your children above all else, and yet you are stealing their future in front of their very eyes.” - Greta Thunberg¹

INTRODUCTION

Unless we take swift and decisive action to reduce global carbon emissions, the consequences of **climate change** will be catastrophic. This is a life-threatening emergency that can only be adequately addressed in the timeframe we have available to us through a profound change in our priorities, as in a **“Green New Deal.”**

The existence of **nuclear weapons** is also a life-threatening emergency that threatens all life on this planet, and needs to be addressed with equal urgency. The world has now outlawed these weapons through the **2017 Treaty on the Prohibition of Nuclear Weapons (or “Nuclear Ban Treaty”)**. It is up to the US to lead the way to their total elimination.

Paying for a Green New Deal is going to require money, skills, jobs, technological innovation and infrastructure on an unprecedented scale. It will also require working much more cooperatively with other countries. Eliminating nuclear weapons will release a huge amount of money, skills, jobs, technological innovation and infrastructure needed for a Green New Deal. And it will also help to transform our relationship with the rest of the world.

And underpinning both of these global emergencies is a third emergency of equal importance: an emergency of spiralling **inequality and injustice** that makes both nuclear war and uncontrolled climate change both more likely and more dangerous. Unless we simultaneously address the grotesque levels of inequality, both within and between

countries, we will not be able to solve the other two global emergencies we face.

That is why the Green New Deal that has been proposed by Massachusetts Senator Markey and New York Representative Ocasio-Cortez is about creating jobs, supporting the poorest and most marginalized communities, and **addressing the inequalities and injustices around us as we address climate change.**

There are many, many other issues that are also of huge importance right now – and they can be solved, **as long as humanity itself survives.**

Nothing we have ever faced in all of human history is as important as what we do now in the face of these global life-threatening emergencies.

Since the climate and nuclear crises are such profoundly egregious examples of injustice and political corruption, it’s possible that solving them can offer renewed hope, strategies, and energy for solving the epidemic of gun violence; the systemic racism that is not just denying people opportunities but literally killing them; the cycle of terrorism and wars that just breed more terrorism; the injustices suffered because of sexual orientation and gender identification; and the broken systems of health care, immigration, and mass incarceration.

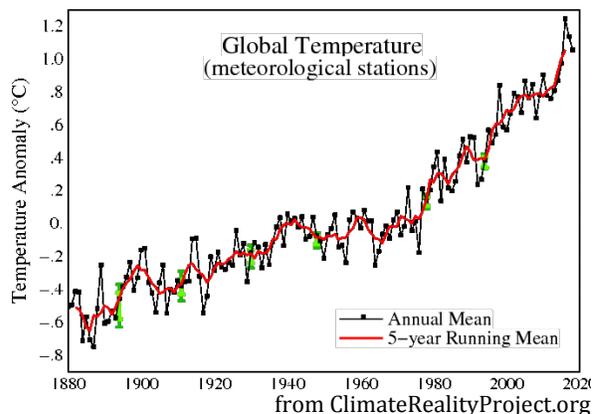
Our survival is not guaranteed. This is the choice before us as we approach the 2020 national election cycle: will the people of this country rise up and demand that we address these three life-threatening emergencies as our absolute top priority?

Nothing we have ever faced in all of human history is as important as what we do now in the face of these global life-threatening emergencies.

FACING UP TO THREE LIFE-THREATENING EMERGENCIES

The climate crisis

Global temperatures have already increased by approximately 1°C (or 1.8° F) since the beginning of the industrial age.² Levels of carbon dioxide in the atmosphere are now higher than they have been for at least one million years.³



Carbon dioxide (along with certain other greenhouse gases, or GHG) absorbs heat from the sun and reflects it back to earth, thus creating the “greenhouse” effect of warming the earth’s surface. Climate scientists have enumerated in great detail the effects this has already had on global ecosystems upon which we all depend for our survival.⁴

We cannot predict exactly what will happen if the earth continues to heat up. We do know, however, that if all 25 billion tons of ice that sit on top of Antarctica were to melt, **sea levels would rise by more than 200 feet.**⁵ We also know that increased temperatures cause increased drought, so if temperatures continue to rise, this will eventually lead to **catastrophic crop failure** across all major grain-producing areas of the globe.⁶

Other possible effects of uncontrolled climate change include the collapse of ecosystems and the **mass extinction** of species,⁷ **mass migration** of people as coastal areas flood and

extreme temperatures make areas of the world uninhabitable, and **extreme weather events** causing even more migration and disruption, as well as physical damage costing trillions of dollars to the global economy.⁸

The Paris Climate Agreement, reached in December 2015, committed every country in the world to do what they could to prevent global warming from reaching 2°C (or 3.6° F) above pre-industrial levels. Many campaigners at the time felt that a limit of 2°C was too high to prevent runaway climate change.

In November 2018, the latest report from the Inter-governmental Panel on Climate Change (IPCC)⁹ confirmed their worst fears. The verdict from the world’s leading climate scientists is that allowing global temperatures to increase to 2°C above pre-industrial levels will create instabilities and extremes in global weather patterns which *could* be **catastrophic to human civilization as we know it.**¹⁰

Avoiding the most extreme effects of climate change will require a 45% cut in global carbon emissions by 2030.

Avoiding the most extreme effects of climate change will require, according to the IPCC report, a **45% cut in global carbon emissions by 2030**, reaching a target of net-zero carbon emissions by 2050.¹¹ This is required to keep global warming to no more than 1.5°C above pre-industrial levels.

Even 1.5°C of global warming will have serious consequences. Going beyond that is now too dangerous to contemplate.

The nuclear nightmare

By now, most people in this country are aware that climate change is a life-threatening emergency that must be urgently addressed. They may be at least dimly aware that **an exchange of nuclear weapons would be the end of human civilization as we know it, and possibly of all life on earth.**

The fact that we have not had such a war in over 70 years has lulled many people into thinking that nuclear war *cannot happen*. Indeed, we have been reassured by those in positions of authority that nuclear weapons keep us safe and will never be used.¹²

The belief that the world can continue to hold onto nuclear weapons indefinitely without ever using them is as dangerous as the belief that we can go on burning fossil fuels indefinitely without causing a climate catastrophe.

It is not just the possibility of nuclear war that poses an existential threat to human civilization. Just one detonation in a city, by accident or on purpose, would kill millions. The immediate casualties would overwhelm the response capacity of the entire global Red Cross/Red Crescent and overflow every burn bed in every hospital on the planet. Women, girls and fetuses would suffer the most from ionizing radiation. Food and water would be toxic for generations. There is no possible military or political agenda worth such a risk.

These weapons are made by human beings and they are managed by human beings. **They break down, they have faulty parts, they malfunction, they get lost.**

And the people who look after them make mistakes, they fall asleep on the job, they take drugs on the job, they forget how to do their tasks. In 2007, 6 US nuclear weapons went “missing” for several hours because they were loaded onto the wrong plane and sent to the wrong air force base in the wrong state.¹³ In 2013, 17 officers with the authority to launch nuclear weapons were stripped of their duties because of a “pattern of weapons safety rule violations...”¹⁴ And in 2016, 14 airmen responsible for guarding America’s ICBM nuclear missiles were disciplined for drug offenses.¹⁵

The belief that the world can continue to hold onto nuclear weapons indefinitely without ever using them is as dangerous as the belief that we can go on burning fossil fuels indefinitely without causing a climate catastrophe.

If an 82-year old nun can break into the “Fort Knox of uranium,” imagine what terrorists could do.¹⁶

As many as 50 nuclear weapons currently lie at the bottom of the sea.¹⁷

They have sunk with submarines, rolled off ships, or been jettisoned from airplanes. In 1961, two 4-megaton nuclear bombs were dropped on North Carolina after a plane caught fire and broke up in mid-air.¹⁸ One of the bombs was

recovered and the other one is still 180 feet underneath a cornfield, cordoned off but still there, more than 50 years later, because it would be too dangerous to try to remove it.¹⁹

Nearly 2,000 out of a stockpile of 7,000 U.S. nuclear weapons are standing by, 24 hours a day, **on “hair-trigger” alert**, ready to be launched at a moment’s notice with an order from the President, or even through the actions of a rogue military officer with access to the launch mechanisms. **This is not a distant, far away threat. This is an immediate, life-threatening emergency.**

Nuclear weapons are also a climate issue

Nuclear weapons are designed to destroy entire cities and kill millions of people. We know from nuclear power plant disasters like Chernobyl and Fukushima how fast and how far radioactivity can spread, affecting people many thousands of miles away from a nuclear accident or explosion.

Radioactive particles get into the air we breathe, the water we drink, and the soil we depend on for food. They work their way up the food chain, and people eventually die – years or even decades later – from cancers and other effects of radiation poisoning.

It is now estimated that **as many as 2.4 million people worldwide have died or will die from cancers caused by the nuclear weapons testing** in the atmosphere during the 1950s and 60s – nearly 10 times as many as died initially from the atomic bombs dropped on Hiroshima and Nagasaki in 1945.²⁰

Radiation is not the only danger that threatens the entire planet no matter where a nuclear explosion might take place. Because of the extensive research on climate change that has been going on in recent years, we also now know much more about the **impact of nuclear weapons on climate**.²¹

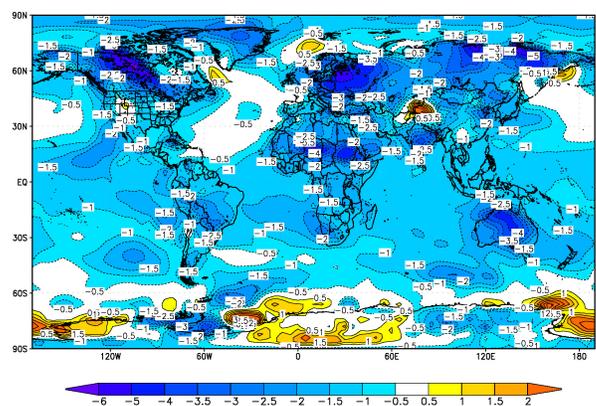
The nuclear weapons testing in the 1950s and 60s was mostly done in deserts or on “deserted” islands in the South Pacific.²² Scientists calculated how much soot would be drawn into the upper atmosphere if these weapons were instead detonated on large modern-day cities, like Moscow, New York, Beijing or London.

Estimates of the likely impact of a full-scale exchange of nuclear weapons between the US and Russia suggest that as much as 150 million tons of soot could be blasted into the upper atmosphere.²³ This would **lower global temperatures by as much as 7 degrees C** (or 12 degrees F) for an extended period of time, plunging major food-producing regions of the

world to below-freezing temperatures for several summers in a row and causing **widespread famine**.²⁴

Even a so-called “limited” nuclear war, involving a nuclear exchange between India and Pakistan for instance, could result in a sufficient drop in global temperatures to starve up to two billion people as a result of crop failures and worldwide famine.²⁵

Climate Effects of Nuclear War in S. Asia²⁶



The possible use of nuclear weapons is therefore also a climate issue. The risk to human civilization and to the planet is roughly equivalent, whether the earth is suddenly overheated as a result of fossil fuel burning or suddenly overcooled as a result of nuclear war. **In either case, billions of people would die of famine and the underlying ecosystems we all depend on would be at serious risk of collapsing.**

Unfortunately, the two potential climate catastrophes do not cancel each other out. A little bit of nuclear winter is not the antidote for a little too much carbon dioxide in the atmosphere. We must work now to prevent both of these climate disasters from ever happening.

Inequality and injustice – The third emergency

The climate crisis and the nuclear nightmare both pose an unacceptable risk to the future of the planet that must be addressed. And there is another time bomb that is ticking away, which, if not addressed, could be just as disastrous.

Levels of inequality, within the United States as well as globally, have reached staggering proportions and continue to increase. Reverend William Barber of the Poor People's Campaign calls the levels of poverty and inequality in this country a "moral emergency."²⁷

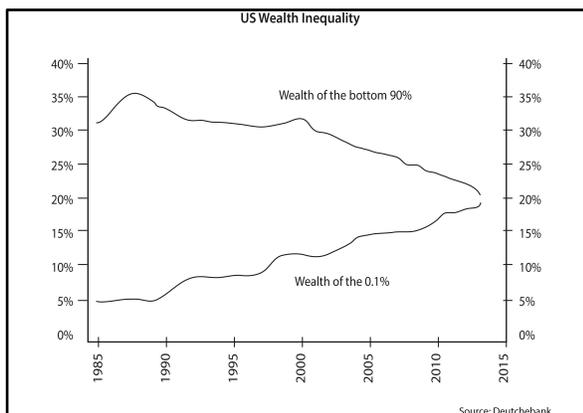
According to a recent survey,²⁸ 78% of all US workers are living "**paycheck to paycheck.**" As many as 100 million people²⁹ are living in "**near poverty**" – just on the edge of being able to make ends meet. About 40 million US-Americans are living in conditions that the UN would define as "**poverty,**" 18.5 million in "**extreme poverty,**" and 5.3 million in "Third World" conditions of "**absolute poverty.**"³⁰

In the United States, **people of color** are twice as likely as white people to fall into one of the "poverty" categories.³¹ It was inevitably the poorest who were affected most by flooding in New Orleans and hurricanes in Puerto Rico. And it will be the poor who starve first, whether from global warming or from nuclear winter.

These extremes of poverty are in one of the wealthiest countries in the world, with over 11 million millionaires, 540 billionaires and a national output of over \$20 trillion.³² And the gap just keeps on increasing, to the point where the top 0.1% of US households now have the same amount of wealth as the bottom 90% of households (see chart).³³

Globally, the figures are even more extreme, with 80% of humanity earning less than \$10 a

day and 1.3 billion people living in extreme poverty.³⁴ The richest 1% of the world's population now owns more than 45% of the world's wealth.³⁵



Poor and indigenous people suffer the worst effects of climate change, nuclear mining and testing, war, and pollution. For full global participation in climate solutions, we need everybody's participation, and we must be careful of "solutions" that involve continued exploitation of poor and indigenous people and pollution of their environments.

For example, forms of carbon trading that allow polluters to "offset" their emissions by supporting forest preservation in poor countries have the potential to benefit national governments and trading companies, while leaving the people who live in those forests without traditional livelihoods, jobs, compensation, or access to their ancestral lands.³⁶

Climate change and nuclear weapons are emergency situations because if we do not address them *now*, it may soon be too late. We cannot know the consequences of continuing indefinitely to increase the wealth of the richest at the expense of the poorest. History tells us that societies that do not meet the needs of their people do not long survive.³⁷

The top 0.1% of US households now have the same amount of wealth as the bottom 90%.

The global dimension

None of these three emergencies can be solved by the United States alone. Poverty and extreme levels of inequality are drivers of anger, hostility, instability, war and terrorism across the globe. Walls along our borders can no more keep out the rest of the world than they can keep out rising sea levels or drifting clouds of radiation.

We cannot even address the growing inequality *within this country* without also addressing the bigger picture. As long as the wealthiest people are able to simply move their wealth to other countries to avoid more progressive or fairer tax laws here, the effect of those laws is much reduced. And as long as companies can simply move their factories abroad to avoid giving their workers better pay or conditions here, that affects the pay and conditions of *all* workers in this country.

No matter what the United States might do to address the climate crisis, it will remain a crisis if other countries do not do likewise. Companies move around to avoid environmental restrictions or tougher regulations, making it impossible to address a problem as serious as the climate crisis unless all countries band together and agree to follow the same course of action.

International agreements like the Paris Climate Accords are essential for addressing problems that face all of us no matter where we live. But **they are also essential for building the cooperation and goodwill needed to maintain a functioning planet.**

For the past 70 years, nations without nuclear weapons were excluded from having any say about these weapons, even though the devastating impacts of a nuclear war would affect them all.

It took until the 2017 Treaty on the Prohibition of Nuclear Weapons for the vast majority of non-nuclear armed nations to finally stand up to nine nuclear-armed nations³⁸ and say “enough is enough”. Even if two relatively “lightly” armed nuclear countries, like India and Pakistan, were to launch nuclear weapons at each other, the effects would be disastrous for the whole planet. **The world is just too small a place for nuclear weapons ever to be used by anyone.**

The United States claims that these weapons are “essential” for our security. This is nothing other than an incitement to proliferation. For if these weapons are essential for the survival of the United States, why would they not be equally essential for the survival of every other country on the planet? And if they *are* essential for every other country on the planet, why does the United States go to such great lengths to try and stop North Korea, Iran or any other country from having them?

The truth is that nuclear weapons are *not* essential for the survival of the United States. They are obsolete and outdated dinosaurs of the Cold War era and the longer they remain in *anyone’s* hands, the greater the risk of them being used, on purpose or by accident.

What these weapons do is swallow up vast resources and undermine the cooperation and goodwill essential for solving *any* global issue. They divide the world yet further into “haves” and “have nots,” then they threaten the “have nots” with obliteration, demanding that we get our way “or else.” We cannot move forward as a planet with such an approach.

SOLUTIONS – A GREEN NEW DEAL

Addressing the climate crisis – why a Green New Deal?

In order to keep global warming to no more than 1.5°C above pre-industrial levels, we need to achieve a 45% cut in global carbon emissions³⁹ (from 2010 levels) by 2030, reaching a target of net-zero carbon emissions by 2050.⁴⁰

There are many possible pathways to reaching the IPCC target of net-zero carbon emissions by 2050. But **there is really only one way to cut emissions to the extent required by 2030, and that is by moving swiftly to electric vehicles (EVs), to electric heating, and to clean wind and solar powered electricity.**

Other steps are required to reach net-zero emissions over the next 30 years. But unless we take these hugely important steps (and make some initial headway on the others) during the next 10 years, we will have missed our one chance to avert climate catastrophe.

A “Green New Deal” (or GND) would move the US and the rest of the world off of their dependency on fossil fuels and onto a new path in just 10 years. **This simply cannot happen through “market forces” or personal lifestyle choices.**⁴¹ More energy conservation measures and reductions in the massive amounts of energy we waste as a society are still needed, but to address the scale of the requirement, serious government intervention is required.

The Obama administration committed many tens of billions of dollars to clean energy over several years, and this helped to jump start progress on a number of fronts.⁴² More

investment, stronger legislation and a real commitment from all sectors of society is needed to achieve the goal. The next administration will need to address all this on a scale **not seen since the New Deal⁴³ of the 1930s and 40s.** But it will also require action at local and state levels, as well as at the level of individuals, organizations and institutions. These do not need to wait for a new government to be elected in Washington.

This simply cannot happen through ‘market forces’ or personal lifestyle choices... Serious government intervention is required.

A GND needs to begin right now, and it needs to address the other two life-threatening global emergencies if it is to achieve the targets needed to address the climate crisis.

Failing to address inequality risks failing on climate because the measures needed to cut carbon require more than government intervention. **These measures require the buy-in and participation of a very large number of people.**

If the net result of government measures to address the climate crisis is that large numbers of people end up in the same economic condition as they are now, or even worse off, they are unlikely to accept it. And without cooperation from citizens, it is hard to see how these measures can succeed.

Failing to address the nuclear nightmare also risks failing on climate. The money, skills and infrastructure currently wasted on nuclear weapons are urgently needed for addressing the climate crisis. And we need the international cooperation and goodwill that is currently being squandered by the way we treat the rest of the world.

What is meant by a Green New Deal?

The US Green Party has been promoting the concept of a Green New Deal since 2006.⁴⁴ The idea was picked up by Alexandria Ocasio-Cortez and others in 2018 and turned into House of Representatives Resolution 109, with 67 original co-sponsors. Senator Ed Markey introduced the identical resolution in the Senate, but it was voted on and defeated almost immediately after it was introduced. The House Resolution, as of June 2019, has 93 co-sponsors and has been referred to 11 committees and 10 sub-committees for consideration.



Alexandria Ocasio-Cortez Photo: Dmitri Rodriquez

Many of the Democratic candidates for president have indicated support for a Green New Deal, although with differing degrees of enthusiasm and with some markedly different ideas of what they mean by it. Jay Inslee, whose singular campaign focus is the climate crisis, has come out with the most detailed proposal so far, but all the major presidential contenders are following suit with proposals that acknowledge the urgency of the issue, to some degree.⁴⁵

In order to be effective, any Green New Deal has the following fundamental features:

1. **A Green New Deal must be a bold and sweeping call to tackle the climate crisis head on, with a 10-year “national mobilization” on a similar scale to the original New Deal of the 1930s.** The age of fossil fuels is over. A transformation of our entire economy is required in order to adjust to that new reality.

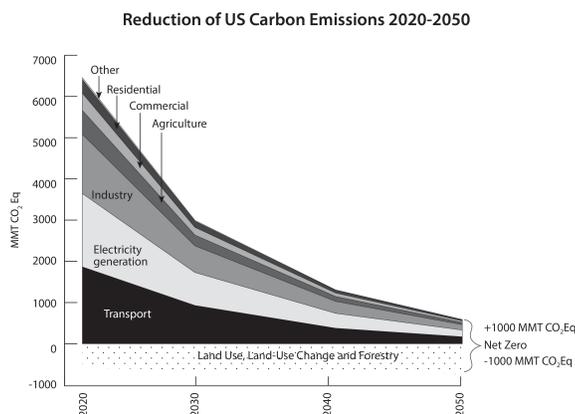
2. While a GND calls for a 10-year mobilization, it also explicitly refers to the IPCC target of keeping global temperatures to 1.5°C above pre-industrial levels by **achieving a 45% reduction in global greenhouse gas emissions by 2030 and net-zero emissions by 2050.**⁴⁶ That is the timescale required and it can't happen any slower than that. Although many would like to see it happen faster, in all probability, it cannot.
3. **The aim is 100% clean, renewable, zero-emission energy supplies.** There is no agreed definition of what this includes, but biomass, which is renewable, is not clean or zero-emission. And nuclear power, which some consider “clean,” relies on uranium supplies, which are highly toxic and not “renewable.”⁴⁷ Continued reliance on fossil fuels is ruled out completely, with or without “carbon capture and storage.”⁴⁸
4. A GND is designed to address the climate crisis without making the poorest and most vulnerable worse off, but instead **by providing millions of decent, well-paid jobs, better working conditions and better living conditions for all.** This is absolutely core to a GND and cannot be taken away without losing what gives it that name.

There are many possible pathways to reaching the IPCC target of net-zero carbon emissions by 2050. But there is really only one way to cut emissions to the extent required by 2030, and that is by (1) undertaking a massive shift to wind and solar powered electricity, (2) beginning the transition to electric vehicles and (3) beginning the transition to electric heating for buildings and industry.

No plan for meeting the carbon reduction targets can succeed without major reductions in these three areas. **Luckily, these are the three areas where cheap and effective alternatives already exist and can easily be upscaled to meet the targets.**

What are the specific targets of a Green New Deal?

In 2017, the US emitted roughly 6,500 million metric tons (MMT) of carbon. The IPCC targets use the figures for 2010 as their starting point, and in 2010, the US emitted nearly 7,000 MMT of carbon.⁴⁹ So we have already achieved an 8% reduction towards our goal of a 45% reduction by 2030. In real terms, this means we need to cut a further 2,650 MMT in carbon emissions to reach a goal of 3,850 MMT of carbon emissions by 2030.



The two largest sources of carbon emissions in this country are **transportation** (currently pumping out 1,866 MMT of carbon per year) and **electricity generation** (pumping out 1,778 MMT of carbon). **These are also the two easiest sectors of the economy to address in the timescale we have available.**

Cutting emissions from the industrial and the agricultural sectors is not impossible and it will have to happen. But it will be costly, complicated and time-consuming. These sectors cannot, therefore, be the top priorities for achieving rapid reductions by 2030.

Cutting emissions from commercial and residential buildings will also have to happen. While this is not complicated,⁵⁰ it will still be costly and time-consuming, and cannot therefore be a top priority for a GND.

Target 2030

What *can* happen by 2030, with sufficient investment and legislation to back it up, is:

1. A transformation of the car industry so that it is producing only electric vehicles by 2030 (leading to only electric vehicles on the road by 2050). Carbon reduction = **620 MMT** by 2030, **1,800 MMT** by 2050.
2. A transformation of the electricity industry so that it is producing no electricity from fossil fuels by 2030 (leading to 100% clean, renewable electricity by 2050). Carbon reduction = **1,830 MMT**⁵¹ by 2030.
3. A transformation of the building and construction industry so that it is designing, building and retrofitting only 100% fossil-free buildings by 2025, with a program in place to retrofit every building in America to be 100% fossil-free by 2050. Carbon reduction = **50 MMT**⁵² by 2030, **610 MMT** by 2050.
4. A complete ban on HFCs as a refrigerant. Carbon reduction = **150 MMT** by 2030.

There are many other steps that can and must be taken as part of a GND in order to ensure we are on track to achieve net-zero carbon emissions by 2050. But these four steps taken on their own are sufficient to achieve the goal of no more than **3,850 MMT** of carbon emissions by 2030.

Target 2050

In order to achieve the 2050 target of net-zero emissions, a further 2,800 MMT of carbon emissions must be cut and 300 MMT of carbon absorption capacity *added* to the 700 MMT of existing carbon absorption capacity:

5. A transformation of farming techniques to reduce use of nitrogen fertilizers, increase crop rotation, and capture methane from manure. Carbon reduction = **300 MMT** by 2050.
6. A transformation of the industrial processes for making steel, cement and other products that currently depend on the use of fossil fuels. Carbon reduction = **725 MMT** by 2050.

7. Carbon absorption capacity must also be increased by planting 32.5 million trees per year on existing federal lands to **absorb 300 MMT** of carbon per year by 2050.

This would mean that by 2050 approximately 1,000 MMT of carbon is going into the atmosphere along with approximately 1,000 MMT of carbon coming out, achieving net-zero carbon emissions for the United States.

2017 US carbon emissions (in MMT) by economic sector with targets for 2030 and 2050

Source for 2017 emissions: EPA Inventory of US Greenhouse Gas⁵³

Economic sector	2017 emissions	Reductions 2020-2030	2030 targets	Reductions 2030-2050	2050 targets
Transportation	1,866	620	1,246	1,164	82
Electricity generation	1,778	1,778	0	-	0
Industry	1,436	202	1,234	722	512
Agriculture	582	-	582	291	291
Commercial	416	25	391	360	31
Residential	331	25	306	270	36
Other	47	-	47	-	47
TOTAL	6,457	2,650	3,806	2,806	1,000
- Carbon absorption	(714)		(714)	+286	(1,000)
=Net emissions	5,742		3,092		0

Reaching GND goal #1: Electrifying transportation

Bicycles are the most efficient form of human transportation ever invented. Sadly, they are unlikely to replace cars.

Electric cars

Rapid advances in battery technology and lowering of prices mean that electric cars are fast approaching the same price bracket as gasoline-powered and hybrid cars. 200,000 electric vehicles (EVs) were sold in 2017, and 360,000 in 2018. That was an 80% increase in one year, but it still represents only 2% of the 17 million vehicles sold in the US each year.⁵⁴

Following California's lead, there are now ten states with laws that require automakers to sell a certain percentage of electric cars and trucks in their state.⁵⁵ Other incentives at the city and state level can help speed up this process.

The IRS tax credit of up to \$7,500 for a new electric vehicle brings the cost of an EV closer to that of an equivalent gasoline-powered car, but under current rules, this incentive will be phasing out rather than increasing. A GND will

need to prioritize incentives like this to encourage the rapid increase in EV sales and to make it possible for lower-income families to transition to electric vehicles.

But most importantly, there will need to be a clear decision, enacted into federal law, which simply says that **by 2030 all vehicles sold in the United States must be fully electric.**

That would still leave a large number of gasoline and diesel powered cars and trucks on the road in 2030. But there would be 85 million fewer by then than the 272 million on the road today. And that would mean 620 MMT less carbon emissions going into the atmosphere.

With only electric vehicles to choose from after 2030, **virtually every car would be electric by 2050, simply through normal rates of replacement**, although this could also be enforced through legislation. By 2050, a further 1,000 MMT less carbon emissions would then be going into the atmosphere.



2-door EV selling new in 2019 for \$17,450⁵⁶

To be selling only electric vehicles in the US by 2030 means increasing sales by roughly 40% every year from now to 2030. That is only half the rate of growth quoted above for 2018, but it is still a huge rate of change for any industry. In addition to providing incentives to car buyers, a GND will need to support the automotive industry through this transition, particularly with continuing investments in battery improvements and in developing clean industrial processes for car production itself.

SUVs, pickup trucks and semis

A number of manufacturers are already producing electric SUVs and pickup trucks, so the transformation in this area will follow only slightly behind that for cars.

Heavy-duty trucks and semis are not that far behind. Tesla announced in 2017 that it was starting production of its **first all-electric heavy-duty semi with a 500-mile range**. Daimler delivered its first all-electric “eCascadia” Freightliner truck at the tail end of 2018,⁵⁷ and other manufacturers, including Nikola Motors, Volvo, Thor and MAN-VW have recently announced all-electric versions of their leading truck models.



Daimler’s eCascadia electric semi unveiled, Dec 2018. PHOTO: Electrek⁵⁸

Government support will again be needed to speed up the transition to electric trucks and to get diesel powered trucks off the roads by 2050. New regulations requiring all new vehicles sold in the US by 2030 to be electric, including trucks, will be the deciding factor.

Public transportation

Electric buses have been commonplace in Europe for many years, but in the US there are so far only 300 electric buses operating in the whole country. (For comparison, China has more than 400,000 electric buses.) Replacing existing fleets of fossil-fueled buses with electric buses will be comparatively easy and straightforward, with few additional costs to municipalities.

Electric trams, subways and trains, on the other hand, require extensive infrastructure that does not yet exist in most parts of the country. How much a GND should prioritize trains is an important question.

At present, diesel powered trains account for just 42 MMT of carbon emissions. But to eliminate those emissions will require electrifying the entire rail network nationwide. If that has to be done sooner or later anyway, it makes no sense to invest in all that infrastructure without also creating a **national high-speed rail network** that would serve the needs of the traveling public.

High-Speed Rail

One of the arguments for high-speed rail is that it would cut down on air travel as well as the use of cars. California’s high-speed rail project aims to cut the travel time between San Francisco and Los Angeles to 2 hours and 40 minutes, competing with the 1 hour and 40 minutes it takes to fly between the two, not counting the time to and from airports, checking in, collecting bags, etc.

China built 12,000 miles of high-speed rail network across a country similar in size to the United States in just 9 years.⁵⁹ The US High Speed Rail Association believes it can build a similar network in the US, covering 17,000 miles of track, in 20 years.⁶⁰ But it requires a big investment.



Artist impression - the Boeing SUGAR Volt⁶¹

Air travel

Air travel accounts for more than 120 MMT of carbon emissions and it will take some time to eliminate this. Fossil-free air travel requires powerful and very lightweight batteries, but these are coming. Two-seater battery-powered electric airplanes already exist, and the **first hybrid electric passenger airliner**, the Boeing SUGAR Volt, is currently under development.⁶²

Ships

Ships, of course, have sailed the seven seas for centuries without the use of fossil fuels. However, rather than returning to the era of sailing ships, new developments in marine propulsion are already well underway, with battery-powered cruise ships, ferries and the **world's first 2,000-ton electric cargo ship** currently under construction in China.⁶³

Reaching GND Goal #2: 100% Clean and renewable electricity

Of course, electric transportation itself is of little help unless the electricity itself is clean. In addition to cutting emissions from the transportation sector, a GND must therefore reduce and eliminate the carbon emissions of electricity generating plants by moving rapidly to clean, renewable sources and phasing out fossil fuels, biomass and nuclear power.⁶⁴

Utility-scale wind and solar power, together with existing hydro-power resources, is already producing nearly 20% of the nation's electricity. With sufficient government support, this can be scaled up to as much as 90% by 2030, reducing carbon emissions by 1,780 MMT CO₂e. By 2050, with closure of the remaining nuclear power plants, we would have a fully 100% clean, renewable electricity supply.

Reducing the carbon emissions of the transport sector, as well as a great deal of the industrial, commercial and residential sector, involves moving from fossil fuels to electricity as a source of heat and propulsion. This means

in the short to medium term a significant *increase* in our electricity consumption as we move to electric cars, electric heating of buildings and so on.

Electric vehicles currently consume approximately 0.2-0.34 kWh of electricity per mile of travel. Gasoline powered vehicles in the US currently travel approximately three trillion miles per year. So if all those vehicles were powered instead by electricity, that would be an additional 600-900 billion kWh of electricity generation needed on top of the existing load of approximately 4,200 billion kWh per year (by 2050).

Currently, approximately 116 million homes in the US are heated with gas. Homes vary enormously in size and energy efficiency, but assuming it takes, on average, about 10,000 kWh per year to heat a home with electricity, that is an additional 1,160 billion kWh of electricity to be added to the existing load per year for home heating. Adding the extra electricity needed for vehicles and home heating brings the total electricity needs of the

United States up from 4,200 to over 6,300 billion kWh per year by 2050, or roughly 50% more than we use at present. This can be reduced with better energy efficiency and a stronger commitment to energy conservation, but to present a viable alternative to fossil fuels, renewable energy sources need to be able to meet the expected future energy needs.

Calculating future US electricity needs

Billions kWh	2018	2030	2050
Existing electricity consumption	4,178	4,200	4,400
Added electricity needed for vehicles	-	234	750
Added electricity needed for heating	-	68	1,160
Total electricity needs	4,178	4,502	6,310

Producing all our future electricity needs from renewable sources is totally doable with the technologies we already have and at a cost that will more than pay for itself with cheaper electricity prices over the long-term.

What is needed to unlock these resources, more than anything, is the **unequivocal commitment of the federal government to a fossil-free future.** Without that, it is difficult to see how utilities, private investors or even committed individuals will take the steps necessary to make that happen.

Wind

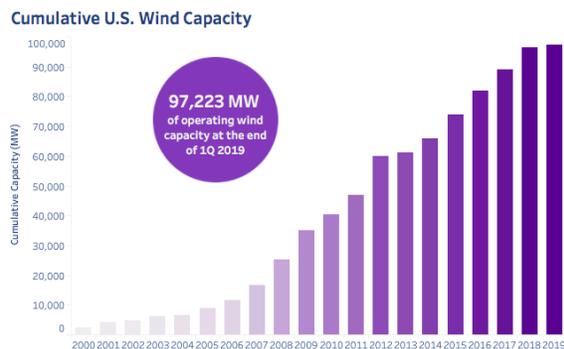
The technical potential ⁶⁵ for generating electricity from wind resources in the US is estimated to be more than 11,000 GW from onshore wind and another 4,200 GW from offshore.⁶⁶ This is vastly greater than the total amount of electricity currently available in the US from all sources (1,200 GW).

The Obama administration produced a detailed study in 2008, updated in 2015,

which looked at the prospects for wind power in the United States.⁶⁷ The report concluded that wind power could provide 10% of the nation’s electricity by 2020, 20% by 2030 and at least 35% by 2050. That report was based purely on existing market trends and not on any assumption that the federal government might step in to help speed up the process.

When the report first came out in 2008, wind was providing just 1.5% of the nation’s electricity. As of 2018, it was already providing about 6.6% of the nation’s electricity and 8% of the nation’s generating capacity.

Meanwhile, the cheapest wind power (using the levelized cost of electricity, or LCOE) has fallen below \$30/MWh, the report’s estimate of what that figure might reach by 2030. With gas currently priced at \$41-\$74/MWh (LCOE), the economics of electricity generation have now shifted decidedly in favor of wind, even without government intervention.



Source: AWEA

Utility-scale wind farms

There are currently over 200 wind farms operating across 30 states, with a total generating capacity of nearly 100 GW (roughly equal to the total generating capacity of all nuclear power plants currently operating in the US). There is another 17 GW of wind power currently under construction and a further 22 GW in advanced stages of development.⁶⁸

Wind energy is not 100% renewable, because it takes steel and cement to make a windmill, and at present, those are very fossil fuel

dependent materials. There is growing opposition to wind farms for other environmental and aesthetic reasons. More research is needed to better address these issues and to reduce the harms.

However, if we are to address the climate crisis in the timescale required, we have no choice but to increase the pace of wind development in this country.

At the current pace of adding roughly 20 GW of wind power per year, we would reach a total wind capacity of around 300 GW by 2030. We need to be **doubling** the current rate of growth to 40 GW per year in order to bring the capacity up to over 500 GW by 2030.

Off-shore wind

Wind blowing over the ocean is generally much stronger and more consistent than wind blowing inland. More than 18 GW of wind is installed off the shores of UK, Denmark and Germany. Currently, the US has only one offshore wind farm, producing 0.03 GW off the coast of Rhode Island. But with a potential for harvesting more than 4,000 GW of US offshore wind, this is a resource which is likely to take off very soon. At least ten offshore wind projects are currently under development in seven states. These will ensure at least 10 GW of offshore wind will be up and running in the near future.⁶⁹

While the costs of installing offshore wind are considerably higher than for onshore wind farms, the reliability and efficiency of the turbines, once installed, should more than offset these costs over the longer term. More financial support will be needed to significantly increase the contribution from offshore wind, but eventually this has the potential to generate nearly as much as is currently projected for onshore wind (perhaps 100 GW by 2030 and 300-400 GW by 2050).

Distributed wind

Smaller-scale wind turbines installed on homes, farms, schools, factories, commercial premises and government buildings are another important source of electricity, especially for rural communities.

The Distributed Wind Energy Association (DWEA) estimates that there are 23 million suitable locations for distributed wind in the US, with the potential for 1,100 GW of generating capacity, or roughly the current total generating capacity from all sources.⁷⁰

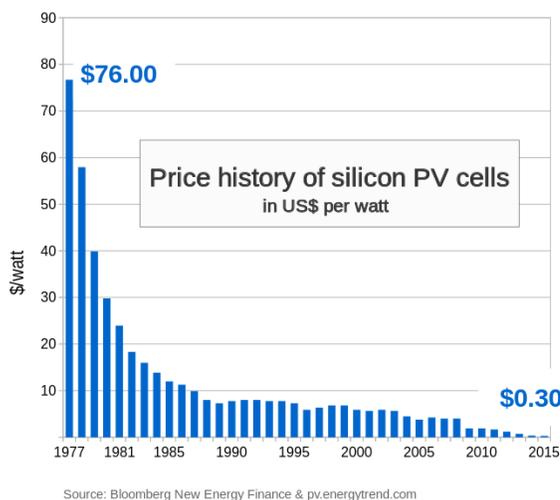
The DWEA launched a strategy in 2014 to achieve 30 GW of distributed wind by 2030. Installed distributed wind capacity as of 2017 stood at around 1 GW of electricity from over 81,000 turbines in all 50 states.⁷¹

Solar

Solar power comes in two main forms: **photo-voltaic (PV)** solar panels that convert sunlight directly into electricity, and various forms of **solar thermal (CSP)** power that concentrate the heat of the sun to boil water and run turbines similar to any other electricity generating plant.

PV solar panels are made predominantly from quartz, which is the most abundant mineral on the planet. However, other toxic chemicals and materials are involved in the production, as well as large amounts of energy.

Large-scale solar PV farms also take up a lot of open space that could be used for farming or recreation. Once again, **it is literally impossible to prevent climate catastrophe without a massive shift to solar power**, so it must be a priority to resolve these continuing issues through the setting of high safety and environmental standards.



Source: Bloomberg New Energy Finance & pv.energytrend.com

Utility-scale solar PV farms

There is now 64 GW of Photo-Voltaic (PV) solar capacity in this country, providing just 2% of the nation's electricity.⁷² For solar to be providing somewhere between 30% and 50% of the nation's electricity by 2050 would require installing another 64 GW or so of solar panels each year for the next 30 years.⁷³

Costs per kWh have fallen even faster for solar PV than they have for wind. This makes utility-scale solar PV farms much more attractive as an option, especially in parts of the country where sun and vast open spaces are both plentiful.

Concentrated solar power (CSP) plants

As of 2017, there were 50 CSP (solar thermal) projects worldwide, with nearly 5 GW of electricity generating capacity, mostly in Spain. These involve a field of mirrors pointing the rays of the sun to a central tower where water is boiled to run turbines. So far, only eight of these are in the US, mostly in California. Total CSP capacity of these plants as of 2017 was 1.8 GW.⁷⁴

Although PV technologies are now considerably cheaper, CSP has the advantage of being able to store energy (using molten salt) without the use of batteries and to step up production to meet peak demand. For these reasons, many consider CSP an important part of the mix in terms of future electricity production.

Distributed Solar (Rooftop)

Up to half the total solar contribution will need to come from **rooftop installations** on homes and commercial buildings.⁷⁵ Unlike small rooftop wind turbines, which are much less efficient than the giant ones, rooftop solar panels can be as efficient as those found on massive solar farms.

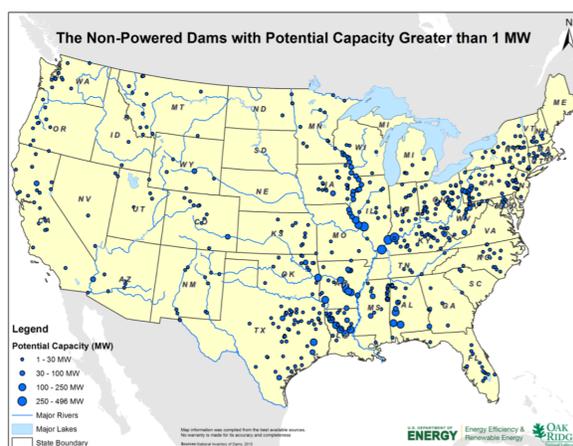
This means potentially providing large numbers of people not just with carbon-free electricity, but with virtually free electricity.

Hydroelectric

Hydroelectric power from existing dams currently provides about 12% of the nation's

electricity, with 80 GW of capacity from conventional dams, plus another 23 GW of pumped storage.

In addition to the 2,500 dams that currently produce hydroelectricity, there are approximately 80,000 "non-powered" dams across the country. A DOE report from 2011 suggested as much as 22 GW of additional electricity could be generated from just 100 of these existing dams, without the need to build any new dams or disrupt environments.⁷⁶

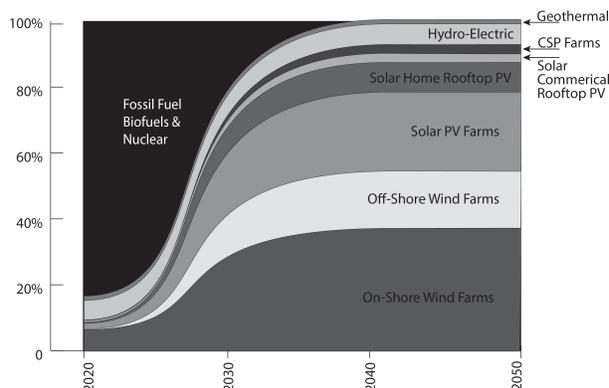


Another study in 2014 by Oak Ridge National Laboratory identified a further 65.5 GW of potential hydroelectric power from areas that would cause the minimum environmental and recreational disruption.⁷⁷

Geothermal

There are currently 32 geothermal energy plants with a total capacity of 3.7 GW of electricity in the US (including one in

Sources of Electricity 2020-2050



Hawaii).⁷⁸ A number of new plants are under construction or planned in several states with geothermal potential. Total geothermal potential in the US is estimated at 9 GW out of 200-230 GW worldwide. So the contribution of geothermal to overall electricity demand will remain small.

Wave and tidal power

Wave power is an emerging technology that could contribute substantial grid-connected power, but not yet, and not without substantial investment. The U.S. Department of Energy estimates that wave power could be generating as much as 100 to 150 GW of electricity, although the “practical resource potential,” which factors in the economic, environmental, and regulatory considerations, would likely be somewhat less.⁷⁹

Still, if we captured even a portion of the potential of the wave energy available in the USA’s 12,383 miles of coastline, we might meet up to about a quarter of all US electricity needs. Tidal power has about a quarter of the potential of wave power, or 7.5 to 10% of US consumption. Ocean currents and river currents have less potential, together offering perhaps 5 to 9% of US consumption.⁸⁰

Storage

Electricity demand across the country varies hour by hour as well as seasonally because of peak requirements at certain times of the day or year. Currently, peak demand is met by an over-capacity of generating power that can be turned on and off as needed. Since the sun does not shine at night and the wind does not always blow, renewable energy sources are generally less useful in meeting peak demand as and when it is needed.

Current electricity generating capacity is about double the total demand required in order to meet peak time requirements. Some analysts have suggested that wind and solar capacity would need to be at least double this, or four times to total US electricity demand, in order to meet peak time requirements.⁸¹

Others have suggested even more peak capacity would be needed, but another option for meeting the variable nature of electricity demand is through storage.

Already, a certain amount of peak demand is met through pumped storage at hydroelectric plants. Current plans to turn Hoover Dam into a “giant battery” involve using electricity from the dam to pump water back into the reservoir during off-peak times to allow more water to flow through the turbines at peak times.⁸²

Industrial scale batteries are also being developed, and with the rapid fall in battery prices, this may become a viable option for meeting peak demand. The total energy stored at all utility scale battery storage sites in the US as of the 4th quarter of 2018 was 777 MWh.

But this is small compared to what is coming. A single battery storage system is being built in Florida that will provide 900 MWh of storage on its own when it becomes operational in 2021. An 800 MWh battery in China is scheduled to be operational in 2020.⁸³



A 1 MW/4MWh vanadium flow battery operating in Pullman, WA PHOTO: Wikimedia Commons

Upgrading the grid

In order to make the shift to 100% renewable electricity, the grid that delivers electricity to where it is needed will need a major overhaul. A so-called “smart power grid” (not to be confused with the 5G “smart grid”) would potentially save on wastage and losses in transmission as well as better optimize and balance the peaks and troughs of demand.⁸⁴

Reaching GND Goal #3: Electrifying commercial and residential buildings

To achieve the targets for 2030, a further 50 MMT CO₂e needs to come out of the fossil fuel heating of buildings. One of the first things a Green New Deal will need to establish is new buildings codes that **require the incorporation of electric (including heat pumps) rather than fossil fuel heating and cooking systems for all new buildings.**

There were approximately 80 million single-family houses, 30 million apartments and 5.6 million commercial buildings in the US in 2015.⁸⁵ These are being added to or replaced by construction of approximately 373,000 apartments, 614,000 single-family houses and 407,000 commercial buildings each year. That is roughly 1.3 million new buildings/units per year, or a bit more than 1% of the total building stock of the country.

As a priority, ensuring that all new buildings meet the highest fossil-free standards would thus reduce CO₂e emissions by approximately 5 MMT per year, or 50 MMT by 2030. This is clearly not enough to meet the targets, so a major effort of retrofitting buildings will have to be a central component of a Green New Deal, aiming to **replace all fossil fuel-based heating (and cooking) systems with electric ones by 2050**, with a further reduction of 630 MMT possible by that point.

This is a major undertaking that will require significant government resources. Because a 45% reduction cannot be achieved by 2030 in all sectors, it is all the more important to make big reductions where it is easiest – in the electricity and transportation sectors.

Reaching GND Goal #4: Banning HFCs

In the 1980s, it was discovered that chloroflourocarbons (CFCs), used mainly for refrigeration, air conditioning and aerosols, were destroying the ozone layer that protects the earth from the sun's ultraviolet radiation. CFCs were banned by the Montreal Protocol, an international agreement that went into effect in 1989.

CFCs were largely replaced by hydroflourocarbons (HFCs), another type of chemical that served the same purposes as CFCs but without affecting the ozone layer.

Unfortunately, HFCs do contribute to climate change. In fact their global warming potential is over 1,000 times that of carbon dioxide.⁸⁶

There are a number of HFC-free technologies already available to replace the role that HFCs and CFCs have played, especially in refrigeration.

An immediate ban on the use of HFCs where less harmful alternatives are widely available is the easiest way to reduce carbon emissions and is something the EU has already done.

In 2016, the Kigali Amendment to the Montreal Protocol was agreed, phasing out the use of most HFCs worldwide by 2050. It entered into force in 2019 after 65 countries had ratified the amendment. But the US is not among them.

The US needs to ratify the Kigali Amendment and phase out all HFCs by 2030 to reduce carbon emissions by 150 MMT and meet the climate goals we need to achieve by then.

Reaching GND Goal #5: Agricultural reforms

Reducing carbon emissions from the agricultural sector will be more difficult and will take time. Luckily, we are not aiming for 100% elimination of carbon emissions by 2050, but only for net-zero emissions. That means aiming to reduce emissions from agriculture by as much as 50% by 2050, leaving the remainder to be offset by the amount of carbon absorbed back out of the atmosphere, mainly from forests and wetlands.

Government support will be key to making the transition to more sustainable farming methods that do not rely so heavily on nitrogen fertilizers, revert to the ancient practice of crop rotation and reduce methane emissions from cattle.⁸⁷ Healing our damaged earth from disruptive agricultural practices and finding better ways to reduce carbon emissions from the agricultural sector will require serious effort and more research.

Reaching GND Goal #6: Industrial reforms

Industry accounts for more than 20% of total carbon emissions. About half of this comes from the burning of fossil fuels for both heating of buildings and the heating of industrial materials. The rest is emitted from the industrial processes themselves, which will require a much longer timescale to address. As with residential and commercial buildings, only a small proportion of industrial heating is renewed in any one year, meaning that carbon reductions will require significant retrofitting efforts and cost.

in the electricity sector, these will lead to corresponding reductions in the emissions from oil refineries, gas pipelines, coal mines and other fossil fuel facilities.

There would still be oil refineries, coking plants, steel mills, petrochemical and many other polluting and dangerous facilities making steel, cement, plastics, pharmaceuticals, paints and many other products out of fossil fuels or through the process of burning fossil fuels in 2030.

The only reductions expected in the industrial sector by 2030 are those directly related to the infrastructure required to continue supporting the burning of fossil fuels for transport and electricity. As reductions are made, especially

At least half of these would be expected to be converted by 2050 to facilities that may still use fossil fuels as a natural resource for production of plastics and other other products, but not as a fuel for burning.

Reaching GND Goal #7: Reforestation and land restoration

With a major program of **re-forestation** and **restoration of wetlands**, the total capacity for GHG absorption could be increased to 1,000 MMT or more, according to some studies.⁸⁸ This would involve planting as many as 32.5 million trees per year on existing federal lands. During the course of the original New Deal in the 1930s, 3 billion trees were planted, putting 3 million unemployed people back to work.⁸⁹ If we did it then, we can do it again. This time, our lives depend on it.



Civilian Conservation Corps planted 3 billion trees in 1930s

How can a Green New Deal address inequality and injustice?

Addressing the grotesque and unsustainable levels of inequality and injustice in this country requires all kinds of policy changes that only the federal government can make. **But the single most important way to address inequality is to make sure there are plenty of decent, well-paid jobs available. That is the core of any Green New Deal.**

Jobs

No matter how it is done, moving to a low-carbon economy will create millions of jobs. There are already 786,000 people employed in the renewable energy field in this country (compared to 3.8 million in China).⁹⁰ According to the US Department of Labor,⁹¹ solar photovoltaic installers and wind turbine service technicians were the two fastest growing occupations in 2018.

Nevertheless, as many as 1.4 million jobs are also at risk from the closing of coal mines, oil refineries, gas-fired power stations and other fossil-fuel dependent industries.⁹² **Ensuring that these people are offered comparable jobs with comparable wages and benefits in the renewable energy field will be crucial to ensuring a fair, and smooth, transition to the new economy.**⁹³

When the government creates jobs that pay a living wage sufficient to support a family, this does more than provide a decent job for those who get hired. It also sets a standard which other private employers have to achieve and raises wages and standards of living for many more workers.

A focus on distributed power

The second most important way to address inequality is to **make sure federal funding for a GND focuses on those areas that will best support low- and middle-income families in making the transition to electricity and a low-carbon future.**

A Green New Deal can also address inequality and injustice by avoiding some of the climate change 'solutions' which will not benefit the poor.

Subsidies for distributed (rooftop) solar, especially in urban areas, and distributed wind, especially in rural areas, must be a priority. This could lower electricity costs and provide an unprecedented level of energy independence for large numbers of people. A GND can also help ensure a fair distribution of the benefits of moving to electricity by subsidizing home battery storage.

Providing distributed (rooftop) solar and/or wind turbines for government buildings, schools, libraries and other public buildings should also be a high priority for federal funds.

Transportation priorities

Existing subsidies, in the form of IRS tax credits on the purchase of new electric vehicles, must be extended and increased in order to speed the sales of EVs. Buy-back schemes to dispose of old gas and diesel cars will also be needed because there will be no second-hand market for these vehicles once it becomes impossible to buy fuel for them.

Public transportation is also a key priority for improving the well-being of all citizens. Better bus and train services, connecting people to and from urban centers as well as between more remote rural communities, can save people time and expense, and enable them to work with less commuting time and more time with their families and in their communities.

Home heating and cooking

Those who can afford it should pay for their own conversion to electric heating and cooking in homes. Federal funds need to prioritize low-income housing and apartments to speed up that conversion for those who cannot afford it.

Tax policy

Finally, it is of course the case that **the way taxes are collected is the defining feature of a fair society**. When the wealthier members of society end up paying less in taxes than the less well off, inequality increases and so does resentment.

Reversing tax cuts that benefit the rich and building a more progressive taxation system will be critical for addressing inequality.

The better carbon pricing schemes actually benefit the poor and plow the proceeds back into green technologies.

Carbon pricing

A GND can also address inequality and injustice by avoiding some of the climate change “solutions” which will not benefit the poor but could actually hit them even harder.

Carbon pricing is an attempt to use the market to achieve the goal of a carbon-neutral economy, by charging people and industries and governments for the carbon they emit. A very quick way to lower carbon emissions would be to charge hefty taxes per ton of emissions. This would hit a lot of industries very hard, but the costs would be passed on, eventually, to the consumer, meaning the price of nearly all goods would rise.

A slower build-up of carbon taxing has worked in some countries to some degree, but the question here is whether carbon pricing can be achieved without increasing inequality and overall levels of poverty. Generally speaking, when people have very little spare cash, a small increase in the price of basic necessities has a very big effect on their ability to make ends meet.

Carbon pricing, unless it is handled with extreme care, increases the cost of things that emit carbon – like gasoline for your car, heating for your house, electricity for your TV, not to mention the food you eat. That can have a direct and very negative impact on poor families, unless the revenues are carefully redistributed back to communities to offset those negative effects.

More than 40 governments around the world are already applying carbon pricing, and the more well-designed and well-executed programs redistribute funds to make up for the increased cost. **The better carbon pricing schemes actually benefit the poor and plow the proceeds back in to green technologies.**

Canada’s and Chile’s carbon tax revenues are used to lower the tax burden for consumers, and Colombia uses its carbon tax revenues to support rural development and environmental projects.⁹⁴ In California, 25% of cap-and-trade funds must be allocated to projects in low-income and polluted communities.⁹⁵

The Regional Greenhouse Gas Initiative covers 10 states in the Northeast and Mid-Atlantic, raising revenues through quarterly auctions of permits for CO₂ emissions. Not only have these investments made the power system cleaner and more efficient, but by design they have also reduced electricity bills for businesses and consumers, including low-income households.

A bill pending in the Massachusetts legislature, H. 1726, builds on the Regional Greenhouse Gas Initiative to ensure that 80% of the revenue from carbon fees is rebated to households and employers, with 20% going to regional transportation projects and energy efficiency upgrades for small businesses.

How much will a Green New Deal cost?

Benefits of a GND

The latest report from the Global Commission on the Economy and Climate⁹⁶ claims that “bold action” to address the climate crisis could yield direct economic benefits worth \$26 trillion globally over the next 10 years. In any case, there are clearly benefits, as well as costs, to any plan that increases jobs, cuts pollution-related health problems, improves access to jobs and housing, reduces waste, increases productivity and brings in government revenues.

The cost of inaction

There are also costs associated with *not* adequately re-tooling to a renewable economy and facing the damages of uncontrolled climate disruption. Extreme weather in the US caused more than \$400 billion worth of damage in 2018 alone.⁹⁷ The UN estimates the total cost of climate change globally could reach \$69 trillion by the end of this century.⁹⁸

So in a very real sense, we cannot afford *not* to invest in a Green New Deal, no matter what it costs. And the cost of implementing a Green New Deal could still end up being less than the cost of not implementing it.

GND is not, however, “free”

Alexandria Ocasio-Cortez has pointed out that nobody asks the question, when launching a war, “how much is this going to cost?” They just go to war and pay for it later.⁹⁹ The same could be asked of trillion dollar tax cuts. Nevertheless we know that those decisions *do* cost money and we all pay for it later, in the form of interest on the national debt – now standing at a staggering \$22 trillion dollars and set to increase (because of the latest tax cuts) this year by another \$1.2 trillion.¹⁰⁰

So, yes, the government can always just borrow more money to pay for a Green New Deal, like they pay for everything else. We can

also weigh up the costs of a Green New Deal against the costs of *not* doing a Green New Deal.

But there is still a price tag to be put to something that involves research and development, creating infrastructure, and subsidizing the transition to a new economy. The price tag is *not* going to be anything close to the \$100 trillion that President Trump has quoted. But neither will it be free.

How much will it cost?

The Political Economy Research Institute at the University of Massachusetts, Amherst, together with the Center for American Progress (PERI-CAP) produced a detailed study in 2014¹⁰¹ of what it would take to reduce carbon emissions to 3,200 MMT over a 20-year period rather than 10-year period. Their figure came to \$200 billion per year for 20 years.

Another study,¹⁰² from Mark Jacobson at Stanford University, calculates that moving to 100% renewable energy (using only wind, water and sunlight) by 2050 would cost around \$9.5 trillion, or \$316 billion per year.

Extrapolating from levels of investment that seem to be working in other countries and the levels of investment that have so far proven to be insufficient in this country, Ed Barbier at Colorado State University¹⁰³ has come up with a figure of \$970 billion of investment over five years, or \$194 billion per year, as a reasonable price tag for a GND.

A number of presidential candidates have now come out with their own figures, and although these are based on different assumptions and involve different amounts of private investment on top of, or included within the figures, **there is a surprising degree of agreement that a GND is likely to cost around \$200-\$300 billion per year for the next 30 years, or between \$2-\$3 trillion by 2030 and \$6-\$9 trillion by 2050.**¹⁰⁴

Costing a Green New Deal (over 10 years)

Estimate	\$billions/yr	\$trillions
AAF ¹⁰⁵	223-270	2.23-2.7
PERI-CAP	200	2.0
Jacobson	316	3.16
Barbier	194	1.94
Rynn ¹⁰⁶	255	2.55
Inslee	300	3.0
O'Rourke	170	1.7
Warren	200	2.0
Biden	170	1.7

Cost vs investment

This figure is not simply a “cost” in the same way that paying for nuclear weapons is a “cost.” Paying for green technologies is an investment, since it is creating jobs, bolstering the economy, and ultimately making the cost of doing business *cheaper* for everyone. It will also bring a return, not simply in the form of taxes as more people are put to work, but also in the form of payments for the services being delivered.

It might, for example, cost \$680 billion dollars to build a high-speed rail system, but once the system is built, people will be paying fares to use it, and sooner or later, in a purely “free market” system, those fares would be expected to fully recover the cost of building the system (and then with much lower ongoing “marginal” costs, it would start to return a net profit).

Likewise, the sale of solar or wind-generated electricity can be expected to far exceed the cost of building the windmills and putting in solar panels. So in the long run, all that capital investment is recouped by sales.

Rapidly falling prices

The accepted way to compare electricity costs is to look at the levelized cost of electricity (LCOE), which adds up all the costs of building and running a power plant and divides it by the total amount of electricity produced during the lifetime of the plant to get a figure of what it costs per kWh of electricity.

Everything that has ever been written about the cost of renewable electricity has been out of date by the time it was published, as every year, technological developments and the economies of scale are driving these costs further and further down.

Just within the last year, **the LCOE for on-shore wind farms and utility scale solar farms has fallen below the LCOE for coal, gas or nuclear power.**¹⁰⁷

Avg. LCOE by source \$/MWh	low	high
On-shore wind	\$29	\$56
Solar PV utility scale	\$36	\$44
Gas	\$41	\$74
Coal	\$60	\$143
Geothermal	\$71	\$111
Solar thermal with storage	\$98	\$181
Nuclear	\$112	\$189

Source: Lazard 2018¹⁰⁸

This means that it is now more profitable for existing utility companies to invest in renewable electricity sources than it is for them to invest in more fossil fuel plants. That alone could mean the end of fossil fuels for electricity.

There are still many challenges to overcome, however, in transitioning to a fully renewable electricity grid, let alone addressing the carbon emissions coming from all the other sources listed earlier. A Green New Deal will still require considerable investment.

The need for more investment

One of the biggest obstacles right now to a fully renewable electricity grid is the grid itself, which is out of date and very inefficient for moving electricity around the country to where it is needed at the time it is needed.

One big project of any Green New Deal will be to build a new **national “smart grid,”** which is likely to cost between \$388-\$476 billion, according to the Electric Power Research Institute, which estimates the benefit of that investment to be \$1-\$2 trillion in efficiency savings over the long term, on top of the reduced carbon footprint that would result.¹⁰⁹

Another important area for investment is **battery storage** (and other forms of electricity storage), since the biggest drawback to solar and wind power is their intermittency. Batteries have also come down enormously in price, but to keep the price coming down still further will require both economies of scale *and* further innovation. And that means investment. Already **\$620 billion** is being invested worldwide in battery technologies.¹¹⁰

Another major project for a Green New Deal will be building a national High-Speed Rail network. Again, costs are difficult to determine, because prices vary from project to project. Japan built its high-speed rail network for \$5 million per mile, while European high-speed rail projects have cost anywhere from \$25-\$40m per mile, and in China the cost has been closer to \$50m per mile.¹¹¹

Estimates for the cost of a US high-speed rail network also vary according to different scenarios and the number of miles involved. **For 17,000 miles of track at European prices, the system would cost between \$425-\$680 billion.** This might take until 2050 to complete, so roughly a third (\$226 billion) would be needed up to 2030.

Another important piece of any GND will be a massive investment in (electrified) **public transportation for inner cities and poorer rural communities.** The American Public Transportation Association has identified **\$232 billion in investment needed** to bring the nation's public transit up to date.¹¹²

Retrofitting existing homes and commercial buildings across the country to meet reduced carbon goals will cost a lot, but it will also create millions of jobs and reap huge savings in energy costs. A 2012 report from the Rockefeller Foundation suggested that an investment of \$279 billion over 10 years could make a substantial difference, saving as much as \$1 trillion in energy costs during the same period.¹¹³

Finally, a **major tree-planting initiative** similar in scale to the New Deal of the 1930s would perhaps involve hiring one million

people to plant one billion trees over the next decade. At an average liveable wage, that would cost roughly \$30-\$40 billion per year, or **\$300-\$400 billion for 10 years.**

This brings us to a total of around \$300 billion per year, or \$3 trillion for 10 years, or \$9 trillion for 30 years, as a reasonable estimate for the cost of a Green New Deal.

Approximate investments needed for GND

	<i>\$billions</i>	Per year	10 years
EV car subsidies		50	500
Rooftop solar		17	175
Distributed wind		22	225
Smart Grid		45	450
Research program		40	400
High-speed rail		23	226
Public transit		23	232
Reforestation		35	350
Retrofitting buildings		30	279
Farm support		15	150
Overseas climate aid		10	100
Total GND		310	3,087

Public vs private investment

Not all that money needs to come from the federal government, however. In fact, by some estimates, most of it would not. In addition to local and state government investment, particularly in buildings and public transit, most estimates of the investment needed assume that private investors will cover two-thirds to three-quarters, of the total.¹¹⁴

The American Council on Renewable Energy brings together the country's major providers of capital investment in renewable energy projects, and believes that **private investors can easily raise as much as \$1 trillion of investment¹¹⁵ for renewable energy projects between now and 2030 if the federal government were to return to its previous commitments to meet the Paris Climate targets.**

According to a 2019 Rainforest Action Report,¹¹⁶ 33 banks had invested nearly \$2 trillion dollars in the fossil fuel industry since 2016, and with a shift in priorities, much of this investment would presumably shift to clean, renewable alternatives.

How can a GND ensure emission targets are met globally?

Reducing carbon emissions in the United States is absolutely crucial for addressing the climate crisis. But carbon emissions in the US account for only about 20% of total carbon emissions globally. **So no matter what we do here in the US to address the climate crisis, unless other countries are doing the same, we cannot stop a climate catastrophe.**

Most other countries are already doing more than we are right now, under the current administration, to address the climate crisis. However, much more still needs to be done.

At the global level, priorities are slightly different than for the US itself. Globally, electricity generation is the number one carbon emitter, followed by agriculture and industry, whereas in the US, transportation and buildings are numbers two and three. And for China, the largest carbon polluter in the world, industrial emissions top the charts.

A lot of China's emissions are actually our emissions, resulting from the production of goods that are sold and used in the United States.

Top carbon emitting countries

Carbon emissions 2013	MMT	%
China	11,735	26.8
USA	6,279	14.4
EU	4,224	9.7
India	2,909	6.7
Russia	2,199	5.0
Japan	1,353	3.0
Canada	738	1.7
South Korea	673	1.5
Australia	580	1.3
Saudi Arabia	546	1.25
Pakistan	326	0.7
All other countries	12,175	27.95
Total	43,737	100.0

Source: World Resources Institute

China is also the world's largest exporter, and much of its manufacturing output goes to the United States. In reality, therefore, at least a

portion of China's carbon emissions are because the US has outsourced industrial production to China. **A lot of those carbon emissions are actually our carbon emissions, resulting from the production of goods that are sold and used in the United States.**

The US as a market

The United States buys goods not only from China but from all over the world. Over half the cars sold in the US, for example, are made in Europe and Japan. Stiff regulations ensuring that by 2030 all cars sold in the US are fully electric would automatically mean that producers in these other countries would also need to shift a large part of their production to all-electric vehicles. That in itself would help speed the use of all-electric cars in those other countries.

The US imports solar PV panels, batteries, steel needed for windmills, and many other products needed for the green economy. As a buyer of these products, the United States is in a position to set emission standards and other requirements as a condition of import, and these too can help ensure that other countries are meeting the necessary emission targets.

The US as a donor

The United States is a major provider of overseas aid, and is certainly capable of directing this money in ways that will help lower carbon emissions around the world. Aid includes goods, funding, technical assistance, educational programming, healthcare, military and security assistance, and support for businesses and charitable groups.

The Congressional Research Service (CRS), which includes military and security assistance in its definition of aid, calculates that the US spends about 1.2% of the federal budget on foreign aid. This amounted to \$49 billion in 2016.¹¹⁷

The US as an investor

As a main contributor to almost all multilateral institutions, including the United Nations, the World Bank, the IMF and many others, the US has significant influence over the investment and granting policies of these institutions. The United States can encourage investment to be directed towards the goals of a Green New Deal globally.

The United States can do much more to mobilize financial resources for use in dealing with the climate crisis internationally. There is a precedent for this: at the end of World War II, the United States invested billions of dollars in re-building Europe through the Marshall Plan. Elizabeth Warren has called for a new “Green Marshall Plan” to complement investments at home with a massive program of investment in green technologies abroad.

The US as a major world player

In addition to being a key financial player in the world, the United States is also, of course, a key player politically, with huge influence over NATO allies in Europe, allies in Asia and the Pacific, and other countries like Israel.

The United States is one of the five permanent members of the UN Security Council. It sits on many other international committees. It can and must take a lead in bringing important issues to the table for international agreement.

The US played a key role in achieving a positive outcome at the Paris Climate Talks in 2015. That commitment needs to be reaffirmed and reinforced. The Paris agreement is already outdated, however,

and will need to be superseded with a stronger commitment from the whole world to limit global warming to 1.5°C rather than 2.0°C and to make concrete and specific steps in that direction by 2030.

Improving our relations with the rest of the world

All of these avenues can help ensure that other countries are also addressing the climate crisis with the same urgency as the United States. **But these alone are insufficient.**

The reality is that there needs to be a change of tone, attitude, and behavior in the way we as a country relate to the rest of the world. By *demanding* that other countries live up to their climate commitments and *threatening* them with punitive measures if they do not, we cannot build the cooperation and solidarity required to deal with this crisis.

This is not about finding a way for the US to “lead the way” in new green technologies or to ensure that US companies “dominate the market.”

This is not about safeguarding “American jobs” or protecting US-American “national interests” or ensuring our own “security” at the expense of other countries.

To develop new technologies and build the necessary infrastructure in a very short span of time requires a degree of openness and a level of international cooperation that corporations scrambling for patents and politicians thinking only of national self-interest are not familiar with.

“There is no us and them,” says Pope Francis. *“It’s only us!”* The climate crisis has brought home the reality of our interdependence perhaps more than any other issue we have ever faced as a species. We simply cannot solve this crisis except by working on it together.

The climate crisis has brought home the reality of our interdependence perhaps more than any other issue we have ever faced as a species.

SOLUTIONS – THE NUCLEAR BAN TREATY

Addressing the nuclear nightmare – why abolition?

If we are to survive, we simply cannot risk waiting to make the necessary shift in our climate policies and practices. We cannot wait for others to take the lead or to see whether new solutions will come along to replace the ones we already know about.

Yet there are many voices on the climate front calling for a more incremental and “realistic” approach to the problem. Rather than trying to eliminate our reliance on fossil fuels with a 10- year national mobilization of resources, why not focus on more gradual reductions through market forces, for example?

When it comes to nuclear weapons, those who insist on more incremental and “realistic” steps have dominated the discussion for many decades. These voices seek ways to reduce nuclear stockpiles and slow the spread of nuclear weapons to other countries, one warhead at a time.

Some have insisted that more reasonable and “realistic” steps towards reducing the nuclear threat might include a policy of “no first use,” or removing nuclear weapons from “hair-trigger alert,” or removing the President’s “sole authority” to launch these weapons.

Others have proposed cutting specific weapons systems or developments such as the “low yield” warhead option that is already in production and soon to be deployed on US nuclear submarines. All of these more incremental and more “realistic” approaches

have their congressional backers and organizational supporters around the country. But do they address the problem of nuclear weapons at the scale and with the urgency required?

Just as with the climate crisis, **proposing more limited steps and solutions which do not get at the root of the problem can actually help to legitimize the continued existence of the problem.** Some forms of carbon pricing, for example, which allow companies to “buy” someone’s cleaner emissions in exchange for their dirty ones, do not fundamentally address the need to eliminate our reliance on fossil fuels once and for all.

Taking the President’s ‘finger off the button’ might make us all feel a bit safer at night. But does that move us closer to actually eliminating these weapons or does it just make us feel a bit safer?

Similarly, carbon capture and storage, if it is merely a means of making it “cleaner” to continue burning fossil fuels, does not get to the heart of the problem, which is the burning of fossil fuels itself.¹¹⁸

Demanding that the US renounce the idea of using nuclear weapons “first” sounds like a positive step forward, but if it is merely reinforcing the idea that the US will still retain the right to use nuclear weapons “second,” how does that move us away from nuclear weapons altogether?

Taking the President’s “finger off the button” and handing that job to Congress might make us all feel a bit safer at night. But does that move us closer to actually eliminating these weapons or does it just make us *feel* a bit safer?

What is the Nuclear Ban Treaty?

Just as the world is rising up to demand action on climate change, so has the world been rising up to demand the elimination of nuclear weapons.¹¹⁹ Since the end of the Cold War, people in this country have largely forgotten about this issue. But not so in the rest of the world.

These weapons are in the hands of just nine countries, but the whole world would be affected if any were ever used. So, after 72 years of waiting for the nuclear-armed nations to get rid of these weapons, the rest of the world decided to take the matter into their own hands. On July 7, 2017, 122 countries at the United Nations adopted the Treaty on the Prohibition of Nuclear Weapons, or “Nuclear Ban Treaty.” This treaty outlaws everything to do with these weapons for all time.¹²⁰

The United States did not participate in the treaty negotiations and so far refuses to sign it. But sooner or later, pressure from the rest of the world (and from within the US) will force this country to address this lingering relic of the Cold War and eliminate its nuclear weapons. A Green New Deal makes this even more urgent.

As of April 2019, the Nuclear Ban Treaty has been signed by 70 countries and ratified by 23. The Treaty will enter into force once 50 countries have ratified it. Those countries are then expected to pass national legislation to enforce the provisions of the Treaty.

Article 1(e) of the Treaty makes it illegal to “assist, encourage, or induce anyone to engage in any activity prohibited under the Treaty.” As with other weapons prohibition treaties (like Chemical Weapons or landmines), this has been interpreted to also include a

prohibition against financing the companies involved in producing the prohibited weapons, as well as a prohibition on taking part in activities that support the continued existence of these weapons.

The impact of this new Treaty will be felt most immediately by the two dozen or so private companies that make and maintain nuclear weapons for the United States and other nuclear-armed states. Already, Deutsche Bank, Resona Holdings in Japan, and two of the largest pension funds in the world have moved to divest their funds from these companies.¹²¹

Many other financial institutions have taken, or are now considering, similar action. Here in the United States, divestment campaigns are already underway¹²² to add to the pressures being put on these companies globally.

Companies like Boeing, Honeywell, General Dynamics, Northrop Grumman, and Jacobs Engineering have offices, subsidiaries, suppliers, plants, projects and investors in dozens of countries around the world. **They cannot ignore what goes on in those other countries, especially when laws are passed which could affect their global operations.**

Hard as it is for many US-Americans to imagine, this is the beginning of the end, not only for fossil fuels, but also for nuclear weapons. Just as the fossil fuel companies continue to resist the inevitable, so will the nuclear weapons companies.

But just as with climate change, the world is waking up to the existential threat of nuclear weapons. This opens up a unique opportunity for finally addressing both of these issues here in the US.

Hard as it is for many Americans to imagine, this is the beginning of the end, not only for fossil fuels, but also for nuclear weapons.

What does signing the Nuclear Ban Treaty mean for the US?

Signing the Nuclear Ban Treaty would commit the United States to work towards the complete elimination of its nuclear weapons. Since this is something the US is already legally committed to under the Non-Proliferation Treaty (1970), it would have no immediate significance in terms of US nuclear weapons policy. **Signing the Treaty does not mean that the US must immediately or “unilaterally” give up its nuclear weapons. This is just the first and initial step.**

The US is not legally bound to implement the terms of this Treaty until the Treaty has been *ratified* by consent of the Senate. It is only after the ratification and subsequent entry into force of the treaty (90 days after the ratification has been deposited with the UN) that the specific legal obligations outlined in the Treaty begin to take effect.

The Treaty requires each country to come up with its own legally-binding, time-bound plan for the verifiable and irreversible elimination of its nuclear arsenal. Before ratifying the Treaty and submitting its plan to the other parties, the US will have ample time to reach some kind of agreement with the other nuclear-armed nations to ensure that they *all* give up their nuclear weapons together.

There are many ways they could do this, but how these countries work something out between them is secondary to the fact that, sooner or later, the total elimination of nuclear weapons will require them to sign an agreement **prohibiting nuclear weapons for all countries and for all time.**

If another country cheats, and does not give up all their nuclear weapons when the US does, that does not suddenly put the US in any more danger than we are in right now. Nuclear weapons can kill and maim hundreds of thousands of people and destroy whole cities. But they cannot stop a single nuclear weapon from landing on our country. Only the total elimination of all nuclear weapons worldwide can do that.

Therefore, giving up “our” nuclear weapons does not mean we are suddenly vulnerable to other countries who still have them. Nor does it make it more likely that one of those other countries is suddenly going to decide to launch, or threaten to launch, a nuclear attack against us.

The US has been at the forefront of every development in nuclear weapons since it first tested and then used nuclear weapons in 1945. Other countries have followed the US example and copied not only the technological developments as they have come along, but also the political rationale the US has used to justify having these weapons.

Will North Korea give up its nuclear weapons if the US does? There is no guarantee that they will, but they are certainly more likely to do so if the US does. And even if they don't, **the US still has the most powerful military on the planet, even *without* nuclear weapons.** Russia, on the other hand, is unlikely ever to give up its nuclear weapons *unless* the US does. **The US must now take a lead on disarmament if we want to see any of the other nuclear-armed nations disarm.**

Eliminating nuclear weapons – how can it be done?

Fulfilling existing commitments

Signing the Nuclear Ban Treaty and inviting the other nuclear-armed nations to do likewise is the first step to getting the United States back on track with its existing commitments. How quickly the other nuclear-armed nations join the Treaty will depend on many other factors.

Confidence-building measures

The US can and must lead the way to improving international relations with Russia and China. This means, first of all, treating these countries as partners rather than as adversaries. If NATO is to be perceived by Russians as a purely defensive alliance and not as a potential threat, the removal of offensive nuclear weapons that are aimed at Russian cities and military facilities is an important first step. Other offensive weaponry should also be withdrawn and new agreements reached that would de-militarize and de-escalate the potential for military conflict.

The role of the United Nations

In order to rebuild the trust and confidence needed for a world without nuclear weapons, the United States must renew its commitment to the United Nations and to its agreed procedures for resolving international disputes.

No country can be allowed to simply ignore treaties and agreements it has made with other countries, and that includes the United States. No country can be allowed to invade another country, to overthrow the government of another country, to assassinate the leaders of another country or to interfere in the elections of another country, and that includes the United States.

Negotiations

Before ratifying the Nuclear Ban Treaty, the US and the other nuclear-armed nations will need

to agree on the detailed mechanisms for actually eliminating their nuclear arsenals, including the means they will use to monitor and verify that each party has done what it promised to do. The INF and START treaties have already established an extensive precedent that does not need to be reinvented.

Verification

Dismantling and destroying nuclear weapons according to an agreed timetable is a well-established procedure by now, as are the mechanisms for verification. These include regularly scheduled on-site inspections as well as “surprise” inspections at short notice. They include satellite and seismographic monitoring of test sites and missile launches. They include following nuclear safeguards agreements with the International Atomic Energy Agency (IAEA). Literally everything that is required for the complete, verified and irreversible elimination of all nuclear weapons worldwide has already been tried and tested through the implementation of previous treaties.

National implementation plans

When the agreements are in place, and the legislatures of the nine nuclear nations have ratified the Nuclear Ban Treaty, it will be time to make “warheads into windmills.” Each of the nine will enact a national plan to convert all nuclear weapons facilities to other uses.

This is where a Green New Deal comes into the picture again. **Rather than simply closing down research facilities and production plants and putting all those people out of work, this report proposes converting all those jobs and facilities to helping solve the climate crisis.** In particular, nuclear weapons jobs and facilities are needed for research and development of new forms of battery storage, new clean energy technologies, electric-powered air travel, and other cutting edge technologies.

Steps to zero

Proposals from organizations like Global Zero describe the steps necessary to get from the current levels of nuclear weapons down to “zero” through gradual reductions of the number of warheads on all sides.¹²³ The START treaty process followed that kind of logic, but we are now well beyond the point of merely reducing stockpiles. If the goal is the total elimination of these weapons in line with the Nuclear Ban Treaty, then the steps needed to get there must address *all* nuclear weapons and not just a certain portion of them at each stage.

The draft Nuclear Weapons Convention,¹²⁴ first deposited with the UN in 1997 and then updated in 2007, sets out five phases for implementation. These follow similar patterns to the INF Treaty and START Treaties and are the basis for the process now envisaged by the Nuclear Ban Treaty:

- 1. All nuclear weapons to be removed from operational status:**
 - a. Remove targeting coordinates and navigational information
 - b. Disable and de-alert all delivery vehicles
 - c. Cease all further production of components and equipment
 - d. Cease all further funding and research on nuclear weapons, except as may be necessary for their elimination
 - e. Cease production of fissile material
- 2. Declare all nuclear weapons and related materials held:**
 - a. Submit a complete inventory of all nuclear weapons held, including locations and quantities
 - b. Submit an inventory of all fissile nuclear materials capable of making a nuclear weapon
 - c. Submit a report on any missing data regarding nuclear material that has gone missing and plans for recovery of the data
 - d. Submit a complete inventory of nuclear weapons facilities
 - e. Submit a complete inventory of all nuclear-capable delivery systems

- 3. Submit a legally-binding, time-bound plan for the verifiable and irreversible elimination of all nuclear weapons**
 - a. Make a plan for the dismantling and destruction of the weapons and delivery systems
 - b. Make a plan for the decommissioning or conversion of testing facilities, research and production facilities
 - c. Make a plan for the safe disposal of all fissile material under IAEA control
- 4. Negotiate agreement with the IAEA for the safeguarding of all fissile material**
 - a. Allow IAEA access to all stages of the nuclear fuel cycle
 - b. Provide full information to the IAEA on quantities and locations of fissile material
 - c. Arrange for inspections and testing by IAEA experts
 - d. Agree on final disposal and safe storage of remaining fissile material
- 5. Scheduled process to dismantle and destroy all nuclear weapons**
 - a. Separate warheads from delivery vehicles
 - b. Destroy delivery vehicles
 - c. Remove fissile material from warheads
 - d. Destroy warheads
 - e. Decommission or convert all remaining facilities
 - f. Implement safeguards agreement with IAEA, including final disposal of fissile material

The total process of eliminating nuclear weapons will take several years, not including the final disposal of the fissile material, for which no agreed plan yet exists. There will continue to be costs involved throughout that period of time, especially for the security of nuclear materials prior to final disposal.

Out of the trillions of dollars budgeted for nuclear weapons over the coming decades, as much as \$500 billion, or \$10 billion per year, will need to be set aside for their elimination and final disposal. Nevertheless, the savings will begin immediately and will be substantial.

What do we currently spend on nuclear weapons?

It is notoriously difficult to determine exactly how much the US actually spends on nuclear weapons. The government itself does not provide an overall figure. The annual budget of the Department of Defense (DOD) includes a figure for “Strategic Forces,” but this includes programs that are *not* nuclear-related and leaves out many that *are*.¹²⁵

A number of other government departments are also involved in nuclear weapons activities, most notably the Department of Energy (DOE), which is responsible for most of the research and development of nuclear warheads in this country. The Congressional Budget Office (CBO) provides useful figures that include both DOD and DOE expenses, but these are also incomplete.¹²⁶

Independent analysts have looked at the figures in more detail over the years, but they all use different methodologies to come up with different figures and none of these are sufficiently recent to provide up-to-date numbers.¹²⁷

Atomic audit

The most comprehensive analysis of the true cost of nuclear weapons was conducted by the Brookings Institution in 1996. The 722-page report detailed every aspect of the nuclear program, from the first beginnings of the Manhattan Project through to the dismantling of more than 25,000 obsolete nuclear weapons by that point.

The *Atomic Audit*¹²⁸ calculated that the US had spent more than **\$5.5 trillion** (in 1996 dollars) on its nuclear weapons program between 1940 and 1996. This amounted to 29% of total military spending during that period.¹²⁹ They calculated that another \$365 billion would still be needed for final disposal of the plutonium and other highly radioactive waste produced during that period.

Atomic Audit

<i>Constant \$billions</i>	1996	56 yrs.	Av. per yr.
Building the bomb		409.4	7.0
Deploying the bomb		3,241.0	55.9
Targeting the bomb		831.1	14.3
Defending the bomb		937.2	16.2
Dismantling the bomb		31.1	0.5
Supporting the victims		2.1	0.03
The cost of secrecy		3.1	0.03
Oversight of the bomb		0.9	0.01
TOTAL 1940-1998		5,455.9	94.0
Final disposal ¹³⁰		365.1	6.3

From *Atomic Audit* (1998)

Averaging a total cost of \$5.5 trillion dollars over a period of 56 years comes to nearly \$100 billion per year (see table above). **Since the end of the Cold War, one would assume nuclear spending is much less than that now. But one would be wrong.**

Nuclear spending today

In order to try to figure out what the US currently spends on nuclear weapons, we need to start with some figures from the government as a baseline. According to the CBO,¹³¹ the US will have spent \$33.6 billion on nuclear weapons in 2019.

Baseline nuclear spending figures

<i>In current \$billions</i>	DOD	DOE	TOTAL
Submarines	8.5	1.3	9.8
ICBMs	2.6	0.2	2.8
Bombers B-2, B-52	3.2	1.2	4.4
Other nuclear	1.4		1.4
Tactical nuclear	0.2	0.4	0.7
Stockpiles	n.a.	2.1	2.1
Infrastructure	n.a.	3.0	3.0
Support	n.a.	3.6	3.6
Comm'd & Control	1.4	n.a.	1.4
Communications	2.3	n.a.	2.3
Early warning	2.2	n.a.	2.2
Nuclear forces	21.8	11.8	33.6

Source: CBO (2019)¹³²

This figure includes the cost of managing all the bombs and missiles in silos and on bombers and submarines, the cost of redesigning and developing all the warheads, and the cost of running all the command and control, communications, and early warning systems that support these weapons.

What it does *not* include, according to the CBO itself,¹³³ are the costs associated with **dismantling** nuclear weapons no longer in use, **disposing** of the highly radioactive waste or **cleaning up** the mess left behind from previous manufacture and testing of nuclear weapons. It also does not include the cost of **implementing arms control agreements** or programs aimed at **reducing the threat** of nuclear weapons disappearing or falling into the hands of terrorists. And it does not include the costs of **defending our own missiles** from possible attack.¹³⁴

These three categories were estimated to cost an additional \$20.8 billion in 2014,¹³⁵ which was the last time the CBO counted those figures. Adding those costs (plus inflation=\$21.2 billion) to the CBO's 2019 figures would bring the 2019 nuclear weapons budget up to **\$54.8 billion** (see table below).

Overhead

The CBO figures also do not include any of the **overhead or support costs** that the deployment of nuclear weapons incurs out of the total military budget.¹³⁶ For every 332 sailors on a ballistic missile submarine, for example, there are another 78 service personnel directly employed to provide them with all the things they need, plus another 264 in administrative and other supporting roles.¹³⁷

According to the CBO's own calculations elsewhere,¹³⁸ these additional indirect and overhead costs amount to about \$7.1 billion on top of the direct costs.¹³⁹ Given the total Pentagon budget, which is now over \$750 billion per year, this is almost certainly an underestimate.

This would bring the figure up to **\$61.9 billion** so far, or almost double the baseline figure of \$33.6 billion in the preceding chart.

Final disposal

On top of this is the cost, sooner or later, of finally disposing of the high-level waste that remains once all the bombs and submarines and nuclear weapons facilities are dismantled and cleaned up. The *Atomic Audit* calculated in 1996 that this would come to a total cost of \$365 billion.¹⁴⁰ That is close to the amount of money the government had set aside by 2017 to cover this eventual expense.

As of 2019, this figure is now \$494 billion. That is the estimate for final disposal of the nation's high-level radioactive waste over the next 50 years.¹⁴¹ If these future costs were to be accounted for on an annual basis, that would add another \$10 billion per year to the \$60 billion figure we have so far, meaning that **nuclear weapons are costing roughly \$70 billion per year as of 2019.**

<i>In current \$billions</i>	2014	2019 est.
Legacy costs	7.0	7.2
Threat reduction	3.2	3.3
Missile defense	10.6	10.7
Total nuclear-related	20.8	21.2
Added to baseline		33.6
Total direct costs		54.8
Overhead		7.1
Total with overhead		61.9
Liability for disposal		10.0
Total with liabilities		71.4

The cost of "modernization"

So far, we have estimated the true cost of the nuclear weapons program to be more than double the most quoted figure provided by the CBO. But the cost of nuclear weapons is set to rise steeply over the coming decades as a massive **nuclear "modernization" program** gets underway.¹⁴² This involves upgrading every single nuclear weapon and delivery system currently in the US arsenal, plus adding some new capabilities.

Once again, the CBO provides some baseline figures as to what this program is likely to cost

over the next 10 years, including the anticipated cost overruns that characterize all military spending.

Ten-year nuclear program costs

Const 2019 \$billions	cost	w. overruns
B-21 bomber	49	56
F-35A	15	17
LRSO	16	18
Columbia subs	107	122
GBSD	61	70
B-61-12	15	17
Life Extension Prog	24	27
Command&Control	77	87
Infrastructure	41	47
Other support	41	47
TOTAL 2019-28	432	494

CBO (2019)

As with the yearly figures above, these new figures do not include all the extra costs identified by the CBO itself. If we add in the \$21.2 billion per year for nuclear weapons “related” activities, \$7.1 billion per year for overheads and \$10 billion for clean-up, that adds another \$38.3 billion per year, or \$383 billion over 10 years.

Instead of spending \$494 billion over the next 10 years, it seems more likely that we will therefore be spending **\$877 billion**. Extrapolating their original figures to 2050, for a total of 30 years, **the CBO in 2017 came up with the figure of \$1.2 trillion in constant dollars, or \$1.7 trillion in unadjusted dollars.**¹⁴³

A more likely figure for what we will pay for 30 more years of nuclear weapons, including these additional costs, is **closer to \$2.7 trillion in constant 2019 dollars, or potentially as much as \$3.8 trillion in unadjusted dollars.**

Trump’s additional requests

Already, since the CBO produced these figures, the Trump administration has begun adding to them. The 2018 Nuclear Posture Review proposed a number of additional programs¹⁴⁴ that increase the total figure just given.

These include a new submarine-launched nuclear cruise missile (\$9 billion), expanded production of plutonium pits (\$9 billion), a new “low-yield” warhead for the Trident submarines (\$0.1 billion),¹⁴⁵ a new gravity bomb for the air force (unknown), a new ground-launched nuclear missile (unknown) and additional ballistic submarines on top of the 12 already on order (unknown).

The CBO estimates that these additions will cost an additional \$17 billion over the next 10 years, not counting two additional submarines (\$18 billion?) and two additional missile programs (\$18 billion?).¹⁴⁶ Our estimate is therefore **\$53 billion** up to 2030.

However, there would be considerable increases beyond that time period, since many of these programs will just be in the developmental stages by 2030. A conservative estimate is that all together, these additional programs, if implemented, would add an **additional \$90 billion** between now and 2050.¹⁴⁷

Unlike the money spent on renewable energy, this is not a capital investment in things that will bring a return of income at a later date. This money is simply spent and then it is gone. It is turned into weapons that can never even be used except in an end-of-the-world scenario.

Were it not for the enormously powerful vested interests that benefit from making and maintaining these weapons, it is doubtful that any government would have continued paying for them this long.

\$billions 2020-2050	av/yr	30 yrs	adjusted
Nuclear forces - baseline	43.2	1,296	1,827
Estimated cost over-runs	6.2	186	262
Nuclear -related costs	21.2	636	896
Overheads	7.1	213	232
Nuclear clean-up costs	10.0	300	432
New weapon systems	3.0	90	127
TOTAL	90.7	2,721	3,776

IT'S NOT JUST ABOUT THE MONEY

What jobs will be required to implement a Green New Deal?

Funding a GND is going to take a massive investment amounting to trillions of dollars of taxpayer money. A lot of that money is already sitting on the government's books, ready to be spent on nuclear weapons. We need that money for addressing climate change. But a GND needs more than just money to succeed.

There are already 786,000 people employed in the renewable energy field in this country (compared to 3.8 million in China).¹⁴⁸ And according to the US Department of Labor,¹⁴⁹ **solar photovoltaic installers and wind turbine service technicians were the two fastest growing occupations in 2018.**

Many of the new jobs that will be needed to implement a GND are in **manufacturing, construction, operations and maintenance, forestry and other "green collar" jobs.** But there is also a need for scientists, engineers, researchers, designers, technicians, managers and other professional positions.

We already know how to generate electricity from the sun and wind. We know how to build a high-speed rail system. We know how to make buildings more energy efficient. **Many of the technologies needed to solve climate change have been invented, but not all.**

Science, Technology, Engineering, and Mathematics (STEM) experts are needed to rapidly advance the science of sustainability. Innovation is needed in order to improve efficiency and increase capacity of energy storage, energy transport, solar panels, wind turbines, hydropower, geothermal power, and the various forms of marine energy.

STEM experts are needed to rapidly advance the science of sustainability.

The national STEM shortage

However, there is a serious shortage of STEM graduates in this country. One recent study¹⁵⁰ suggests that by 2025, there will be over 2 million unfilled jobs in STEM fields.

As of 2016, China was granting almost eight times as many STEM degrees as the United States each year, in order to address their energy and industrial needs. India is graduating almost five times as many STEM majors.¹⁵¹ According to the Smithsonian Science Education Center, "STEM-related jobs in the U.S. grew at three times the rate of non-STEM jobs between 2000 and 2010. By 2018, it [was] projected that 2.4 million STEM jobs will go unfilled."¹⁵²

In the US, where do most of the current STEM graduates go? In 2016, 5 out of the 10 companies with the most STEM job openings were nuclear weapons companies: General Dynamics, with 2,996 STEM openings, Lockheed Martin with 2,742, Northrop Grumman with 2,004, Leidos with 1,421, and Raytheon with 1,261.¹⁵³ In many areas of the country right now, the *only* jobs available to blue-collar workers as well as to newly qualified scientists and engineers are in the booming business of building nuclear submarines and ballistic missiles.¹⁵⁴

We need these people to help solve the problems of climate change. And we need many more of them to build and implement the new renewable energy systems that are going to be needed as we transition away from fossil fuels.

Research agenda for a Green New Deal

Research and innovation can help drive down the costs of implementing a Green New Deal. But they are also needed to solve many of the technical problems which still beset the move away from fossil fuels. And given the timescale required to solve these problems, the role of research and innovation becomes hugely important.

Transportation

Electric cars are already with us, but more research is needed to improve **battery storage times, battery charging times and battery capacity to weight ratios**. More research is also needed to develop suitable electric alternatives for heavier duty trucks traveling longer distances, and for other more specialized vehicles, like tractors, fire engines, ambulances, bulldozers, excavators, dump-trucks, etc.

More work is needed to advance **hydrogen fuel cells** as another alternative to battery-powered vehicles, especially for long distances.

Nowhere is research more needed than in the area of **electric-driven and battery-powered air travel**. While hydrogen may turn out to be the fuel of choice for future air travel, improvements in battery efficiency and density could be a deciding factor. Other issues have to do with improved aerodynamics of planes, including improved ways to fold or otherwise handle the much longer wingspans required.

Renewable electricity

While the basics of solar and wind power are now well-established, more research is needed to **improve the capacity factors and efficiency of both**, as well as to connect them more effectively to **utility-scale storage options**.

If we improve the efficiency of **small-scale micro wind turbines**, it could make a

significant difference to their use as a distributed power source for buildings, especially in built-up areas. More work is still needed to develop **off-shore wind, including work on floating turbines**, and better ways to store and/or connect off-shore turbines to the on-shore grid.

Research on **harnessing the power of waves and tides** is still at a fairly early stage of development. Other possible sources of clean and renewable electricity also need further development, including turbines installed in **flowing water** that do not require dams or other potentially damaging infrastructure.

Heat for buildings

Further research is needed on **geothermal heat pumps** and the use of underground temperatures for both heating and cooling of buildings. Research is needed on other **energy efficiency** measures for existing buildings and on better ways to **convert existing gas-fired furnaces and boilers** to run on electric power.

Industry

Research is especially needed to convert fossil fuel intensive industrial processes to electric alternatives, including for the **production of steel and cement**, petrochemicals, pharmaceuticals, plastics and many other products. More research is also needed to **replace HFCs** with safe alternatives.

Agriculture

Although there may be some areas for further research and innovation in agriculture, we already know what is needed to reduce carbon emissions. We need to return to farming and cattle rearing methods that do not rely so heavily on nitrogen fertilizers, the storage of wet manure, overly intensive crop production and cattle concentration. New ways to protect and restore wetlands and replenish our forests are other possible areas for research.

What skills are being wasted on nuclear weapons?

Apart from the military personnel who are connected directly or indirectly with the deployment of nuclear weapons, there are approximately 27,000 civilian employees and contractors working directly with nuclear weapons at two nuclear submarine bases, two air force bases and three ballistic missile bases.¹⁵⁵

There are a further 42,000 people working at the eight sites across the country where nuclear weapons are developed, tested, assembled and dismantled.¹⁵⁶ These are Sandia Labs and Los Alamos National Lab in New Mexico, Lawrence Livermore Lab in California, Savannah River Site in South Carolina, Pantex Plant in Texas, Kansas City Plant in Missouri, Nevada Test Site in Nevada and the Y-12 complex in Tennessee.

And finally, there are approximately 70,000 people working for the 20 or so private companies¹⁵⁷ who make the warheads, missiles and components for US nuclear weapons and oversee most of the labs and complexes listed above. Most of these companies make other products and services, so it is difficult to determine how many are engaged specifically in nuclear weapons work.

As with the renewable energy field, there is a wide range of jobs associated with nuclear weapons, from production line workers to security officers to subject matter experts to safety instructors. Many of these positions are generic, requiring few if any academic qualifications.

But by far the most common job qualification for nuclear weapons-related work is some kind of engineering degree and/or experience. Some of these jobs require nuclear engineering in particular, but many do not. These are science, technology, engineering and math (STEM) jobs,

and despite the national shortage of graduates to fill STEM positions in general, there appears to be no shortage when it comes to military, and especially nuclear weapons, positions.

“The Air Force [has] a robust supply of personnel with STEM degrees to meet its recruiting goals for STEM positions, with a few exceptions,” says the National Research Council.¹⁵⁸

A sampling of the kinds of jobs and job qualifications being sought in the nuclear weapons field include:

The Air Force has a robust supply of personnel with STEM degrees to meet its recruiting goals...

- **Entry-Level Nuclear Weapon Surety Network Implementation Engineer** (B.A. in Computer Engineering, Systems Engineering, or Electrical Engineering)
- **Nuclear Weapons Subject Matter Expert** (B.S. degree and 10+ years experience in Nuclear Weapons and Computer Engineering)
- **Senior Nuclear Weapons Technical Writer** (B.A. degree in a scientific, engineering or technical field with a minor in English, Technical Writing, or similar)
- **Nuclear Scientist/Nuclear Weapons Analyst** (M.S. in Nuclear Engineering, Physics or a related discipline, plus at least five years of relevant experience, or three years experience with Ph.D.)
- **Associate Program Leader for Nuclear Weapon Enterprise** (Ph.D. in Science or Engineering or equivalent combination of education and related experience; expert knowledge of simulation and optimization computational methodologies)
- **Nuclear Weapons Logistics Management Specialist** (B.A. degree in “relevant discipline,” 12-15 years of prior relevant experience, or Masters with 10-13 years experience.)

Mapping nuclear weapon jobs to a Green New Deal

A Green New Deal will provide millions of people with decent well-paid jobs in construction, forestry, operations, production, maintenance and other fields. **But to meet GND targets in the timescale required, and to make it all affordable, workers are also needed in research, engineering, design and other fields.**

As noted above, many of these skills are in short supply and many of the people who will be needed to fill these roles are currently working for the nuclear weapons industry and in other military-related positions.

Job requirements for design and development positions in the nuclear weapons complex overlap extensively with the requirements for positions in green energy.

Both require advanced degrees and industrial experience in the fields of engineering, nuclear engineering, computer science, systems architecture, mathematics, physics or chemistry. The skills required overlap in information technology and computer science, modelling and simulation, risk analysis and systems assessment.¹⁵⁹

A 2014 study in the UK¹⁶⁰ looked at the workforce requirements, job descriptions, transferable skills and locations of 170,000 people currently employed in the UK making weapons and their delivery systems. It mapped these against the 300,000 or more jobs that would be needed to build and maintain enough offshore wind farms and marine energy projects to put the UK on the path to net-zero carbon emissions.

The results were astounding. The study found a direct correlation between many of the existing skills used to build nuclear

submarines, for example, and those that would be needed to build wave and tidal energy projects. Even more surprising was the **direct correlation between locations of where these jobs would be based.**

The study found, for example, that marine engineers and naval architects currently building a new generation of nuclear ballistic missile submarines for the UK at the Naval Shipyard in Burrow-on-Furness could switch over to designing and building the Morecambe Bay Tidal Barrage without even having to move house.

Similar studies in the US have looked at the massive potential for jobs in different parts of the country that could result from the tapping of offshore wind, dammed up rivers and solar energy.¹⁶¹ **These have not as yet been mapped to the equivalent jobs or infrastructure currently absorbed by the military-industrial complex, but this report offers a preview of what more comprehensive mapping might reveal.** There already seem to be similar correlations to those in the UK.

Mapping nuclear weapons jobs to a Green New Deal

The two maps on the back cover of this report show very roughly where and how many jobs there are currently in the nuclear weapons industry, along with where and how many jobs there *could* be by implementing a Green New Deal. The data for these maps are provided in the tables in Appendix 7 & 8.

Building the global consensus needed to solve these problems

US nuclear weapons are currently targeting the very countries we need to work with to solve the climate crisis. By threatening to annihilate these countries at a moment's notice with our nuclear weapons, we have simply encouraged them to develop nuclear weapons of their own. And by spending enormous amounts of money and resources to constantly improve and refine these weapons, we are forcing these other countries to do the same.¹⁶²

The United States, China, Russia and India account for more than half of the world's total carbon emissions between them. Together with the other five nuclear-armed nations and their nuclear allies, these countries cause nearly three-quarters of all the world's carbon emissions. It is the nuclear-armed nations who are also the major carbon emitting nations of the world.

These other countries need the money, skills and other resources going into their nuclear weapons programs in order to adequately address the climate crisis in their respective countries.

The Cold War

Nuclear weapons were developed in the context of a global battle to the death between two opposing and mutually exclusive ideologies that divided the world into two blocs at the end of World War II. We are all very, very lucky that the Cold War never went "hot," because that would have been the end of all of us.

We came very close to all-out nuclear war, not only during the Cuban Missile Crisis of 1962 but at least 12 other times during the Cold War.¹⁶³ We also came close to an accidental nuclear detonation that could have caused unparalleled humanitarian catastrophe many

more times than that. But it was luck, not the "magical" power of nuclear weapons that saved us from these potential disasters.

We no longer live in a world that is divided so sharply into two incompatible ideologies. There are many variations of the economic system that all countries now share and all take part in. Even countries like North Korea, Cuba and Vietnam buy and sell goods to and from the rest of the world and take part in the global economy. Apart from our closest neighbors, Canada and Mexico, China is America's largest trading partner, selling more than half a trillion dollars worth of goods to the US each year.

China and Russia are in many respects more "capitalist" than the United States itself by now. Neither country is trying to push its ideology on the rest of the world, trying to topple other governments or trying to take over the world. To be

sure, there are human rights concerns that need to be addressed in both Russia and China. There are concerns about the mass media being used as mere mouthpieces for government propaganda. There are concerns about mass incarceration, about authoritarian leaders, and about bullying and military interference in other countries.

All of these concerns can also be applied to the United States. **The US is not the perfect beacon of democracy it claims to be.** It has a long history of propping up dictators and authoritarian regimes around the world. It has its own shameful record of mass incarceration, use of torture, voter suppression, "fake news" and human rights violations. The US has interfered in more elections than Russia and China put together. It has invaded far more

US nuclear weapons are currently targeting the very countries we need to work with in order to solve the climate crisis.

countries and overthrown far more regimes than either of those countries ever have.¹⁶⁴

Russian interference in elections

Did the Russian government interfere in the 2016 presidential election? If they did, what is the proper response – to denounce them as uniquely evil, suspend diplomatic relations and impose sanctions on them? Or would it be more productive to work *with* the Russians to come up with some new international standards to prevent this kind of interference in the future? Since **it is an undisputed fact that the US interfered in the 2012 Russian elections,** ¹⁶⁵ both countries need to agree that this must stop.

It is now well past time for Americans to acknowledge that our country is not perfect and that other countries, however unpalatable their regimes may be, are not our “enemies” or “adversaries” or even “competitors.” We all have challenges to overcome and we can only overcome these by working on them together.

But most importantly, we will only survive as a species if we work together to solve the greatest problems facing us right now, and those include the climate crisis, the nuclear nightmare and the time-bomb of global inequality.

North Korea

Do North Korea’s nuclear weapons represent an unacceptable threat to the United States and the world? Of course they do, as do the nuclear weapons of the United States and the other nuclear-armed nations. **Every single nuclear weapon in the world, no matter whose it is or where it is aimed, is a threat to all of us.**

Does that mean that Kim Jong-un *intends* to launch his nuclear weapons at the United

States at the first available opportunity? That is very unlikely. Kim Jong-un has one overriding priority, and that is the survival of his country. He believes, for perfectly rational, if nonetheless incorrect, reasons, that nuclear weapons are the key to ensuring that survival.

It would be surprising for him *not* to be convinced that the possession of nuclear weapons is an effective deterrent against attack or invasion of his country, given all the claims that the US and other nuclear weapon states continue to make on a regular basis about how effective and essential their so-called nuclear “deterrent” is.

It would also be surprising for him not to be convinced, given all the claims that the US and other nuclear weapon states continue to make on a regular basis, that the possession of nuclear weapons gives the people of his country a certain status in the world.

There is only one way to eliminate the nuclear threat from North Korea, and that is to negotiate the elimination of *all* nuclear weapons, including those of North Korea but also those of the United States. That means a commitment from South Korea not to allow US nuclear weapons on its soil or in its waters.

Other confidence-building measures, including an agreed “end” to the Korean War and a massive scaling back of conventional forces on both sides could bring peace to the Korean peninsula and an end to the threat posed by North Korea’s nuclear weapons.

As with all the other issues that currently divide the world and create international tensions, the only solution is to engage in dialogue and to build relations based on mutual respect and a commitment to the principles of the United Nations.

CONCLUSIONS

Climate change is a life-threatening emergency on a global scale. It requires an immediate and comprehensive response commensurate with the threat it poses to human civilization and to the planet. The same is no less true of the global, life-threatening emergency posed by the continued existence of nuclear weapons. Inequality is also a life-threatening global emergency that must be addressed as we address these other two emergencies.

A Green New Deal would set in motion a national mobilization in the United States to completely turn an economy based on fossil fuels into one based on renewable forms of energy.

That means a massive effort to transform things in the next 10 years, followed by steady progress towards the end goal of net-zero carbon emissions globally by 2050.

The United States can and should move swiftly toward this very ambitious but necessary target. This will require:

1. **Major investment from the federal government on the order of \$3 trillion over the next 30 years, or \$100 billion per year.**
2. **Massive transfer of skills, expertise, technologies and infrastructure from the nuclear weapons industry to green technologies.**
3. **A complete shift in our relations with the rest of the world and in the way we treat other countries.**

The obvious places to find the money *and* the skills needed for a GND are in the military industrial complex, and especially in the nuclear weapons industry. Eliminating nuclear weapons would also radically change our relationship with the rest of the world.

The future of this planet depends on eliminating our addiction to both fossil fuels and nuclear weapons. Eliminating the latter frees up what we need to eliminate the former. And working in partnership with the rest of the world to address *all three* global emergencies is the only way we can solve any of them.

All of this is totally doable, so long as there is a President and a Congress committed to

making the changes that are required, and brave enough to take on the corporations who want to continue with business as usual. It will take a politically activated public to elect these people in November, 2020, and to make sure

they follow through on those commitments.

In the meantime, there are numerous and crucially important steps that individuals, organizations, cities and states can take *right now* to begin moving this country in the right direction and to make sure that the political will is there to take bold and decisive action starting on January 20th, 2021. This means:

1. **Purchasing only electric vehicles.**
2. **Installing rooftop solar and distributed wind turbines wherever possible.**
3. **Planting trees and protecting existing forests and wetlands.**
4. **Using only 100% clean, renewable electricity.**
5. **Providing incentives to encourage the purchase of electric vehicles, electric heating for buildings and the use of 100% clean, renewable electricity.**
6. **Using and improving public transportation systems.**
7. **Divesting from fossil fuels and nuclear weapons.**

What you can do now

If you like this report,

- Share it any way you can. It's free, and you might get a nicer planet.
- You can download it * and make all the copies you like.
- You can also order a copy in book form for \$20 including postage (US only).*
- Make sure your legislators know about it and are acting on it.
- Make sure your local media and your social media are talking about it.
- Please credit Timmon Wallis and NuclearBan.US appropriately.

If you are running for President,

- Commit to signing the Nuclear Ban Treaty when you get elected, by signing the Presidential Candidates' Pledge.*
- Commit to implementing a Green New Deal when you get elected.
- Initiate negotiations to dismantle every single nuclear weapon.
- Initiate discussions on a stronger international agreement to replace the Paris Accords.
- Create and empower a Department of Peace and Disarmament.
- Restore the Environmental Protection Agency to its scientific and political authority.

If you are a member of Congress,

- LEAD more boldly than you ever have before.
- Protect your country and your world from misinformation and corporate greed.
- Support the Norton Bill (HR 2419) to shift resources from nuclear weapons to green technologies.
- Sign the ICAN Legislative Pledge to support the Nuclear Ban Treaty.*

* See www.NuclearBan.US

If you are a state legislator,

- LEAD more boldly than you ever have before.
- Support resolutions and bills in your state legislature that call for the US to sign the Nuclear Ban Treaty and eliminate all nuclear weapons.
- Sign the ICAN State Legislator's Pledge to support the Nuclear Ban Treaty.*

If you are a citizen,

- VOTE.
- Make sure everyone you know is registered to vote and has access to the polls.
- Set aside divisive issues, just for 2020. Choose candidates who care about our survival.

If you can,

- Purchase or rent an electric vehicle.
- Install rooftop solar or wind power wherever possible.
- Convert your home to electric heating and cooking.
- Look into how you can be using 100% clean, renewable electricity.

If you are an investor,

- You can divest from both the nuclear weapons industry and the fossil fuels industry.*
- So can your friends, business, school, college, faith community, hospital, financial institution.*
- So can your town, city and state.*

If you want to do more,

- Join, volunteer or donate to disarmament, environmental, and justice organizations.*
- Run for office.
- Never, ever give up.

Appendix 1: Nuclear power is not the answer

When the last gas-fired power plant is closed in 2030, there will still be a number of nuclear power plants in operation across the United States and many more in operation across the world. Nuclear power can help smooth the transition to 100% renewable electricity and will probably remain with us until 2050.

However, if there is one overriding lesson to be learned from the climate crisis, it is that **we cannot produce things of value to society without also paying attention to the waste products we create in the process.** The irony is that carbon dioxide is one of the *least* harmful of all waste products created by modern industry, and yet it is this seemingly innocuous waste product that now threatens our entire civilization.

The problem of nuclear waste

Generating electricity from the heat produced by radioactive fuels is a “clean” process from a climate perspective. It produces no carbon dioxide or other greenhouse gases in the process. That much is good news.

However, what nuclear power *does* produce as well as electricity is a **wide array of highly radioactive waste products, many of which remain radioactive and harmful to humans for tens of thousands or even hundreds of thousands of years.** We still have not solved the problem of what to do with this waste so that it cannot cause harm for considerably longer than the whole of recorded human history.

The US decided in 1987 to store its most high-level radioactive waste (HLW) in tunnels 1,000 feet below Yucca Mountain in Nevada, but as of 2019, some 32 years and \$15 billion later, there are still doubts as to whether this site will be used. **Current estimates put back the date for finding a solution to the permanent storage of this waste until 2040 at the earliest.** Other countries have explored similar sites for permanent storage, but as of 2019, none of the 90,000 metric tons of HLW

already produced by the world’s nuclear power plants has yet been put into long-term safe storage.

Bill Gates believes he has a solution to the nuclear waste conundrum and has offered \$1 billion of his own money to get it going. Instead of running on fresh nuclear fuel, the new nuclear reactor design would use the nuclear waste products themselves as fuel – generating electricity and getting rid of the nuclear waste at the same time. **However, this remains an unproven design and efforts to build a pilot plant in China were cancelled earlier this year due to the current trade war.**¹⁶⁶ Existing “fast breeder” reactors in Europe, which burn up some of the waste products of conventional reactors, have actually turned out to produce even more radioactive waste than the conventional reactors.¹⁶⁷

The problem of timescales

Perhaps at some point in the future, a safe way will be found to store and/or use up the thousands of tons of highly radioactive waste already produced by nuclear power plants around the world.¹⁶⁸ But we do not have very much time available to us if we are going to solve the climate crisis before it becomes a climate catastrophe. And that is the second reason why nuclear power is simply not an option worth pursuing at this point.

It takes many years to develop new nuclear power technologies and many more years to actually build the nuclear power plants. As of 2019, there are just two nuclear power plants under construction in the United States, both at the Vogtle site in Georgia. These are for a newer, supposedly safer, reactor design, the AP2000.

The AP2000 was designed in the 1990s and the design was submitted to the Nuclear Regulatory Commission (NRC) for approval in 2002. Approval was granted in 2005, so that was at least three years in the design phase,

before even thinking about actual construction of a power plant.

The initial construction permit was applied for in 2006 and various contracts were agreed by 2008. In 2009, the permit was granted to begin construction, and construction began on March 12, 2013. It thus took another seven years from the application to start constructing a power plant to the point of actually pouring the first cement.

These two power plants were originally scheduled for completion by 2016 and 2017 for a total cost of \$14 billion. By 2017 they were both hopelessly behind schedule and over budget. Westinghouse, the company which designed the AP2000, then went bankrupt as a result of losses on two other nuclear power plants under construction in South Carolina, which were subsequently cancelled.¹⁶⁹ As of 2019, the new scheduled completion dates for the Vogtle reactors are 2021 and 2022, at a revised cost of \$25 billion.

Actual construction of nuclear power plants, which is supposed to be possible in 4-5 years, in this case is taking 8-9 years (2013-2021/22). This is on top of the 7 years it took to get an application approved to begin construction (2006-2012) and at least 3 more years from initial designs to an approved reactor design (2002-2005). All together, these two reactors will have taken more than 20 years from the initial designs to the point of producing electricity.

As of 2019, there were 12 other new US nuclear power plant construction projects with approval already granted by the NRC. All 12 have been cancelled or indefinitely postponed,¹⁷⁰ which means that any new nuclear power plant construction at this point will have to start with the lengthy process of getting approval before construction can even begin.

And if a new reactor design is involved, that will add additional years to the timeline.

Altogether, it can take up to 20 years from initial designs to a nuclear power plant that is finally producing electricity. We only have 10 years to end this country's dependence on fossil fuels.

Uranium is not renewable

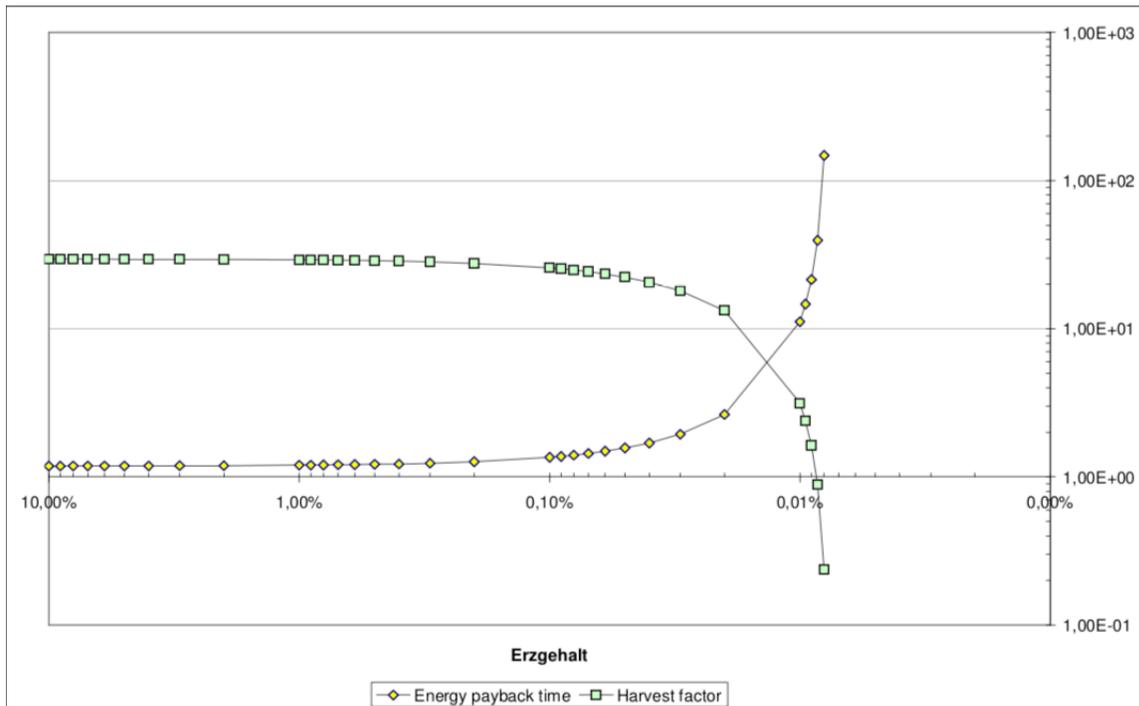
Although some proponents of nuclear power try to describe it as a “renewable” form of energy, it most certainly is not, at least in its current form. It is possible to run nuclear reactors on thorium and other mixed fuels, but all nuclear power plants currently generating electricity in the United States rely on uranium as a fuel. **Uranium is a finite resource** with “known” reserves of approximately 6 million tons worldwide.¹⁷¹ At the current rate of global uranium fuel consumption (around 65,000 tons per year) these reserves should be able to keep the nuclear power industry going for around 100 years.

But uranium is not mined in its pure form, but in ores that range enormously in their levels of uranium concentration. Some uranium mines in Canada recover ores containing as much as 20% uranium, while ores in Namibia, for example, average only 0.01% uranium.¹⁷² The industrial average for mined uranium concentration levels has been between 0.05% – 0.15%, but **the more uranium that gets mined, the lower the average remaining concentration becomes.**¹⁷³

According to at least one study, uranium reserves beyond 2050 could have average concentrations as low as 0.013%.¹⁷⁴ **At this concentration, the amount of energy required to make the uranium sufficiently concentrated to use as nuclear fuel is potentially greater than the amount of energy that the fuel would produce in a nuclear reactor.** This is known as the “energy cliff.” There are different views as to exactly where the threshold grade of uranium ore may lie before it hits the energy cliff, but there is no disagreement that at some point, this threshold is reached.¹⁷⁵

Energy required vs. energy produced by nuclear power

According to the data on this graph, at uranium ore concentrations of 0.1% and above, the amount of energy used to produce the uranium for nuclear fuel is “paid back” after just a few months of producing electricity, but below that concentration, the payback time starts increasing dramatically, so that at an ore concentration of just less than 0.01%, it takes 10 years of producing electricity to “pay” for the amount of energy required to make the fuel. At a concentration of 0.007%, the payback time increases to over 100 years.



source: Austrian Energy Agency (2011), pg. 5.

Nuclear power is not as “clean” as it looks

The mining and enrichment of uranium for use in nuclear power plants is hugely energy intensive. The Olympic Dam mine, for example, which is the largest uranium mine in Australia, is also **the single largest consumer of electricity in Australia**.¹⁷⁶

Then, the enrichment of the uranium to the grade necessary for use as nuclear fuel is the most energy-intensive part of the process. Even though the current gas centrifuge method of enrichment require 10 times less energy than the previous gaseous diffusion method, it still requires huge amounts of electricity to generate very small amounts of nuclear fuel.

To produce enough nuclear fuel for a 1GW nuclear reactor for one year requires about 10 GWh of electricity.¹⁷⁷ On top of the mining and enrichment processes, the construction of nuclear power plants over many years requires additional inputs of energy, mostly in the form of fossil fuels at this point.

The total life cycle of nuclear power includes all the following stages:

1. construction of the plant and machinery used
2. operation and maintenance of the plant
3. fuel production, including
 - a. mining
 - b. milling
 - c. enrichment
 - d. fabrication
 - e. transportation

4. dismantling and decommissioning of the plant
5. waste disposal, including final safe storage in a geological repository

When all these stages are taken into consideration, the carbon footprint of nuclear power is anything but “clean.” At the moment, of course, almost all the energy inputs, machinery, transportation, steel and cement production, etc. are produced with fossil fuels, making nuclear power a seriously “dirty” option.

The final nail in the nuclear coffin - cost

Nuclear power is already prohibitively expensive compared to the latest costs for wind and solar. The only reason nuclear power has remained a viable option for many decades is because it has been heavily subsidized by the government. This was originally because nuclear power plants produced the plutonium needed for nuclear weapons. Many of the costs for producing the nuclear fuel for commercial power plants have been kept hidden from view because they were considered nuclear weapons expenses.¹⁷⁸

Through the Price-Anderson Act of 1957, the government limits the liability of nuclear plant operators in the event of a major accident and undertakes to use taxpayer money to cover any shortfall. This has enabled nuclear plant operators to pay for insurance premiums which would otherwise be prohibitively expensive.¹⁷⁹ The Fukushima accident, for example, is now expected to cost as much as \$180 billion just for the clean-up operation.¹⁸⁰

On top of this, more than two million people have sued TEPCO, the owners of the Fukushima plant, for destruction of their property, loss of jobs, health costs, forced evacuation and many other effects of the

disaster, including “mental anguish.” As of 2014, TEPCO has paid out over \$50 billion in compensation claims, and by 2018 they had paid out \$76 billion, with more claims still coming in.¹⁸¹

Even if the risk of a similar accident and subsequent damages on this scale in the US were considered vanishingly low (which, of course, they are not), the insurance for nuclear power plants would need to be astronomically high to enable insurance companies to cover themselves for that possibility.

But potentially the biggest cost associated with nuclear power is the cost of eventual long-term disposal of the waste. This is currently expected to cost US taxpayers nearly \$500 billion over the next 50 years, including civilian and military waste.¹⁸²

Even without factoring in all these subsidized costs of nuclear power, the construction and maintenance costs continue to rise, putting the comparative **levelized cost of electricity generated by nuclear power now higher than coal, gas, wind or solar powered electricity.** For this reason alone, nuclear power is unlikely to be the electricity source of choice for any utility company in the near

future. **Rather than continuing to promote and subsidize nuclear power, we need to cut our losses and accept that nuclear power is simply *not* the answer to the climate crisis.**

As existing nuclear power plants reach the end of their expected life spans, it would be expected that they are each shut down and decommissioned accordingly. That would leave the country with approximately 70 out of 99 nuclear reactors by 2030, with the remainder gradually shut down over the subsequent 20-30 years.

Rather than continuing to promote and subsidize nuclear power, we need to cut our losses and accept that it is simply not the answer to the climate crisis.

Appendix 2: Biomass and biofuels are not the answer

Biomass is a fancy term for burning wood and/or agricultural waste or other forms of waste, including municipal solid waste that is incinerated instead of going into a landfill.

As of 2018, there were 178 biomass plants in the US, with a capacity to generate 20.2 GW of electricity.¹⁸³ Worldwide, there are more than 3,000 power plants burning biomass, with 122 GW of electricity capacity.¹⁸⁴

Biomass is defined as a “renewable” resource because forests and crops that are cut down can grow back again. **There is nothing “clean” about biomass**, however. According to Partnership for Policy Integrity, biomass plants produce as much as 150% more carbon dioxide per MW of electricity than coal-fired plants.¹⁸⁵

For decades now, the carbon footprint of biomass has been obscured by a little accounting trick that has allowed the carbon emitted from biomass to be considered “neutralized” by the equivalent amount of carbon that will eventually grow again as new trees.¹⁸⁶

The burning of wood and waste products to generate electricity is a disaster for the climate on two fronts. First, it involves carbon emissions that are not being counted and therefore are not even identified as part of the problem. Second, it involves the cutting down of forests which are the world’s most important protection against the climate crisis.

Trees act as a carbon “sink,” taking carbon *out* of the atmosphere and thus reducing the overall effect of carbon emissions. By cutting down trees and burning them in power plants, we are doubly increasing the carbon concentration in the atmosphere and

worsening the climate crisis. Biomass is *not* a solution to the climate crisis, not remotely.

What about biofuels?

Biofuels include ethanol, made from corn, biodiesel made from vegetable oils and animal fat, green diesel made from algae and methane made from manure. All biofuels emit carbon when used for fuel, just as fossil fuels do. Again, an accounting trick has been used to hide the emissions of biofuels by claiming that the carbon emissions are “neutralized” by the fact that the plants from which the fuel was produced can be regenerated to absorb the equivalent amount of carbon emitted.¹⁸⁷

One of the most important changes that need to be made at the international level is a re-categorizing of biomass and biofuels as carbon emitting activities which need to be monitored just like all other carbon emitting activities of each country. Plans to reduce carbon emissions would then need to include cuts to biomass and biofuel use as well as cuts to fossil fuel and other greenhouse gases.

There has been surprisingly little interest in tackling the problem of biomass and biofuels among climate campaigners, partly because they are so hidden from view. **But to save the planet, the accounting loophole that allows biomass and biofuels to be considered “carbon-neutral” must be closed.**

Appendix 3: Carbon capture and storage

Carbon Capture and Storage, or CCS,¹⁸⁸ is an attempt to remove the carbon from the emissions of existing fossil fuel power plants (and other industrial facilities) and then store it underground where it can't contribute to climate change. Some argue that no other solution will reduce the carbon in the atmosphere to a sufficient extent to meet the targets, and others argue that even after the world achieves net-zero emissions, there will still be a need to pump as much of the existing CO₂ out of the atmosphere as we can, using CCS technologies.¹⁸⁹

Technical and economic challenges to the large-scale use of CCS technologies have prevented more widespread application thus far, although as many as 43 CCS projects are already in operation or underway in 17 countries.¹⁹⁰ At least \$20 billion has been invested globally in CCS so far.¹⁹¹ The question is whether more investment should be devoted to CCS or whether it would be better spent on solving other challenges that do not involve the continued use of fossil fuels.

The promotion of CCS is based on an assumption that fossil fuels will continue to be part of the “energy mix” of the future and that removing as much carbon as possible from the burning of fossil fuels is therefore a reasonable ambition. It could be argued, however, that **focusing political and financial attention on CCS merely legitimizes the continued reliance on fossil fuels at a time when the world needs to move swiftly and decisively away from fossil fuels.**¹⁹²

Coal power with CCS

Although CCS has been used successfully at a number of industrial plants around the world, so far there are only two electricity generating plants using CCS. The Petra Nova coal plant near Houston, Texas, went live in 2017 with a CCS system that they claim removes 90% of the CO₂ emissions from the flue gases emitted by the plant. The captured carbon is then pumped into the ground to help push more oil

out of a nearby oil field, boosting oil production from 500 barrels a day to 5,000 barrels a day.¹⁹³

The aim is that the CO₂ captured from the Petra Nova plant will remain permanently underground in a nearby sandstone formation. In the meantime, it is rather ironic that **the CO₂ is being used to pump yet more fossil fuels out of the ground at a time when the world needs to stop burning fossil fuels.**

At the Boundary Dam Coal Power Station in Saskatchewan, Canada, up to 90% of the CO₂ from one of its 8 chimneys is similarly captured and pumped underground, again to aid in the recovery of more oil from a nearby oil field.¹⁹⁴ In total, 16 out of the 22 CCS schemes in operation as of 2014 used the captured CO₂ to extract more oil out of the ground.¹⁹⁵

Extracting CO₂ from natural gas

A total of 10 CCS projects in 2014 were using CCS technology to extract CO₂ from natural gas fields where the concentration of natural gas is insufficient to use as a fuel *unless* the CO₂ is removed from it.¹⁹⁶ In other words, CO₂ capture and removal in these cases is an essential and integral part of the process of refining natural gas for use as a fuel.

The capture part of CCS is thus being used to generate yet more carbon emissions, while the storage part remains problematic. None of the CCS projects described above have yet to demonstrate the viability of actually storing the carbon permanently underground.

Most CCS storage plans to date involve injection of the carbon into sandstone rock formations.¹⁹⁷ While this could be an effective solution, scientists are still researching the long-term implications and possible side-effects of doing this on a large scale.¹⁹⁸

Appendix 4: Sample of job opportunities for engineering graduates

Engineering Discipline	Examples of nuclear weapons applications	Examples of renewable energy applications
B.A. Electrical or Electronic Engineering	<ul style="list-style-type: none"> • Nuclear Weapons Surety Network Implementation Engineer • R&D Electrical Engineer • Boilers and Pressure Safety Engineer • Nuclear Hardness Electrical Engineer 	<ul style="list-style-type: none"> • Wind Turbine Generator Engineers • Offshore Wind Engineering Analyst • Wind Fleet Engineer • Electrical Engineer (Solar)
B.A. Marine Engineering/Naval Architecture	<ul style="list-style-type: none"> • Nuclear Propulsion Engineer • Nuclear Engineer, Navy • Navy Nuclear Officer 	<ul style="list-style-type: none"> • Project Manager (Wind) • Marine System Engineer (Wind) • Wave and Tidal Power Systems Design • Coastal Engineer (Tidal) • Program Manager (Tidal)
M.S. in Mechanical Engineering or Aerospace Engineering	<ul style="list-style-type: none"> • R&D Mechanical Engineer • Systems Engineer, Nuclear Safety • Process Controls Engineer • Architectural Systems Project Engineer • Senior Project Leader, Nuclear 	<ul style="list-style-type: none"> • Blade Design Loads Controls Engineer • Mechanical Design Engineer (Thermal Power) • Renewable Energy Innovation Engineer (Wind) • Project Development Engineer (Wind Efficiency) • Deep Geothermal Systems Design
M.S. in Civil or Structural Engineering	<ul style="list-style-type: none"> • Nuclear Weapon Program Analyst • Technology Program Principle Analyst • Nuclear Facilities Engineer 	<ul style="list-style-type: none"> • Offshore Wind Structural Engineer • Civil/Geotechnical Engineer (Wind and Solar) • Solar CAD Technician • Lead Project Engineer (Solar)

Appendix 5: Calculating the overhead cost of nuclear weapons

Figures from CBO Interactive Force Structure Tool at [<https://www.cbo.gov/publication/54351>]

US Military Force Structure - Overhead calculations

Direct Cost of Nuclear Forces as calculated by CBO

Military Unit	Number of units 2019	Direct Military Personnel per unit	Direct Military Personnel Numbers	Annual direct/Unit \$millions	Direct Military Personnel \$millions
Ballistic Missile Submarines	14	332	4,648	72	1,008
B-52 Bomber Aircraft Squadron	4	1,302	5,208	278	1,112
B-2 Bomber Aircraft Squadron	1	1,990	1,990	535	535
Minuteman III Missile Squadron	8	770	6,160	169	1,352
Totals			18,006		4,007

Indirect Cost of Nuclear Forces as calculated by CBO

Military Unit	Number of units 2019	Indirect Military Personnel per unit	Indirect Military Personnel Numbers	Annual Indirect cost/Unit \$millions	Indirect Military Personnel \$millions
Ballistic Missile Submarines	14	78	1,092	42	588
B-52 Bomber Aircraft Squadron	4	1,206	4,824	178	712
B-2 Bomber Aircraft Squadron	1	3,560	3,560	527	527
Minuteman III Missile Squadron	8	646	5,168	95	760
Totals			14,644	842	2,587

Overhead Cost of Nuclear Forces as calculated by CBO

Military Unit	Number of units 2019	Overheads as Military Personnel per unit	Overhead as Personnel Numbers	Annual overhead/Unit \$millions	Overhead as Personnel \$millions
Ballistic Missile Submarines	14	264	3,696	57	798
B-52 Bomber Aircraft Squadron	4	1,517	6,068	350	1,400
B-2 Bomber Aircraft Squadron	1	3,356	3,356	774	774
Minuteman III Missile Squadron	8	856	6,848	197	1,576
Totals			19,968		4,548

Appendix 6: Calculating the estimated cost of building 100% renewable electricity

<i>US Totals</i>	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2020-2030
Falling construction costs in \$/kW expected												
Onshore wind	1350	1300	1275	1250	1235	1215	1200	1180	1160	1140	1130	N.A.
Offshore wind	3782	3700	3500	3350	3250	3179	3100	3075	3050	3025	3000	N.A.
Geothermal	2800	2750	2700	2675	2650	2625	2610	2590	2580	2570	2560	N.A.
Solar PV	800	700	650	600	555	510	485	475	465	455	450	N.A.
Concentrated solar	5100	4800	4450	4150	3900	3700	3450	3350	3250	3200	3150	N.A.
Added capacity in GW												
Onshore wind	18	35	35	35	35	35	35	35	35	35	35	368
Offshore wind	1	3	5	8	11	13	13	13	13	13	13	106
Geothermal	1	1	1	1	1	1	1	1	1	1	1	11
Solar PV	15	30	35	35	35	35	35	35	35	35	35	360
Concentrated solar	2	5	5	5	5	5	5	5	5	5	5	47
TOTAL ADDED CAPACITY	37	74	81	84	87	89	89	89	89	89	84	1,028
Total cost/yr in \$billions												
Onshore wind	24.3	45.5	44.63	43.75	43.23	42.53	42	41.3	40.6	39.9	39.55	447
Offshore wind	3.78	11.1	17.5	26.8	35.75	41.33	40.3	39.98	39.65	39.33	39	335
Geothermal	2.8	2.75	2.7	2.68	2.65	2.63	2.61	2.59	2.58	2.57	2.56	29
Solar PV	12	21	22.75	21.0	19.43	17.85	16.97	16.63	16.27	15.92	15.75	196
Concentrated solar	10.2	24	22.25	20.75	19.5	18.5	17.25	16.75	16.25	16	0	181
TOTAL BUILDING COST	53.08	104.35	109.82	114.97	120.55	122.83	119.14	117.24	115.35	113.72	96.86	1,188

Appendix 7: Estimated Renewable Energy and Related GND Jobs (2020-2030)

State	renewal energy capacity (MW) ¹⁹⁹	Solar jobs ²⁰⁰	Onshore wind jobs ²⁰¹	Offshore wind jobs ²⁰²	Hydro (including R&D) jobs ²⁰³	Reforestation Jobs ²⁰⁴	Tidal and wave jobs ²⁰⁵	Geo-thermal jobs ²⁰⁶	Electric vehicle jobs ²⁰⁷	Other renewable jobs	Total renewable energy jobs
Alabama	35.3	142,063							82,000		224,063
Alaska	14.5		45,312		13,562	500,000	625				559,499
Arizona	21.9	41,062									41,062
Arkansas	20.3	67,954									67,954
California	127.8	211,831	199,687			100,000			16,369		527,887
Colorado	27.9	71,075									71,075
Connecticut	11.4	34,513									34,513
Delaware	3.5			14,219							14,219
Florida	61.2	191,173							16,500		207,673
Georgia	47.2	169,181									169,181
Hawaii	3.8						238	114,750			114,988
Idaho	9.5					120,000		14,063			134,063
Illinois	57.9	95,625	217,125						43,000		355,750
Indiana	40.4								70,600		70,600
Iowa	30.6		130,050								130,050
Kansas	18.8		82,250								82,250
Kentucky	28.5	142,062							95,000		237,062
Louisiana	92.7	181,562		347,625							529,187
Maine	9.1						561				561
Maryland	20.1			75,375							75,375
Massachusetts	21.4	29,875									29,875
Michigan	39.9								453,779		453,779
Minnesota	31.5		118,125								118,125
Mississippi	21.0						1,313				1,313

Warheads to Windmills: How to pay for a Green New Deal

State	renewal energy capacity (MW)	Solar jobs	Onshore wind jobs	Offshore wind jobs	Hydro (including R&D) jobs	Reforestation Jobs	Tidal and wave jobs	Geo-thermal jobs	Electric vehicle jobs	Other renewable jobs	Total renewable energy jobs
Missouri	25.5		95,625						196,363		291,988
Montana	7.4				8,857	80,000					88,857
Nebraska	15.5		62,969								62,969
Nevada	11.0	37,813				80,000		20,000	8,000		108,000
New Hampshire	3.9		19,032								19,032
New Jersey	32.9	56,063									56,063
New Mexico	12.8							8,000			8,000
New York	54.9	122,701		137,250							259,951
North Carolina	37.9	62,844									62,844
North Dakota	9.0		60,390								60,390
Ohio	53.5	118,125	150,469						107,400		375,994
Oklahoma	29.1	31,756									31,756
Oregon	16.3	64,630			27,761						92,391
Pennsylvania	59.1	253,982									253,982
Rhode Island	3.2			36,893							36,893
South Carolina	24.2								7,343		7,343
South Dakota	7.5		28,594								28,594
Tennessee	32.2	151,019			4,400				117,900		273,319
Texas	225.3	223,050	704,062						5,369		932,481
Utah	13.8							6,900			6,900
Vermont	2.1				8,446						8,446
Virginia	35.1	55,875									55,875
Washington	31.7				69,830				69,830		140,005
West Virginia	13.0	50,100									50,100
Wisconsin	26.8	26,531	147,132								173,663
Wyoming	11.2		45,500			80,000					125,500
Totals	1,591.0	2,632,974	2,106,325	611,302	133,202	960,000	2,745	164,338	1,289,453		7,900,339

See footnotes at top of columns on previous page for sources of data in each column.

Appendix 8: Nuclear weapons jobs

<i>Name of facility</i>	<i>what goes on there</i>	<i>city</i>	<i>state</i>	<i>employees</i>
A. Military Bases				<i>(civilian)</i>
1. Malmstrom AFB	150 ICBM silos	Great Falls	MT	1,419
2. Minot AFB	150 ICBM silos	Minot	ND	1,419
3. Warren AFB,	150 ICBM silos	Cheyenne	WY	1,419
4. Kitsap Naval Base	8 SSBN submarines based	Bangor	WA	5,000
5. King's Bay Naval Base	6 SSBN submarines based	King's Bay	GE	2,000
6. Nellis AFB	15 B-52H bombers	Las Vegas	NV	600
7. Whiteman AFB	15 B-2 bombers	Knob Noster	MO	1,000
8. Barksdale AFB	15 B-52H bombers	Bossier City	LS	600
9. Pentagon	Command and control	Washington	DC	900
At other military bases	Communications, logistics, etc			13,000
Sub-total - military				27,357
B. US Nuclear Weapon Facilities				
1. Pantex Plant (Bechtel, Leidos, Northrop Grumman)	Warhead assembly	Panhandle	TX	3,300
2. Lawrence Livermore Lab-LLNL (AECOM, Battelle, Texas A&M)	Research and development	Livermore	CA	6,500
3. NNS (formerly Nevada Test) (Honeywell, Jacobs, Huntington)	Resting and warhead development	Nye County	NV	2,400
4. Los Alamos National Lab-LANL (Battelle, U Cal, Texas A&M)	Design and warhead engineering	Los Alamos	NM	10,000
5. Sandia National Labs (Honeywell, Jacobs, Huntington)	Design and warhead engineering	Albuquerque	NM	10,600
6. Kansas City Plant-NSC (Honeywell)	Warhead components production	Kansas City	MO	4,500
7. Y-12 National Security Complex (Bechtel, Leidos, Northrop Grumman)	Uranium processing	Oak Ridge	TN	4,700
8. Savannah River National Lab (Fluor, Honeywell, Huntington)	Plutonium and tritium production	Jackson	SC	825
Sub-total facilities				42,825
C. Private Contractor Operations				
AECOM	Research and development	Fort Belvoir	VA	?
<i>(Total employees - 87,000)</i>		Albuquerque	NM	?
Aerojet Rocketdyne	Solid fuel rocket motor plant	Camden	AR	900
<i>(Total employees - 4,965)</i>				
BAE Systems	Missile development	Hill AFB	UT	500
<i>(Total employees - 30,000)</i>				
Bechtel	<i>See LLNL, Y-12 and Pantex</i>			
<i>(Total employees - 55,000)</i>				
BWX Technology	Sub missile tubes	Lynchburg	VA	4,500
<i>(Total employees - 4,500)</i>				

Warheads to Windmills: How to pay for a Green New Deal

Boeing	MIII and GBSD development	Huntsville	AL	2,700
<i>(Total employees - 153,027)</i>	repair center	Heath	OH	750
	Test facility	Little Mountain	UT	250
Charles Stark Draper Lab	Missile guidance systems	Boston	MA	1,700
Fluor <i>(Total employees - 53,349)</i>	<i>See Savannah River Lab</i>			
General Dynamics	Submarine missile systems	Groton	CT	16,500
<i>(Total employees - 98,600)</i>	Mission Systems	Pittsfield	MA	900
		Silverdale	WA	?
		Kings Bay	GA	?
Honeywell International	ICBM missile systems	Albuquerque	NM	200
<i>(Total employees - 116,500)</i>				
Huntington Ingalls Industries	Warhead development	Newport News	VA	2,500
<i>(Total employees - 38,000)</i>		Aiken	SC	?
		Ballston Spa	NY	?
		Los Alamos	NM	?
Jacobs Engineering	<i>See NNSS, Nevada</i>			
<i>(Total employees - 80,000)</i>				
Leidos	Warhead development	Albuquerque	NM	100
<i>(Total employees - 32,000)</i>				
Lockheed Martin	F35 nuclear capability	Fort Worth	TX	?
<i>(Total employees - 105,000)</i>		Palmdale	CA	?
	ICBM re-entry vehicles	Littleton	CO	4,000
		King of Prussia	PA	?
		Cape Canaveral	FL	720
		Orlando	FL	1,800
Moog - <i>(Total employees - 10,976)</i>	Missile rocket motors	Niagara Falls	NY	150
Northrop Grumman	B-2 and B-21 bomber construction	Palmdale	CA	3,000
<i>(Total employees - 85,000)</i>		Albuquerque	NM	13,000
Raytheon	Warhead and missile development	Tuscon	AZ	9,800
<i>(Total employees - 67,000)</i>	Communications systems	Arlington	VA	?
Textron	Aviation and Aerospace	Providence	RI	3,341
<i>(Total employees - 35,000)</i>	AAI subsidiary: Missile and space systems	Hunt Valley	MD	2,000
United Technologies Corp (UTC)	Launch control systems	Cedar Rapids	IO	
<i>(Total employees - 240,000)</i>				
Sub-total contractors				69,311
Total civilian jobs				139,493

Endnotes

¹ Greta Thunberg, age 15, addressing the UN Climate Change COP24 Conference, Dec. 15 2018: [https://www.youtube.com/watch?v=VFkQSGyeCWg]

² IPCC, *Climate Change 2014: Synthesis Report*. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 2014, p 40. [https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf]

³ See <https://www.climatecentral.org/news/2-million-years-global-temperature-20733>

⁴ IPCC, 2014, *op.cit.*

⁵ See, for instance, <https://insideclimatenews.org/news/11092015/climate-change-s-worst-case-scenario-200-foot-sea-level-rise-antarctica-ice-sheet-melt>

⁶ Tigchelaar, Michelle et al, "Future warming increases probability of globally synchronized maize production shocks," *PNAS*, vol. 115, no. 26, June 26, 2018. [https://www.pnas.org/content/115/26/6644]

⁷ See new UN report on mass extinctions at <https://assets.documentcloud.org/documents/5989433/IPBES-Global-Assessment-Summary-for-Policymakers.pdf>

⁸ Latest IPCC report puts the cost of damage caused by 2C to the global economy at \$69 trillion. See below.

⁹ IPCC, *Global warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*. World Meteorological Organization, Geneva, Switzerland. 2018.

[https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf]

¹⁰ *ibid*, p. 14.

¹¹ *ibid*.

¹² For a full discussion of nuclear 'deterrence' claims, see chapter 3, in Wallis, Timmon, *Disarming the Nuclear Argument*, Luath Press, 2017, pg. 41 *ff*.

¹³ https://en.wikipedia.org/wiki/2007_United_States_Air_Force_nuclear_weapons_incident

¹⁴ <https://www.theguardian.com/world/2013/may/08/us-airforce-nuclear-missiles>

¹⁵ <https://www.cbsnews.com/news/us-air-force-airment-isd-cocaine-warren-air-force-base-wyoming-nuclear-missile-sites-records-show/>

¹⁶ <https://www.newyorker.com/magazine/2015/03/09/break-in-at-y-12>

¹⁷ <http://www.aerospaceweb.org/question/weapons/q0268.shtml>

¹⁸ Pilkington, Ed, "US nearly detonated atomic bomb over North Carolina – secret document," in *The Guardian*, Sept. 20, 2013.

<https://www.theguardian.com/world/2013/sep/20/us-af-atomic-bomb-north-carolina-1961>

¹⁹ *ibid*. See also Schlosser, Eric, *Command and Control*, Penguin, London, 2011.

²⁰ Lockard, Joe, "Desert(ed) Geographies: Cartographies of Nuclear Testing," *Landscape Review*, no. 1 2000, pp. 3-20.

²¹ International Physicians for the Prevention of Nuclear War (IPPNW), *Radioactive Heaven and Earth*, The Apex Press, New York, 1991, p. 164.

²² *Ibid*, page 164

²³ Robock A, Oman L, Stenchikov GL, 'Nuclear winter revisited with a modern climate model and current nuclear arsenals: still catastrophic consequences', *Journal of Geophysical Research*, vol. 112, no. D13, D13107.

²⁴ *Ibid*.

²⁵ Helfand, Ira, *Nuclear Famine: Two Billion People at Risk?*, IPPNW, 2013. Robock et al, who conducted the original research on climate effects of a 'limited' nuclear war between India and Pakistan, are about to release results of new study showing the effects of such a war would be measurably worse than first thought.

²⁶ Robock, Alan and Toon, Owen, "Self-Assured Destruction: The Climate Impacts of Nuclear War," in *Scientific American*, 68(5), 2012. pp. 66-74.

²⁷ <https://www.poorpeoplescampaign.org/wp-content/uploads/2018/04/PPC-Audit-Full-410835a.pdf>

²⁸ Hayes, Ladan N., "Living paycheck to paycheck is a way of life for majority of U.S. Workers, according to a new Career Builder survey," *Career Builder*, August 24, 2017. [http://press.careerbuilder.com/2017-08-24-Living-Paycheck-to-Paycheck-is-a-Way-of-Life-for-Majority-of-U-S-Workers-According-to-New-CareerBuilder-Survey]

²⁹ Haymes, Stephen N., et al., eds. (2015), *Routledge Handbook of Poverty in the United States*, London and New York: Routledge. p. 7. ISBN 978 0 41 567344 0.

³⁰ Alston, Philip, "Report of the Special Rapporteur on extreme poverty and human rights on his mission to the United States of America," *United Nations Human Rights Council*, p. 3, May 4, 2018. [https://documents-dds-ny.un.org/doc/UNDOC/GEN/G18/125/30/PDF/G1812530.pdf?OpenElement]

³¹ Gould, Elise, and Jessica Schieder, "Poverty Persists 50 Years after the Poor People's Campaign: Black Poverty Rates Are More than Twice as High as White Poverty Rates," *Economic Policy Institute*. May 17, 2018. [https://www.epi.org/publication/poverty-persists-50-years-after-the-poor-peoples-campaign-black-poverty-rates-are-more-than-twice-as-high-as-white-poverty-rates/].

³² Frank, Robert, "US Added 700,000 New Millionaires in 2017," *CNBC*, March 22, 2018.

[https://www.cnn.com/2018/03/21/us-added-700000-new-millionaires-in-2017.html] AND

Peterson-Withorn, Chase, "The Full List Of Every American Billionaire 2016," *Forbes*, June 23, 2016. [https://www.forbes.com/sites/chasewithorn/2016/03/01/the-full-list-of-every-american-billionaire-2016/]

³³ Holodny, Elena, "The Top 0.1% of American Households Hold the Same Amount of Wealth as the Bottom 90%," *Business Insider*, November 23, 2016. [https://www.businessinsider.com/share-of-us-household-wealth-by-income-level-2016-11]

³⁴ Shah, Anup, "Poverty Facts and Stats," *Global Issues*, January 27, 2013. [http://www.globalissues.org/article/26/poverty-facts-and-stats]

³⁵ Dr. Anthony Shorrocks et al., "Global Wealth Report," *Credit Suisse Research Institute*, Zurich, Switzerland, p. 16, October 2018.

³⁶For more information:

https://risingtidenorthamerica.org/wp-content/uploads/2014/11/FS-BOOKLETT_FINAL.pdf

³⁷ "Let them eat bread" is a classic example of the attitude that brings down governments sooner or later. See also de Waal, Alex, *Mass Starvation: the History and Future of Famine*, Polity Press, 2018.

³⁸ United States, Russia, China, UK, France, India, Pakistan, Israel and North Korea have nuclear weapons. The other 186 countries of the world do not.

³⁹ Throughout this report, we use the term 'carbon' to refer to the totality of greenhouse gas emissions, which include carbon dioxide and other gases that are more potent than carbon dioxide. These other gases are converted to their 'carbon dioxide equivalent' (CO₂e) to provide a figure representing the total 'carbon,' or CO₂e emissions.

⁴⁰ IPCC, 2019, *op.cit.*

⁴¹ <https://commonbynature.co.uk/2019/05/05/the-answer-to-the-climate-crisis-isnt-reusable-coffee-cups-by-sophie-johnson/>

⁴² The American Recovery and Reinvestment Act was mainly a response to the banking crisis, but included up to \$90 billion for clean energy. See

https://obamawhitehouse.archives.gov/sites/default/files/page/files/20160225_cea_final_clean_energy_report.pdf.

⁴³ <https://www.britannica.com/event/New-Deal>

⁴⁴ https://www.gp.org/gnd_full

⁴⁵ See <https://jayinslee.com/issues/evergreen-economy>; <https://betoorourke.com/climate-change/?source=ema20190429-29069>; https://medium.com/@teamwarren/my-green-manufacturing-plan-for-america-fc0ad53ab614?&mkwid=so1a1l3xB%7Cpcriid%7C344847343856%7Cpkw%7Celizabeth%20warren%7Cpmt%7Cp%7Cpdv%7Cc%7Cslid%7C%7Cproduct%7C%7Cpgrid%7C69153913402%7Cptaid%7Ckwd-17177258%7C&pgrid=69153913402&ptaid=kwd-17177258&subsource=GS-69153913402-elizabeth%20warren-p-344847343856&gclid=EAIaIQobChMI9tfr_dLX4gIVj6OzCh1bwQOoEAAYASAAEgJKSfD_BwE&refcode=WFP2019-LB-GS-MA&refcode2=GS-69153913402-elizabeth%20warren-p-344847343856; <https://joebiden.com/Climate/>

⁴⁶ <https://www.congress.gov/bill/116th-congress/house-resolution/109/text>

⁴⁷ See Appendix 1: Why Nuclear Power is Not the Answer.

⁴⁸ See Appendix 3.

⁴⁹ Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks*, April 11, 2019. [https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks]

⁵⁰ All commercial and residential buildings will have to be heated electrically (including the use of heat pumps) to meet the carbon targets. This can be easily incorporated into the construction of all new buildings, but millions of existing buildings will need to be converted to electric heating. Many of these will take years to be retrofitted, not only with new heating but also with new wiring and other modifications.

⁵¹ That is, 1,778 MMT from the electricity generation sector plus another 52 MMT from pipelines and oil refineries no longer needed in the industrial sector.

⁵² Say, half from residential and half from commercial sector.

⁵³ "What Is U.S. Electricity Generation by Energy Source?" *U.S. Energy Information Administration*, Updated March 1, 2019.

[https://www.eia.gov/tools/faqs/faq.php?id=427&t=3]

⁵⁴ <https://www.greentechmedia.com/articles/read/us-electric-vehicle-sales-increase-by-81-in-2018#gs.acbelh55>

<https://www.citylab.com/transportation/2018/10/where-americas-charge-towards-electric-vehicles-stands-today/572857/>

⁵⁶ The SMART EQ Fortwo sub-compact is currently selling in the US for \$24,950. With federal tax credit of \$7,500 that makes it the cheapest EV on sale at \$17,450. Sales in the US are to discontinue after 2019, however.

⁵⁷ <https://electrek.co/2018/12/21/daimler-deliver-first-all-electric-freightliner-truck/>

⁵⁸ <https://electrek.co/2018/12/21/daimler-deliver-first-all-electric-freightliner-truck/>

⁵⁹ Molitch-Hou, Michael, "The Rest of the Industrialized World has High-Speed Rail, Why Can't the U.S.?" *Engineering.com*, March 22, 2019.

[https://www.engineering.com/BIM/ArticleID/18792/The-Rest-of-the-Industrialized-World-Has-High-Speed-Rail-Why-Cant-the-US.aspx]

⁶⁰ "U.S. High Speed Rail Network Map," *U.S. High Speed Rail Association*.

[http://www.ushsr.com/ushsrmap.html]

⁶¹ <https://phys.org/news/2012-12-sugar-volt-boeing-vision-hybrid.html>

⁶²[http://www.niquette.com/puzzles/flyoffgrdp.htm]

⁶³ <https://electrek.co/2017/12/04/all-electric-cargo-ship-battery-china/>

⁶⁴ See Appendix 1 and 2.

⁶⁵ Theoretical potential is the average annual energy available from a source of energy; the technical potential is the portion of the theoretical resource that can be captured with a specified technology; and the practical potential is the portion of the technical resource available after consideration of social, economic, regulatory, and environmental constraints. See: <https://www.nap.edu/read/18278/chapter/2#2>

⁶⁶ American Wind Energy Association, *US Wind Industry: Quarterly Market Report, First Quarter 2019*, AWEA. [https://www.awea.org/resources/publications-and-reports/market-reports/2019-u-s-wind-industry-market-reports/q12019_marketreport/u-s-wind-industry-first-quarter-2019-market-report]

⁶⁷ https://www.energy.gov/sites/prod/files/WindVision_Report_Final.pdf

⁶⁸ AWEA (2019), *op. cit.*

⁶⁹ https://us.orsted.com/en/Wind-projects

⁷⁰ https://distributedwind.org/wp-content/uploads/2012/08/DWEA-Distributed-Wind-Vision.pdf

⁷¹

https://www.energy.gov/sites/prod/files/2018/09/f55/2017-DWMMR-091918-final.pdf

⁷² "U.S. Solar Market Insight Report 2018 Year in Review," *Wood Mackenzie Power and Renewables and Solar Energy Industry Association*, March, 2019. [https://www.seia.org/us-solar-market-insight].

⁷³ *ibid*

⁷⁴

https://en.wikipedia.org/wiki/List_of_solar_thermal_power_stations

⁷⁵ Jacobson (2015), *op. cit.*

⁷⁵ Morsy, Salim, "Electric Vehicle Outlook Public Report: Global Sales Outlook," in *Bloomberg NEF*, 2018. [https://about.bnef.com/electric-vehicle-outlook/#toc-download]

⁷⁶

https://www1.eere.energy.gov/water/pdfs/npd_report.pdf

⁷⁷ Factors taken into consideration for determining suitable sites for hydropower included location of listed fish species, habitat disturbance, protected lands, fishing and boat use, affect on water quality, etc. There may well be other environmental considerations not taken adequately into account.

https://hydrosources.ornl.gov/sites/default/files/ORNL_NSD_FY14_Final_Report.pdf

⁷⁸

http://globalenergyobservatory.org/list.php?db=PowerPlants&type=Geothermal

⁷⁹ https://www.energy.gov/eere/water/marine-and-hydrokinetic-resource-assessment-and-characterization

⁸⁰ *ibid*

⁸¹ See https://web.stanford.edu/group/efmh/jacobson/Articles/I/CombiningRenew/HosteFinalDraft

⁸² https://www.power-technology.com/features/hoover-dam-giant-battery/.

⁸³ See https://www.powermag.com/fpl-will-build-worlds-largest-battery-storage-system/ and https://electrek.co/2017/12/21/worlds-largest-battery-200mw-800mwh-vanadium-flow-battery-rongke-power/.

⁸⁴

See https://www.smartgrid.gov/files/Estimating_Costs_Benefits_Smart_Grid_Preliminary_Estimate_In_201103.pdf

⁸⁵

https://www.eia.gov/consumption/residential/data/20

15/hc/php/hc1.1.php and https://www.eia.gov/consumption/commercial/reports/2012/buildstock/

⁸⁶ https://eia-global.org/campaigns/Climate/what-are-hydrofluorocarbons

⁸⁷ Modern large-scale manure handling methods rely largely on storage of manure as a liquid, which greatly increases methane emissions. This methane can be captured and burned in digesters to produce electricity, however this also emits carbon into the atmosphere and so is not a long-term solution. See Kanter, David R. 2018. "Nitrogen Pollution: A Key Building Block for Addressing Climate Change." *Climatic Change*, no. 1-2: 11. doi:10.1007/s10584-017-2126-6.

[https://ideas.repec.org/a/spr/climat/v147y2018i1d10.1007_s10584-017-2126-6.html], Ma, Yuchun, Graeme Schwenke, Liying Sun, De Li Liu, Bin Wang, and Bo Yang. 2018. "Modeling the Impact of Crop Rotation with Legume on Nitrous Oxide Emissions from Rain-Fed Agricultural Systems in Australia under Alternative Future Climate Scenarios." *The Science Of The Total Environment* 630 (July): 1544-52. doi:10.1016/j.scitotenv.2018.02.322

⁸⁸ See, for instance,

https://medium.com/@AmericanForests/lets-reforest-america-to-act-on-climate-1c46ae54acb1 and also The White House, *US Mid-Century Strategy for Deep Decarbonization*, 2016. p68 ff.

[https://unfccc.int/files/focus/long-term_strategies/application/pdf/mid_century_strategy_report-final_red.pdf]

⁸⁹ *Ibid*

⁹⁰ DOE, *US Energy and Employment Report*, January 2017. https://www.energy.gov/sites/prod/files/2017/01/f34/2017%20US%20Energy%20and%20Jobs%20Report_0.pdf

⁹¹ "Fastest Growing Occupations: Occupational Outlook Handbook," *U.S. Bureau of Labor Statistics*, April 12, 2019. [www.bls.gov/ooh/fastest-growing.htm.]

⁹² https://www.statista.com/statistics/539142/united-states-oil-gas-and-petrochemical-employment-by-occupation/

⁹³ Jay Insee has called for the equivalent of the post-WWII 'GI Bill' to guarantee every fossil fuel worker a new job. A better term for this might be the 'C,O&GI Bill,' or 'Coal, Oil and Gas Industry Bill.'

⁹⁴ https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/putting-price-on-carbon-pollution/technical-briefing.html

⁹⁵ https://www.wri.org/blog/2018/12/carbon-price-can-benefit-poor-while-reducing-emissions

⁹⁶ https://newclimateeconomy.report/2018/wp-content/uploads/sites/6/2018/09/NCE_2018_Executive_Summary_FINAL.pdf

⁹⁷ See Senator Ed Markey's Senate floor speech, March 26, 2019. [https://www.youtube.com/watch?v=uffXw-XE4wA]

⁹⁸ International Panel on Climate Change, "Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the

threat of climate change, sustainable development, and efforts to eradicate poverty," *World Meteorological Organization*, Geneva, Switzerland, 2018. [https://www.ipcc.ch/sr15/]

⁹⁹ Schwartz, Ian, "Alexandria Ocasio-Cortez: Under Medicare For All, You Won't Have to Worry About Funeral Expenses," *RealClearPolitics*, August 9, 2018. [https://www.realclearpolitics.com/video/2018/08/09/alexandria-ocasio-cortez-under-medicare-for-all-you-wont-have-to-worry-about-funeral-expenses.html]

¹⁰⁰ Chappell, Bill, "U.S. National Debt Hits Record \$22 Trillion." *National Public Radio*, February 13, 2019. [https://www.npr.org/2019/02/13/694199256/u-s-national-debt-hits-22-trillion-a-new-record-thats-predicted-to-fall]

¹⁰¹ Pollin, Robert, Garrett-Peltier, Heidi, Heinz, James and Hendricks, Bracken, "Green Growth: A US Program for Controlling Climate Change and Expanding Job Opportunities," *Center for American Progress/PERI*, Sept 2014.

[http://www.peri.umass.edu/fileadmin/pdf/Green_Growth_2014/GreenGrowthReport-PERI-Sept2014.pdf]

¹⁰² Jacobson, Mark, Delucchi, Mark et al, "100% Clean and Renewable Wind, Water and Sunlight (WWS) All-Sector Energy Roadmaps for the 50 United States," in *Energy and Environmental Sciences*, Royal Society of Chemistry, May 20, 2015.

[https://pubs.rsc.org/en/content/getauthorversionpdf/C5EE01283J]

¹⁰³ Barbier, Edward, "America Can Afford a Green New Deal- Here's How." *Brink*, April 22, 2019. [https://www.brinknews.com/america-can-afford-a-green-new-deal-heres-how/]

¹⁰⁴ See, for instance Rynn, Jon at:

http://economicreconstruction.org/GreenNewDealPlan; although Rynn's total costs come to \$2 trillion per year, this figure includes a lot of major social changes, like moving people from suburbia into more densely packed 'walkable communities,' that go way beyond the scope of the Ocasio-Cortez/Markey GND.

¹⁰⁵ The American Action Forum (AAF) claimed the GND would cost between \$51 and \$93 trillion, which President Trump rounded up to \$100 trillion. This figure, however, involved a certain amount of double-counting and included programs not even mentioned in the GND. The specific costs included for low-carbon electricity and transport came to only \$6-8 trillion out of the \$50-100 trillion. We have used that figure spread over 30 years to 2050 to arrive at \$223-227 billion over 10 years.

¹⁰⁶ Rynn, Jon, "A Green Energy Manufacturing Stimulus Strategy," in John Byrne and Young-Doo Wang, *Green Energy Economies: the Search for Clean and Renewable Energy*, Transaction, New Brunswick, 2014.

¹⁰⁷ US Energy Information Administration, *Levelized Cost and Levelized Avoided Cost of New Generation Resources*, Feb. 2019.

¹⁰⁸ Lazard, *Levelized Cost of Energy Analysis*, v12.0, Dec 2018.

[https://www.lazard.com/media/450784/lazards-levelized-cost-of-energy-version-120-vfinal.pdf]

¹⁰⁹ EPRI, *Estimating the Costs and Benefits of the Smart Grid*, 2011.

[https://www.smartgrid.gov/files/Estimating_Costs_Benefits_Smart_Grid_Preliminary_Estimate_In_201103.pdf]

¹¹⁰

[https://www.forbes.com/sites/arielcohen/2018/11/21/charging-up-battery-storage-investments-to-reach-620-billion-by-2040/#1b8081a5d96d]

¹¹¹ See <https://www.businessinsider.com/china-bullet-train-speed-map-photos-tour-2018-5>

¹¹² This is not all for carbon-free transit, but is a guide to what is needed. See [https://www.apta.com/wp-content/uploads/APTA_Policy-Brief_Infrastructure_March_2019-Final-004.pdf]

¹¹³ <http://web.mit.edu/cron/project/EESP-Cambridge/Articles/Finance/Rockefeller%20and%20B%20-%20March%202012%20-%20Energy%20Efficiency%20Market%20Size%20and%20Finance%20Models.pdf>

¹¹⁴ Globally, private investment accounts for nearly 90% of the total, but this is slowly going down as governments step up to the plate. See <https://www.irena.org/publications/2018/Jan/Global-Landscape-of-Renewable-Energy-Finance>

¹¹⁵ Wetstone, Gregory, "The Future of U.S. Renewable Energy Investment." *American Council on Renewable Energy*, p. 2, June 2018,

[http://core.staging.wpengine.com/wp-content/uploads/2018/06/ACORE-Renewable-Energy-Investor-Survey_June-2018_fnl.pdf]

¹¹⁶ Kirsch, Alison, et al., "Banking on Climate Change 2019: Fossil Fuel Finance Report Card 2019," *Rainforest Action Network*, p. 3, March 20, 2019.

[www.ran.org/bankingonclimatechange2019]

¹¹⁷ James McBride, "How Does the U.S. Spend its Foreign Aid?" Council on Foreign Relations, Oct 1, 2018.

<https://www.cfr.org/backgrounder/how-does-us-spend-its-foreign-aid>

¹¹⁸ See Appendix 3.

¹¹⁹ The International Campaign to Abolish Nuclear Weapons (ICAN) is a network of more than 500 civil society organizations in 100 countries. It won the 2017 Nobel Peace Prize for its work on the Treaty on the Prohibition of Nuclear Weapons (TPNW).

¹²⁰

<https://www.un.org/disarmament/wmd/nuclear/tpnw>

¹²¹ The Norwegian Sovereign Fund and ABP of the Netherlands. See <https://www.dontbankonthebomb.com>

¹²² See www.nuclearban.us for updates.

¹²³ For instance, both sides would first cut their arsenals in half by the end of phase one, then cut them in half again by the end of phase two, etc. See <http://www.globalzero.org/reaching-zero/>.

¹²⁴

http://inesap.org/sites/default/files/inesap_old/mNWC_2007_Unversion_English_N0821377.pdf

¹²⁵ See summary of what is and is not included in the DoD Strategic Forces budget in, Harrison, Todd and Montgomery, Evan, *The Cost of US Nuclear Forces*, Center for Strategic and Budgetary Assessments (CSBA), 2015. pg. 8.

¹²⁶ CBO figures do not include a number of 'nuclear weapons-related costs' or any 'overhead and support' costs connected with nuclear weapons. See explanation on pg. 5 of Congressional Budget Office (CBO), *Projected*

Costs of U.S. Nuclear Forces, 2019 to 2028, January 24, 2019 [https://www.cbo.gov/publication/54914]

¹²⁷ See, for instance, Harrison, CSBA (2015) *op.cit.*, Schwartz, Stephen, *Nuclear Security Spending: Assessing Costs, Examining Priorities*, Carnegie Endowment for International Peace, 2008.

[https://carnegieendowment.org/files/nuclear_security_spending.pdf], Rumbaugh, Russell, *Resolving Ambiguity: Costing Nuclear Weapons*, Stimpson Center, 2012, Ploughshares Fund, “What Nuclear Weapons Cost Us” *Ploughshares Working Paper*, Dec 20, 2011, and Wolfstal, Jon et al, *The Trillion Dollar Nuclear Triad*, Center for Nonproliferation Studies, 2014.

¹²⁸ Brookings Institute, *Atomic Audit*. 1996.

¹²⁹ *Ibid.*

¹³⁰ Finding a way to safely dispose of the high-level waste that will remain radioactive and dangerous to humans for many thousands of years is of a different order of magnitude than the dismantling, decommissioning and ‘disposal’ of the nuclear weapons and delivery systems themselves. All the high-level waste is still accumulating in depots around the country awaiting a final solution that is not expected, at this point, for many decades.

¹³¹ *Ibid.*

¹³² CBO (2019), p.3.

¹³³ “Besides the costs directly attributable to fielding nuclear forces, some published estimates of the total costs of nuclear weapons account for the costs of several related activities. Examples include the costs of addressing the nuclear legacy of the Cold War (such as dismantling retired nuclear weapons and cleaning up environmental contamination from past activities at nuclear facilities); the costs of reducing the threat from other countries’ nuclear weapons (including U.S. efforts to halt proliferation, comply with arms control treaties, and verify other countries’ compliance with treaties); and the costs of developing and maintaining active defenses against other countries’ nuclear weapons (primarily ballistic missiles). CBO has not updated its estimate of those costs, which was published in 2013, and such costs are not included in this report.” CBO (2019), p. 5.

¹³⁴ *Ibid.*

¹³⁵ CBO, *Projected Costs of US Nuclear Forces, 2014-2023*, Dec 2013. [https://www.cbo.gov/publication/54914]

¹³⁶ “Unlike estimates by some other analysts, CBO’s estimate does not include a prorated share of the military services’ and DoD’s overhead and support costs that are not specific to the nuclear mission.” CBO (2019), pg. 5.

¹³⁷ These figures are compiled from Table B-1 in the CBO’s 2019 supplementary data to its July 2016 report *The U.S. Military’s Force Structure: A Primer*. The tables provide detailed figures for the number and cost of military personnel in each ‘unit’ of the armed forces, including the support personnel and ‘overheads’ that are allocated to that unit. They are accessible at: https://www.cbo.gov/publication/54136.

¹³⁸ *Ibid.*, from Tables A-1, B-1 and B-2.

¹³⁹ See Appendix 5: Calculation of nuclear weapon overhead costs. CBO counts only ‘direct’ costs, not ‘indirect’ or ‘overhead’ costs associated with nuclear weapons. See CBO (2019) p. 5.

¹⁴⁰ Brookings Institution (1996), *op.cit.*

¹⁴¹ “Program-Wide Strategy and Better Reporting Needed to Address Growing Environmental Cleanup Liability.” U.S. Government Accountability Office Report to the Chairman of the Subcommittee on Strategic Forces. January 2019.

[https://www.gao.gov/assets/700/696632.pdf]

¹⁴² https://www.cbo.gov/publication/54136

¹⁴³ The government uses ‘constant dollars’ pegged to a particular year to be able to compare costs of different programs over multiple years. But that also distorts the ‘actual’ cost as it will be felt by the taxpayer in years to come, since inflation generally keeps pushing costs up.

¹⁴⁴ US Department of Defense, *Nuclear Posture Review*, 2018.

https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF

¹⁴⁵ This program is “cheap” in comparison to other nuclear programs because it just involves removing a section of the existing warhead to give it a lower yield.

¹⁴⁶ CBO (2019), *op. cit.*

¹⁴⁷ \$53 billion over 10 years could translate to as much as \$159 billion over 30 years, plus inflation. Some of the programs being planned may last that long, but others will peak sometime in the next decade and then taper off, so we are using the conservative estimate of \$100 billion to cover all those programs.

¹⁴⁸ DOE, *US Energy and Employment Report*, January 2017.

https://www.energy.gov/sites/prod/files/2017/01/f34/2017%20US%20Energy%20and%20Jobs%20Report_0.pdf

¹⁴⁹ “Fastest Growing Occupations: Occupational Outlook Handbook,” *U.S. Bureau of Labor Statistics*, April 12, 2019. [www.bls.gov/ooh/fastest-growing.htm.]

¹⁵⁰ 2018 Deloitte and The Manufacturing Institute skills gap and future of work study.

[https://documents.deloitte.com/insights/2018DeloitteSkillsGapFoWManufacturing]

¹⁵¹

https://www.forbes.com/sites/niallmccarthy/2017/02/02/the-countries-with-the-most-stem-graduates-infographic/#1f467104268a. Accessed May 10, 2019.

¹⁵² https://ssec.si.edu/stem-imperative, Accessed May 10, 2019.

¹⁵³

See [https://www.forbes.com/sites/kathryndill/2016/07/13/the-companies-with-the-most-stem-job-openings-right-now-3/#4ac204b37f82].

¹⁵⁴ *Ibid.* Data compiled by *Forbes* magazine.

¹⁵⁵ See Appendix 8.

¹⁵⁶ Data from websites of the different nuclear weapon facilities and wikipedia pages.

¹⁵⁷ See Appendix 8 for a list of the companies involved.

¹⁵⁸ National Research Council. *Examination of the U.S. Air Force’s science, technology, engineering, and mathematics (STEM) workforce needs in the future and its strategy to meet those needs* (Washington, DC: National Academies Press, 2010).

¹⁵⁹ https://orise.orau.gov/stem/workforce-studies/nuclear-engineering-enrollments.html. Accessed May 10, 2019.

¹⁶⁰ Campaign Against Arms Trade, *Arms to Renewables: Work for the Future*, London, 2014.

¹⁶¹ See, for example, Pollin et al (2014), *op.cit.* and also International Trade Union Confederation (ITUC), *Growing Green and Decent Jobs*, 2012, Mahan, Simon et al, *Untapped Wealth: Offshore Wind can Deliver Cleaner and More Affordable Energy and More Jobs*, Oceana, 2010.

¹⁶² Many historians believe that it was the cost of trying to keep up with US nuclear weapons technologies that eventually bankrupted the Soviet Union and led to its collapse.

¹⁶³ See Patricia Lewis et al, *Too Close for Comfort: Cases of Near Nuclear Use and Options for Policy*, Chatham House, London, 2014.

¹⁶⁴ See, for example, <http://rozenbergquarterly.com/noam-chomsky-on-the-long-history-of-us-meddling-in-foreign-elections/>

¹⁶⁵ See, for instance <https://www.nytimes.com/2018/02/17/sunday-review/russia-isnt-the-only-one-meddling-in-elections-we-do-it-too.html> and <https://www.thenation.com/article/the-long-history-of-us-russian-meddling/>

¹⁶⁶ <https://www.popularmechanics.com/science/energy/a25728221/terrapower-china-bill-gates-trump/>

¹⁶⁷ <https://www.ucsusa.org/nuclear-weapons/nuclear-terrorism/reprocessing-nuclear-waste>

¹⁶⁸ <https://www.technologyreview.com/s/612940/the-new-safer-nuclear-reactors-that-might-help-stop-climate-change/>

¹⁶⁹ https://en.wikipedia.org/wiki/Virgil_C._Summer_Nuclear_Generating_Station

¹⁷⁰ See <https://www.nrc.gov/reactors/new-reactors/col-holder.html>, <https://www.power-eng.com/articles/2017/09/dominion-energy-suspends-north-anna-nuclear-expansion.html>, <https://cleanenergy.org/blog/turkey-point-reactors-negligence-litigation-and-a-pause/>, https://nuclearstreet.com/nuclear_power_industry_new_s/b/nuclear_power_news/archive/2017/08/25/duke-seeks-to-cancel-william-states-lee-nuclear-power-project-082502#.XPQbJSZNTY, and <https://www.toledoblade.com/local/2018/02/28/Anti-nuclear-group-seeks-to-halt-Fermi-3-plant.html>

¹⁷¹ <http://www.world-nuclear.org/information-library/nuclear-fuel-cycle/uranium-resources/supply-of-uranium.aspx#ECSArticleLink4>

¹⁷² *ibid*

¹⁷³ Wallmer, Andrea, and Wenisch, Anthony, *Energy Balance of Nuclear Power Generation*, Austrian Energy Agency, 2011. [https://www.energyagency.at/fileadmin/dam/pdf/publikationen/berichteBroschueren/Endbericht_LCA_Nuklearindustrie-engl.pdf]

¹⁷⁴ <https://www.stormsmith.nl/i38.html>

¹⁷⁵ See <https://theecologist.org/2015/feb/05/false-solution-nuclear-power-not-low-carbon>

¹⁷⁶ https://en.wikipedia.org/wiki/Olympic_Dam_mine

¹⁷⁷ The units used for enrichment of uranium are called SWUs, and it takes approximately 100,000 SWUs to enrich enough uranium for a 1 GW reactor for one year.

The gas centrifuge process uses 100 kWh of electricity for each SWU, which adds up to 10GWh for 100,000 SWUs. A 1 GW reactor operating 24 hours a day for 365 days a year would produce 8,760 GWh per year. Refueling, maintenance and unscheduled shut-downs put the average capacity for nuclear power plants at 90%, so a typical 1 GW reactor will produce around 7,880 GWh per year.

[<https://www.globalsecurity.org/wmd/intro/u-centrifuge.htm>]

¹⁷⁸ For instance, the research and development for commercial reactor designs was originally paid for by the Navy for use in submarines and aircraft carriers. Uranium enrichment at Oak Ridge, Tennessee was paid for by the Atomic Energy Commission, and many other related expenses for nuclear weapons development was of direct benefit to the nuclear power industry. See *Atomic Audit* and <https://www.taxpayer.net/energy-natural-resources/nuclear-power-subsidies/>

¹⁷⁹ <https://www.hoover.org/research/high-and-hidden-costs-nuclear-power>

¹⁸⁰ <https://www.bbc.com/news/world-asia-38131248>

¹⁸¹ <https://www.courthousenews.com/attorneys-implore-judge-to-keep-sailors-fukushima-case-in-u-s/>
¹⁸² Strickler, Laura, "Cost to Taxpayers to Clean up Nuke Waste Jumps \$100 Billion in a Year." *NBCNews.com*. January 29, 2019.

[<https://www.nbcnews.com/news/all/cost-taxpayers-clean-nuclear-waste-jumps-100-billion-year-n963586>]

¹⁸³ <https://www.ecoprog.com/publications/energy-management/biomass-to-power.htm>

¹⁸⁴ <https://www.ecoprog.com/publications/energy-management/biomass-to-power.htm>

¹⁸⁵ https://www.pfpi.net/wp-content/uploads/2011/04/PFPI-biomass-carbon-accounting-overview_April.pdf

¹⁸⁶ See also

<http://www.carbonradewatch.org/downloads/publications/NothingNeutralHere.pdf>

¹⁸⁷ See EIA notes at:

https://www.eia.gov/totalenergy/data/monthly/pdf/sec12_n.pdf

¹⁸⁸ Carbon capture is also known as carbon sequestration or carbon removal. There are numerous other terms and acronyms related to this concept, including Carbon Capture, Utilization and Storage (CCUS) and Bioenergy with Carbon Capture and Storage (BECCS).

¹⁸⁹ Global CCS Institute, *The Global Status of CCS – 2018*, [https://adobeindd.com/view/publications/2dab1be7-edd0-447d-b020-06242ea2cf3b/z3m9/publication-web-resources/pdf/CCS_Global_Status_Report_2018_Interactive_update.pdf]

¹⁹⁰ *ibid*.

¹⁹¹ <https://www.reuters.com/article/us-coal-global-ccs/carbon-capture-projects-worldwide-rise-to-15-report-idUSKCN0SU0GE20151105>

¹⁹² For alternative perspectives on CCS, see for instance <https://www.greenpeace.org.uk/the-problem-with-carbon-capture-and-storage-ccs-20080103/>

¹⁹³ <https://www.worldcoal.org/petra-nova-demonstrates-technical-potential-thats-just-one-side-coin>

¹⁹⁴

https://en.wikipedia.org/wiki/Boundary_Dam_Power_Station

¹⁹⁵ <https://www.carbonbrief.org/around-the-world-in-22-carbon-capture-projects>

¹⁹⁶ This total includes several projects which then used the CO₂ to also extract more oil from nearby oil fields, as described (and counted) in the previous section.

¹⁹⁷

<https://www.sciencedaily.com/releases/2013/05/130514085304.htm>

¹⁹⁸

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3888976/>

¹⁹⁹ Jobs figures based on the total assumed capacity in each state for utilizing different types of renewable energy. From Jacobson et al, "100% Clean and Renewable Wind, Water and Sunlight All-Sector Energy Roadmaps for the 50 United States," in *Energy & Environmental Science*, Royal Society of Chemistry, 2015, Vol 8, no. 2093.

²⁰⁰ Solar PV jobs based on conservative figure of 6.25 jobs per MW of PV installed. This does not include construction jobs or other ancillary jobs associated with each MW of installed PV. The International Renewable Energy Agency uses the figure of 20.2 total jobs created in the US per MW of solar PV. Many of these jobs are currently in China, however. See International Renewable Energy Agency, *Renewable Energy and Jobs*, IRENA, 2013. Pg. 42.

²⁰¹ Onshore wind jobs based on conservative figure of 6.25 jobs per MW of installed wind. The IRENA figure for the US is double that, at 12.2 jobs per MW. See IRENA, *op.cit.*

²⁰² Jobs in off-shore wind are more difficult to calculate as the US has only one off-shore wind farm so far. The OECD average is nearly 20 jobs per MW according to IRENA, *op.cit.*

²⁰³ Hydro-electric jobs include continuing research and development of environmentally sound hydro projects and pumped storage as well as jobs expected due to increasing hydro capacity from existing dams.

²⁰⁴ Reforestation jobs are based on size of federal land available for tree planting and a ratio of 1 job per 1,000 trees per year, as during the original New Deal. Data derived from Sonja N. Oswalt, W. Brad Smith, eds., "U.S. Forest Resource Facts and Historical Trends," United States Department of Agriculture, August 2014.

https://www.fia.fs.fed.us/library/brochures/docs/2012/ForestFacts_1952-2012_English.pdf and Joshua Knoll, "Seven Largest National Forests," National Forest Foundation, July 22, 2016.

<https://www.nationalforests.org/blog/seven-largest-national-forests>.

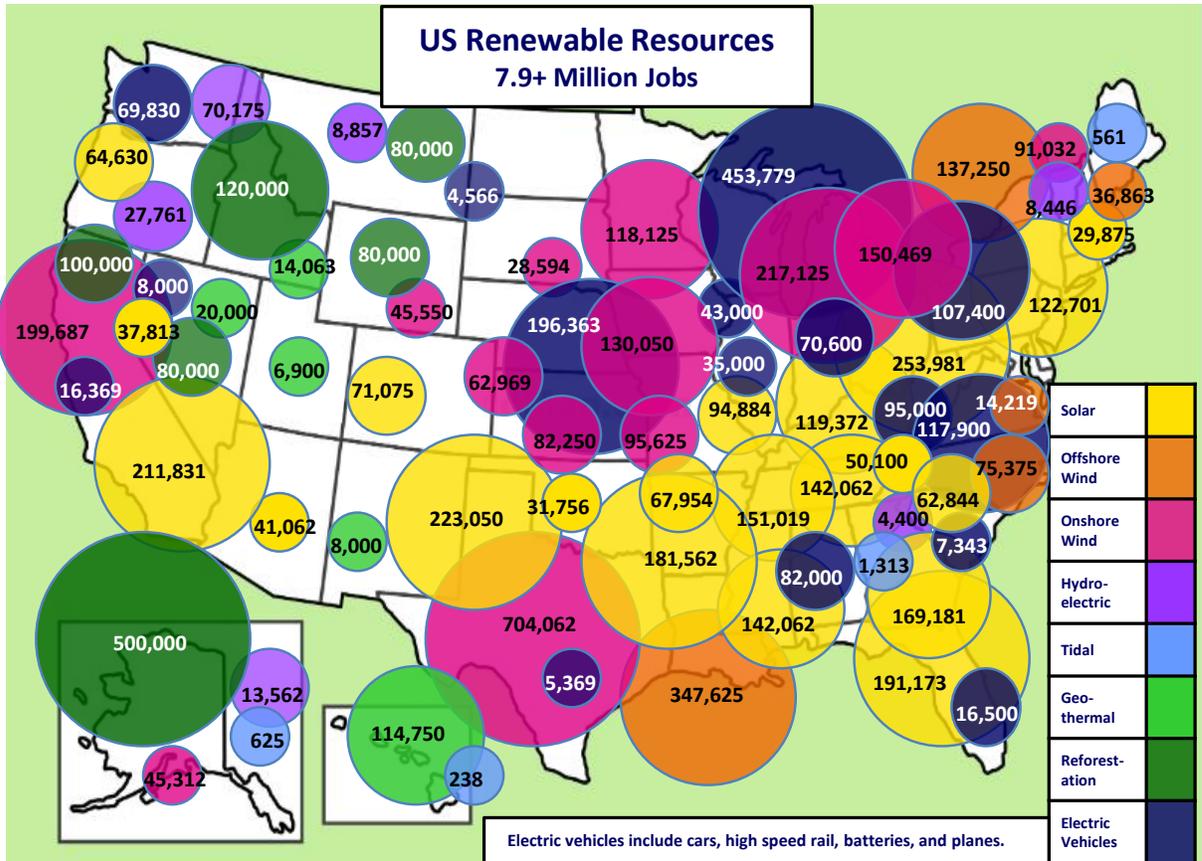
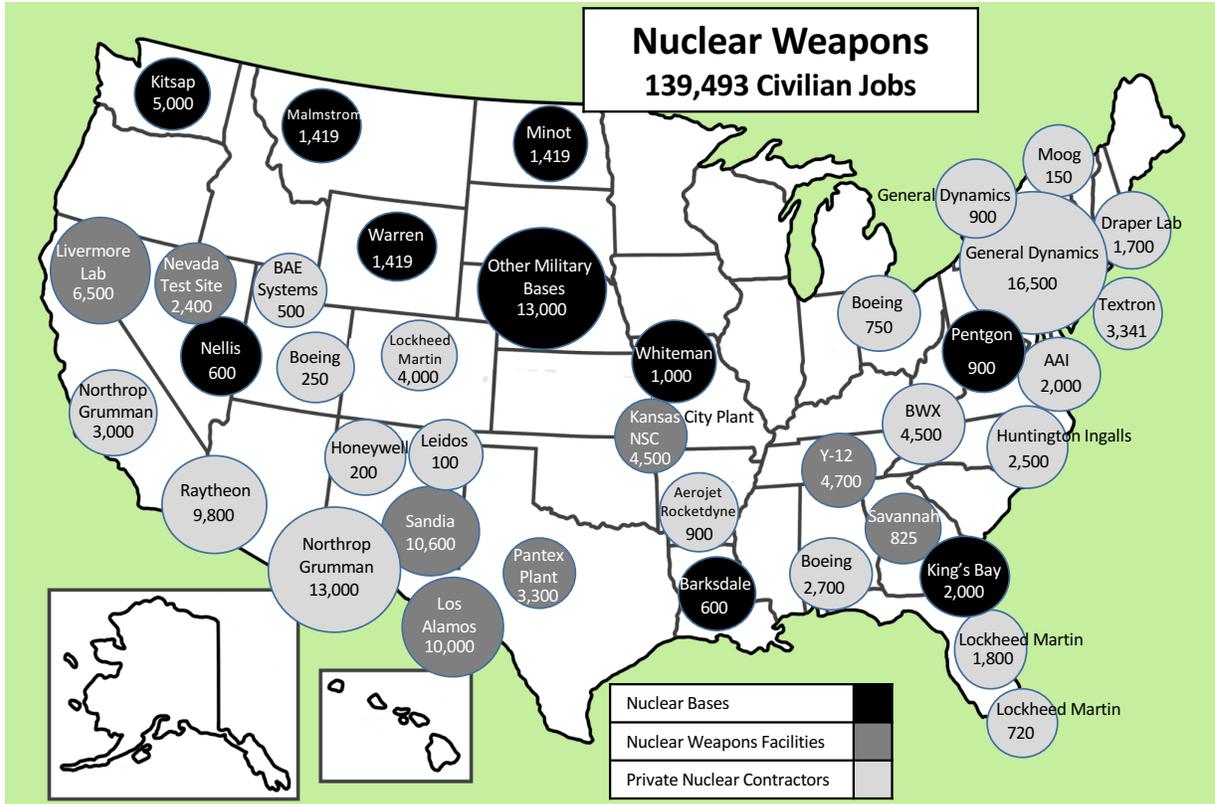
²⁰⁵ Tidal and wave projects currently in research and development phases employ small numbers of people and these are estimates of modest growth. The Ocean Renewable Energy Coalition suggests marine and hydrokinetic energy could support 36,000 positions by 2030 in direct and indirect jobs in the United States, if its goal of installing 15 gigawatts of power is met.

<https://www.eesi.org/papers/view/fact-sheet-jobs-in-renewable-energy-and-energy-efficiency-2017>

²⁰⁶ Geothermal job figures from United States Department of Labor, "Careers in Geothermal Energy," Bureau of Labor Statistics, accessed June 9, 2019, which uses existing US figures of 14-17 jobs per MW of geothermal.

https://www.bls.gov/green/geothermal_energy/geothermal_energy.htm

²⁰⁷ Electric vehicle jobs include EV car manufacturing, high speed rail construction, electric plane development and production and EV battery manufacturing. It is assumed here that most existing automotive and airplane construction workers would simply switch from making cars and planes with fossil fuel engines to ones with electric engines, so those jobs remain the same. High speed rail jobs are derived from the AHSRA for the first phase of construction by state. AHSRA, "US Rail High Speed Network Map," US HSR, accessed June 9, 2019. <http://ushsr.com/ushsrmap.html>.



Written Testimony on Res. 976 & INT 1621

Ray Acheson
Brooklyn, NY
ray.acheson@wilpf.org

I have lived and worked in New York City for nearly fifteen years. For all of that time, I have been working for the abolition of nuclear weapons.

I work for the Women's International League for Peace and Freedom. This organisation is more than a century old. It was founded by women in the middle of a world war. They came together from countries that were at war with each other to demand an end to the slaughter and an end to war profiteering by the arms manufacturers.

Today, we find ourselves calling for the same things. But now, nuclear weapons are part of the equation. These weapons are designed to turn human beings into shadows and smudges amid the smoldering ruins of all that we've built and shared as human society.

New York City is partially responsible for the creation of these weapons. Columbia University and private companies were involved in the Manhattan Project that built the bombs dropped on Hiroshima and Nagasaki in 1945.

Today, New York City needs to be responsible for the abolition of these weapons. Because if we aren't, we risk losing everything we have built and everything that we love—in this city, and everywhere else in the world.

New York City may be part of the origin story of nuclear weapons, but it has also played a significant role in bringing an end to the nuclear age.

For all my years with WILPF, and as a steering group member of the International Campaign to Abolish Nuclear Weapons, I have worked in coalition with activists, diplomats, and government officials from cities and countries around the world to develop the Treaty on the Prohibition of Nuclear Weapons. This treaty was adopted on my birthday in 2017, just up the road at 44th Street and First Avenue in the UN General Assembly.

This treaty was meant as an anthesis to the bomb. It is a tool that says, we reject massive, catastrophic violence as a means of ensuring our "security". It's a binding agreement that says, we embrace cooperation and community as our future.

This speaks to New York City. Our city has a rich tradition of opposing nuclear weapons, from the million people in Central Park in 1982, to countless grassroots initiatives to demand the removal of nuclear missiles from our city.

New Yorkers also demand community over the othering and the violence that nuclear weapons promote. From the protests at airports and strikes at bodegas to protect the rights of immigrants, to Black Lives Matter and Native Nations Rise actions, to the Women's March and the Queer Liberation March, New York City is home and host to actions by people for people—for all people.

Nuclear weapons are the supremely violent edge of the systems of patriarchy, racism, and militarism, systems that promote the short-term well-being of the few while risking the annihilation of us all. The development of these weapons has, more than anyone else, harmed Indigenous communities, the lands upon which nuclear weapons were tested and from which the uranium was extracted. Nuclear weapons have been used and tested on people of colour around the world. Radiation has gendered impacts, in that women and girls are more likely to develop cancer from exposure. The amount of money our government spends on nuclear weapons directly impacts social spending, meaning there are less resource to address climate change, invest in renewable energy, providing education, housing, and food.

Nuclear weapons exacerbate inequalities and perpetuate the idea that might makes right.

But through the bills under consideration today, New York City has a chance to stake out a more feminist, antiracist, and peaceful position than it has had in the past. By endorsing the TPNW, our city will be saying it supports the abolition of the most destructive weapons in the world. By divesting our city pension funds from nuclear weapon producers, we will be refusing to participate in the further development or modernisation of the weapons that could spell the end of all of us. By setting up an advisory committee, we will be investing in the future role that our city can play in ensuring the total elimination of nuclear weapons once and for all.

I am enclosing three articles and a TEDx talk as additional evidence:

Ray Acheson, "Impacts of the nuclear ban: how outlawing nuclear weapons is changing the world," *Global Change, Peace & Security*, 3 May 2018. (Attached in PDF to this email)

Ray Acheson, "The nuclear ban and the patriarchy: a feminist analysis of opposition to prohibiting nuclear weapons," *Critical Studies on Security*, 30 April 2018. (Attached in PDF to this email)

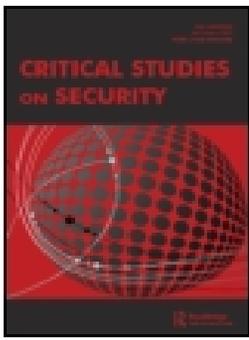
Ray Acheson, "[Resisting nuclear weapons means resisting injustice and oppression](#)," *The Nation*, 2 February 2018.

Ray Acheson, "[Banning the Bomb, Smashing the Patriarchy](#)," TEDx Place Des Nations Women, 10 December 2018.

Thank you for your time and consideration.



Ray Acheson
Women's International League for Peace and Freedom (Director, Disarmament Program)
International Campaign to Abolish Nuclear Weapons (Representative, International Steering Group)



The nuclear ban and the patriarchy: a feminist analysis of opposition to prohibiting nuclear weapons

Ray Acheson

To cite this article: Ray Acheson (2018): The nuclear ban and the patriarchy: a feminist analysis of opposition to prohibiting nuclear weapons, *Critical Studies on Security*

To link to this article: <https://doi.org/10.1080/21624887.2018.1468127>



Published online: 30 Apr 2018.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)



The nuclear ban and the patriarchy: a feminist analysis of opposition to prohibiting nuclear weapons

Ray Acheson

Women's International League for Peace and Freedom (WILPF)

ABSTRACT

Opposed by some of the world's most powerful states, the coalition of actors that promoted the 2017 Treaty on the Prohibition of Nuclear Weapons encountered rigid international power structures. These structures are in part maintained through the deployment of patriarchal tactics and rhetoric to suppress the perspectives and agency of those who might challenge those in a dominant position. In this way, banning nuclear weapons can be read as an act of challenging patriarchy and building space for alternative approaches to politics, including feminist and human-security-based approaches.

Ray Acheson, Women's International League for Peace and Freedom

The Treaty on the Prohibition of Nuclear Weapons (TPNW), adopted by 122 states in 2017, mounts a significant challenge to the nuclear status quo. Two aspects of the ban-treaty project posed particular challenges to patriarchy. First, the treaty was brought about through a deliberate discursive shift by concerned activists, academics, and diplomats – from a discourse centred on the alleged security benefits of deterrence to a discourse centred on the urgency of disarmament. Second, the ban was promoted through the empowerment of women, diplomats, and activists of the global south.

Undertaken by a collective partnership of civil society and diplomatic actors in the face of strong opposition by some of the most militarily and economically influential countries in the world, the ban process confronted rigid international power structures. These structures are in part maintained through the deployment of patriarchal tactics and rhetoric to suppress the perspectives and agency of those who might challenge those in a dominant position. In this way, banning nuclear weapons can be read as an act of challenging patriarchy and building space for alternative approaches to politics, including feminist and human-security-based approaches.

Given the length restrictions of this piece, I will not delve into the rich history of gender and militarism scholarship. For decades, feminists have written and spoken about the intersections between militarism and gendered social norms, including in the sphere of nuclear weapons. Carol Cohn's 'close encounter with nuclear strategic analysis,' for example, led to illuminating articles about the gendered coding of nuclear weapons (Cohn 1987a; Cohn 1987b). These articles provided the foundations for a feminist analysis of nuclear war, strategy, and weapons.

Along with Felicity Ruby and Sara Ruddick, Cohn expanded the inquiry into the sense of masculine strength afforded by nuclear weapons (2006), utilising the work of others examining masculinities and militarism more broadly (e.g. Eichler 2014; Enloe 1990; Hutchings 2008; Morgan 1994).

Building on these efforts, this piece explores the gendered characteristics of the opposition to the nuclear ban treaty. I argue that some of the rhetoric and assertions deployed by the nuclear-armed states in opposition to the ban represent classic patriarchal tactics to deny the realism, rationality, and the lived experience of women and others that threaten the dominant narratives that sustain the nuclear status quo.

Patriarchy and the ban

One tactic deployed to sustain patriarchy is for men in dominant positions to establish and maintain themselves as authorities by denouncing and denigrating the views of others. In the case of the TPNW, those representing nuclear-armed states berated other governments for supporting the ban, ridiculing their perspectives on peace and security, and accusing them of threatening the world order, risking total chaos. Prohibiting and eliminating nuclear weapons is neither practical nor feasible, these 'realist' governments assert. Those who support the prohibition of nuclear weapons are delusional. They are 'radical dreamers' who have 'shot off to some other planet or outer space' (Acheson 2015). They do not understand how to protect their people. Their security interests do not matter – or do not exist at all (Acheson 2016). Initiatives for the prohibition and abolition of nuclear weapons are illegitimate, naïve, destabilising.

The basis upon which these assertions are made is usually unjustified, misinformed, and rooted in a material or political commitment to the status quo. These claims bear some scrutiny. What is 'practical?' What is 'feasible?' How do we measure these concepts and who determines the measurements? Those who are the most negatively affected by nuclear weapons development, testing, stockpiling, use, and threatened use – women, indigenous peoples, the poor, inhabitants of the areas in which the weapons are stored – are not considered reliable sources for these determinations.

Instead, critiques coming from those affected, or from those who want to elevate the voices and perspectives of those affected, are dismissed as 'emotional.' During the active process of changing the nuclear discourse through a careful examination of the humanitarian consequences of these weapons, representatives of the nuclear-armed states argued that even talking about this subject is 'emotional.' They refused to attend the 2013–2014 multilateral conferences in Oslo, Nayarit, and Vienna examining the humanitarian and environmental impacts of nuclear weapons. The Russian delegation to the UN argued that 'even children' know what a nuclear weapon does, and that we should not 'waste time on such useless topics' (Acheson 2013).

This dismissal is highly gendered. When those flexing their 'masculinity' want to demonstrate or reinforce their power and dominance, they try to make others seem small and marginalised by accusing them of being emotional, overwrought, irrational, or impractical. Women and gender-non-conforming people have experienced this technique of dismissal and denigration for as long as gender hierarchies have existed. It is well established in feminist literature that binary comparisons and contrasts such as strength/weakness and reason/

emotion are gendered, with strength and reason associated with masculinity and emotion and weakness with femininity.

The denial of reason in one's interlocutor is destabilising. It is an attempt to take away the ground on which the other stands, projecting illusions about what is real, what makes sense, or what is rational. One actor proclaims, 'I am the only one who understands what the real situation is. Your understanding of the situation is not just incorrect, it is delusional – *it is based upon a reality that does not exist.*' This approach places Self as subject and the Other as object, eliminating the Other's sense of and eventually capacity for agency. In the case of the nuclear ban, it is not just the reason or rationality of those supporting the prohibition and elimination of nuclear weapons that is denied by the nuclear-armed states. It is also the lived experience of everyone who has ever suffered from a nuclear explosion, or mining of nuclear material, or dumping of nuclear waste.

This tactic is more than just an argument or a difference in interpretation. It is an attempt to undermine, discredit, and ultimately destroy an interlocutor's entire worldview in order to maintain power and privilege. In the terminology of psychological abuse in relationships, this tactic is known as gas lighting. This is a form of manipulation that seeks to make the victims question their own sanity or sense of rationality (Leve 2017). It has effectively been used to silence and oppress people, women in particular, and was deployed in opposition in the ban to suppress those speaking out about the horrors and dangers of nuclear weapons.

Objectification of others and control of 'reality' are integral to patriarchy, as they are to concepts such as 'nuclear deterrence' and 'geostrategic stability' – mechanisms to maintain the current global hierarchy. The nuclear-armed states resisted the counter-hegemonic discourse promoted by the supporters of the ban because the latter's focus on the humanitarian and environmental consequences of nuclearism highlights what nuclear weapons actually do to human bodies, to societies, to the planet. Such evidence undermines the abstraction of nuclear weapons as deterrents or protectors, and refocuses attention on the fact that they are tools of genocide, slaughter, extinction.

The resistance to the humanitarian discourse is reminiscent of a story in Cohn's (1993) article, 'Wars, wimps, and women.' A white male physicist, working on modelling nuclear counterforce attacks, exclaims to a group of other white male physicist about the cavalier way they are talking about civilian casualties. 'Only thirty million!' he bursts out. 'Only thirty million human beings killed instantly?' The room went silent. He later confessed to Cohn, 'Nobody said a word. They didn't even look at me. It was awful. I felt like a woman.'

The association of caring about the murder of thirty million people with 'being a woman' is all about seeing that position – and that sex – as being weak, caring about wrong things, letting your 'emotions' get the better of you, and focusing on human beings when you should be focused on 'strategy.' Caring about the humanitarian consequences of nuclear weapons is feminine, weak, and not relevant to the job that 'real men' have to do to 'protect' their countries. It not only suggests that caring about the use of nuclear weapons is spineless and silly, but also makes the pursuit of disarmament seem unrealistic and irrational.

What can gender analysis and feminism do for disarmament?

Within this patriarchal construct, disarmament seems impossible – like a utopian vision of a world that cannot exist because, the argument goes, there will always be those who want to retain or develop the capacity to wield massive, unfathomable levels of violence over

others, and therefore the 'rational' actors need to retain the weapons for protection against the irrational others. The nuclear-armed governments' refusal to constructively engage with the advocates of the ban stands in stark contrast to the concepts and laws of human rights and poses a serious challenge to global justice. On a deeper level, the nuclear-armed governments' position is premised on the notion that states, as coherent units, must always be at odds with one another, seeking an 'accommodation' of their differences rather than collectively pursuing a world in which mutual interdependence and cooperation could guide behaviour. Policy decisions are still based on conceptions of power imbued with mistrust, threat, fear, and violence. Such policies do not allow for other types of inter-state engagement or relationship between citizens and states; they dismiss such alternatives, characteristic of feminist and human-security-based approaches, as utopian and unrealistic.

Taking a human-focused approach to disarmament, and thereby challenging the dominant state-centred approach to international peace and security, was instrumental to banning nuclear weapons. The humanitarian initiative that promoted the ban, with its purposeful deconstruction of nuclear weapons as weapons of terror and massive violence, led to the majority of states being ready and willing to negotiate and adopt a legal prohibition. An understanding of the gendered meanings and characterisations embedded in the discourse and politics of nuclear weapons will further this process and enable alternative approaches to international relations more broadly. Just as the humanitarian discourse undermines the perceived legitimacy of nuclear weapons, a gender analysis of nuclear discourse helps deconstruct nuclear weapons as symbols of power and tools of empire. It can show that the resonance of nuclear weapons as emblems of masculine power is not inevitable and unchangeable, but a gendered social construction designed to maintain the existing order (Cohn, Ruby, and Ruddick 2006).

It took courage for states drafting and signing the ban treaty to stand up to the nuclear-armed states. The latter handful of governments have thus far controlled the narrative and even much of the scholarship on nuclear weapons for so long that most of the world believes they have the legitimate right to do so. But they don't. The adoption of the treaty prohibiting nuclear weapons makes this very clear. As Ambassador Patricia O'Brien (2017) of Ireland said on the opening day of TPNW negotiations in March 2017: 'We are not just writing a new and complementary treaty here, we are taking the opportunity to write a new history, and in so doing to create a new, more stable, more secure and more equal future for all.' Global civil society and the majority of the world's governments, following in the steps of feminist peace scholars and activists, rejected the dominant narrative to write a new history.

Disclosure statement

No potential conflict of interest was reported by the author.

Notes on contributor

Ray Acheson is the Director of Reaching Critical Will, the disarmament programme of the Women's International League for Peace and Freedom (WILPF). Ray's work focuses on stigmatising war and violence, banning weapons, and challenging the patriarchy. She also represents WILPF on the International Steering Group of the International Campaign to Abolish Nuclear Weapons (ICAN), which won the 2017 Nobel Peace Prize.

References

- Acheson, R. 2013. "Overcoming Obfuscation." *First Committee Monitor*, October 28.
- Acheson, R. 2015. "Full-Spectrum Change." *First Committee Monitor*, October 19.
- Acheson, R. 2016. "First Committee Fairy Tales and a Measure of Reason." *First Committee Monitor*, October 17.
- Cohn, C. 1987a. "Slick 'Ems, Glick 'Ems, Christmas Trees, and Cookie Cutters: Nuclear Language and How We Learned to Pat the Bomb." *The Bulletin of Atomic Scientists* 43 (5): 17–24.
- Cohn, C. 1987b. "Sex and Death in the Rational World of Defense Intellectuals." *Signs: Journal of Women in Culture and Society* 12 (4): 687–718.
- Cohn, C. 1993. "Wars, Wimps, and Women: Talking Gender and Thinking War." In *Gendering War Talk*, edited by M. Cooke and A. Woollacott. Princeton, NJ: Prince University Press.
- Cohn, C., F. Ruby, and S. Ruddick. 2006. "The Relevance Of Gender for Eliminating Weapons Of Mass Destruction". Paper no. 38 for the Weapons of Mass Destruction Commission, Stockholm, Sweden.
- Eichler, M. 2014. "Militarized Masculinities in International Relations." *Brown Journal of World Affairs* XXI (1): 81–93.
- Enloe, C. 1990. *Bananas, Beaches, and Bases*. Berkeley: University of California Press.
- Hutchings, K. 2008. "Making Sense of Masculinities and War." *Men and Masculinities* 10 (4): 389–404.
- Leve, A. 2017. "How to Survive Gaslighting: When Manipulation Erases your Reality." *The Guardian*, March 16.
- Morgan, D. H. J. 1994. "Theater of War: Combat, the Military, and Masculinities." In *Theorizing Masculinities*, edited by H. Brod and M. Kaufman. Thousand Oaks, CA: Sage.
- O'Brien, P. 2017. "Statement to the United Nations Conference to negotiate a legally binding instrument to prohibit nuclear weapons." Permanent Mission of Ireland to the United Nations in Geneva: New York. March 27.

Economic Pressures and the INF Treaty: How Boycott and Divestment Campaigns Helped Halt the Nuclear Arms Race in the 1980s

Timmon Wallis, PhD

Executive Director, *NuclearBan.US* and UN associate for *Acronym Institute for Disarmament Diplomacy*

Abstract

Ronald Reagan was elected President in 1980 with a commitment to the largest military build-up in history, including a \$1.5 trillion program of upgrading and modernizing every nuclear weapon in the US arsenal. Seven years later, he was signing the most comprehensive nuclear disarmament treaty ever agreed up to that point, abolishing an entire class of nuclear weapons. Reagan's first term in office saw a revival of US and European peace movements on an unprecedented scale, yet it was only towards the end of his second term that a real change of policy on nuclear weapons took place. By this time, most of the more visible peace movement activities had long since died down. However, boycott and divestment campaigns targeting the nuclear weapons companies, especially coming from cities and county governments, were on the increase. We need to focus attention on these campaigns if we are to understand the political pressures that ultimately led to the signing of the INF Treaty.

Introduction

How can we 'explain' the INF treaty of 1987, which for the first time in history resulted in the actual material destruction of some of the most modern weapons available to the countries involved? Certainly a great deal of credit must go to the personality of Michail Gorbachev, who made far more concessions to the Americans than any of his predecessors were willing to make in order to secure an agreement. For the Soviets agreed to remove more than double the number of American missiles to be removed (1,752 vs. 859) and these included all the SS-20s based in the Far East of the Soviet Union which the Soviets had claimed all along had nothing to do with a European treaty.¹

Reagan, the most right-wing President in modern US history up to that point, came to power with a one and a half trillion dollar programme to build up American military might against the 'clear and present danger' from the 'evil empire' of the East. The concessions made by Gorbachev are on their own an insufficient explanation for how this man came to agree to such a treaty.

The Reagan turn-around, from being a life-long campaigner against Communism to the 'man of peace' can only be explained by reference to pressures coming from within his closest circle of advisors. For although Gorbachev did make significant concessions on INF, he was not speaking a new language from the Soviet point of view nor deviating in any significant way from Soviet disarmament policy as laid down at the start of the nuclear age. The Soviets had consistently favoured the total elimination of all nuclear weapons. This is hardly surprising, since they maintained large conventional forces and had always been 'behind' in the nuclear arms race². When Gorbachev spoke at the Reykjavik summit of eliminating all nuclear weapons by the year 2000, he was merely reiterating a long-standing Soviet policy objective. What had changed was not the Soviet position, but the reception of that position by the Reagan administration.

If we want to understand how the INF Treaty was possible in 1987, we first of all need to look at what was happening in 1987, or maybe in 1986 – not at what was happening in 1982 or 1983. And we need specifically to look at what was trending at that particular moment. Were there developments brewing in 1987 that could potentially get "worse" in the near future, from the Reagan administration's point of view, if they were not dealt with first?

We know there was a massive peace movement in this country in the early 1980s. Upwards of one million people marched in the streets of New York City in June 1982, calling for an end to the nuclear arms race. The US House of Representatives voted for a “nuclear freeze” in 1983. And over 100 cities and towns across the US had passed resolutions declaring themselves to be “nuclear-free zones” by 1984.

But despite all this activity between 1981 and 1984, the reality is that there was no change in US policy on nuclear weapons during this period – none at all. Immediately after Ronald Reagan’s re-election for a second term in November 1984, the US peace movement nearly went extinct. The National Freeze campaign lost its momentum and most of its activists. The resolutions dried up. The petitions dried up. Demonstrations got smaller and smaller. The media lost interest.

So what happened in the second half of the 1980s that can possibly explain the INF Treaty? Well, one thing that was happening, and indeed trending, was a growing interest in divestment and boycott campaigns that were putting pressure on some of the companies involved in the nuclear weapons business at that time.

These included a consumer boycott of General Electric – makers of light bulbs AND nuclear weapons; another one against Morton Thiokol – makers of table salt AND nuclear weapons; and another one against AT&T – providing telephone services AND nuclear weapons. Other household names also started to get hit, including Ford Motor Company, IBM and Hewlett Packard.

A growing number of nuclear-free zones started to pass legally-binding legislation to enforce their nuclear-free status with divestment from nuclear weapons companies and refusal to award city contracts to these companies. This began with a few small towns like Takoma Park, Maryland and Berkeley, California, but quickly spread to Chicago, Oakland and other larger cities.

We know that these companies did not like the attention they were getting, because they started to file lawsuits to try to stop the boycotts and divestment. States like Massachusetts and New York tried to block cities in those states from implementing these measures, and the federal government also stepped in with court cases against, for instance, the city of Oakland. General Electric, to this day, has a page on its website devoted to making sure its customers know that it is no longer involved in nuclear weapons work in any way.³

The Nuclear Freeze Movement

In November 1980, as Ronald Reagan was winning his landslide victory at the polls, three local districts in the state of Massachusetts were voting on a referendum which called on the US government to 'freeze' the nuclear arms race. That referendum won 59% of the vote (to 41% against) in those three districts. In June 1981, the state legislatures in Massachusetts and Oregon also voted for a nuclear freeze. A 'Freeze Movement' was underway in America. This movement was overwhelming focused on building a consensus across all parties and all persuasions in America to put a halt to the arms race as a first step to re-thinking where the US is going with all this weaponry and military expenditure.

By January 1982, there were 20,000 activists campaigning nation-wide on the Freeze, which had by this time been endorsed by 50 national peace organisations and voted on in five state legislatures and eight city councils around the country. In March 1982, 157 'town meetings' in Vermont voted in favour of the Freeze. This was immediately followed by votes for the Freeze in 162 more towns throughout the New England states⁴.

Although New England is traditionally the most 'liberal' region in the country, it was becoming apparent from the scale of the Freeze movement that it was coming not from any 'radical fringe' but

from a very broad cross-section of the American people - including the very people who had voted Reagan into office⁵.

By June 1982, over 2 million signatures in favour of the Freeze had been collected across the country to present to the UN Special Session on Disarmament in New York. Still the momentum of the Freeze continued. In August 1982, the US House of Representatives voted on the Freeze. The resolution lost by just two votes (204 - 202). By September, the Freeze had been endorsed by 276 city councils, 446 town meetings, and 11 state legislatures across the country. On November 2nd 1982, the nation returned to the polls for the first time since Reagan's landslide to elect Congressional and State officials. In what was claimed to have been the 'largest public referendum in US history'⁶, over one third of the American electorate had the opportunity to vote directly on the question of the Nuclear Freeze, as referendums appeared in nine states and 38 cities and counties. Only one state (Arizona), one city (Fairbanks, Alaska) and one county (Stone County, Arkansas) rejected the Freeze. All the others passed it by wide margins. In Massachusetts and New Jersey, the Freeze won over 75% of the vote. Overall across the country, it passed by 60% to 40%. Some 11,767,000 Americans had voted in favour.

In May 1983, the US House of Representatives again voted on the Freeze resolution they had defeated a year earlier. This time it won by a vote of 278 to 149. But to have the effect of law, it required the vote of the Senate as well (not to mention the signature of the President!). On October 31st 1983, the US Senate defeated the Freeze by 18 votes. National opinion polls were showing 70% to 80% of the American public favouring the Freeze by this point⁷.

At the start of 1984, the Freeze movement had reached about as far as it could go into the American political system without a change of government. The focus then turned to the national elections due in November of that year. The movement managed to raise \$6 million towards the election costs of trying to 'unseat' Congressional opponents of the Freeze. 25,000 Freeze volunteers offered their services to the electoral campaigns of pro-Freeze Senators and Representatives, as well as to the Democratic Presidential candidate, Walter Mondale, who had come out in favour of the Freeze in his campaign manifesto⁸. Mondale was resoundingly defeated and only five new pro-Freeze Senators were elected - not enough to secure victory in the Senate.

By the summer of 1984, however, as momentum was gathering for the general elections, an opinion poll taken of delegates to the Republican party convention showed 62% in favour of the Freeze⁹. That means 62% of Republican party activists - the very people about to campaign across the country for the re-election of Ronald Reagan! Less than one month later Reagan was making the first speech of his presidency (at the opening of the UN) which showed signs of a new reconciliatory mood toward the Soviet Union. He was playing the 'peace card' for his re-election campaign - undeniable evidence that this is what the American people wanted to hear!

The Nuclear-Free Zone Movement Begins to Bite

As the Freeze movement was receding from the national scene following the election defeat in November 1984, a different yet related movement was taking shape in towns and cities across the United States. The nuclear-free zone movement began in Japan in 1958, and took off in the UK, and then in the US, at the beginning of the 1980s.

Around the time that the US Congress was voting on the Nuclear Freeze in the spring of 1983, the US peace movement was turning toward a more grassroots approach to the problem of the arms race - tackling it at the local and state level, where the weapons researchers and producers were working. Eight American towns had declared themselves nuclear-free zones by March 1983. Then in April, twelve towns in Wisconsin joined the nuclear-free zone 'club' and seven more joined from

Massachusetts. Soon there were 37 nuclear-free zones in the US, including New York City, the second largest city in the country (population: 8 million).

The nuclear-free zones continued to grow throughout 1983 and 1984, with fifteen more towns and cities joined the movement through referendums on the ballot papers which brought Reagan his second landslide victory. By the end of the following year, there were over a hundred nuclear-free cities and towns in the United States, and the movement continued to grow, despite the Reagan victory and the effective end of the Freeze movement.

In March 1986, Chicago, the nation's third largest city, became a nuclear-free zone, bringing the total population effected to nearly 14 million. Twenty-seven more areas joined during 1986, and by now it was spreading into the more wealthy suburbs of California, New Jersey, Ohio, and Pennsylvania. It was also spreading into the mainstream of 'middle America' - Iowa City, Iowa; Louisville, Kentucky; Las Vegas, Nevada; Durham, North Carolina; Springdale, Utah.

The significance of the nuclear-free zone movement does not lie simply in the fact that cities and towns were passing resolutions, as in other countries.¹⁰ In the US, many of these were legally-binding and enforceable pieces of legislation. Many of them, including Chicago (but not New York) included legally-binding statutes effecting the transportation of nuclear materials within their boundaries, divestment from corporations involved in nuclear production, or other clauses which could have direct and damaging effects on nuclear weapons contractors. The City of Takoma Park, Maryland (population: 16,231) adopted a city ordinance in December 1983, declaring by law that (among other things):

"No person, corporation, university, laboratory, institution or other entity in the City of Takoma Park knowingly and intentionally engaged in the production of nuclear weapons shall commence any such work within the city after adoption of this chapter."¹¹

Anyone found in violation of this ordinance would be liable to fines of \$100 for each day of the violation.

The most ambitious piece of nuclear-free zone legislation to date involved a plan to phase out all nuclear weapons contracting throughout the state of Oregon by providing tax credits to industries in the state proportional to their conversion from military to civilian production. That was linked to two other proposals presented to Oregon voters in November 1986. One would have immediately shut down the only existing nuclear power station in Oregon, and the other would have forced a major uranium mining company to remove their mill tailings and low-level 'sludge' from the state. These were all defeated 59% to 41%.

In March 1986, the nuclear-free zone movement, emboldened by continuing gains, announced a nation-wide consumer boycott of Morton Thiokol Corporation - one of the top 50 nuclear weapons contractors and the largest producer of table salt in the world.¹² Twelve months later, Morton claimed the boycott was having no effect on their business and they remained 'proud to be part of the defence industry'.¹³ The Morton boycott was followed by a boycott of the telecommunications giant, AT&T. This seemed to hit at a raw nerve in the company, at a time of intense competition resulting from the 'de-regulation' of the long-distance telephone services. The chairman of the board himself went on a public relations offensive to win back public support, claiming that AT&T played 'but a small part' in the nuclear industry.

Most industries affected by the nuclear-free zone movement made a desperate bid to dissociate themselves from the nuclear arms race. Ford Motor Company filed a lawsuit against Marin County, California in March 1988 over the county's nuclear-free divestment policy. Ford claimed they had nothing to do with nuclear weapons production, but when evidence of Pentagon contracts were presented at a public hearing, Ford withdrew and dropped the suit. IBM and Hewlett Packard were threatening to sue on the same grounds.¹⁴

There is no direct evidence of the impact which these policies had on the nuclear industry. Nevertheless, the nuclear-free zone movement was affecting an increasing number of ordinary Americans with the 'institutionalisation' of the disarmament message and it was providing not only an embarrassment to the Reagan administration but a direct threat to American business interests. These were the pressures likely to lead to results - not the results everyone in the American movement wanted, which was an end to the arms race - but results that would defuse and destabilise the movement.

Cruise and Pershing, however much 'loved' in certain military and political quarters, were, in comparison to the growing threat to the whole American nuclear establishment, expendable systems and a small price to pay for a return to stability and the status quo ante. The INF Treaty was signed by President Reagan because to fail to do so would have further fuelled this movement in his own backyard which was affecting the interests of the people who supported him - the nuclear industry itself.

Who Wanted Cruise?

In order to understand how and why the Cruise programme was stopped, we need to understand the reasons for Cruise in the first place. Who wanted them, and why?

The deployment of Ground-Launched Cruise Missiles (GLCM) in Europe was being considered by the Pentagon as early as 1975. The GLCM programme was only a very small part of a massive military build-up underway in the United States at the end of the 1970s. This build-up involved the spending of \$1,500,000,000,000 (1.5 trillion dollars) over a five-year period to upgrade every aspect of American conventional and nuclear forces. The 464 GLCM and 108 Pershings due for deployment in Europe must be seen in the context of 16,600 new nuclear missile warheads which were being added to the US arsenal during this period.

Pentagon planners had long been obsessed with the idea of the nuclear 'triad' – ensuring the Army, Navy and Air Forces all had their fair share of the weapons. When the modern cruise missile was being developed in the early 1970s it was thus inevitable that there would have to be air-launched, ground-launched and sea-launched versions. The ground-launched cruise was militarily the least significant of the three, but became important as a political football between the US and its European allies.

For the previous two decades, the 'balance' of intermediate-range nuclear forces in Europe (INF) consisted of about 380 Soviet SS-4 and SS-5 missiles versus about 400 NATO nuclear bombers (plus 80 Polaris missiles assigned to NATO out of the US strategic submarine fleet). In 1977, the Soviet Union began replacing the SS-4 and SS-5 with an equivalent number of SS-20, each of which however, had three warheads. NATO had already replaced the Polaris with multiple-warhead Poseidon missiles and sent over additional F-111 bombers by this point, so by 1983 the INF 'balance' consisted of 1000 or so SS-20 warheads versus 480 NATO bombers and 640 Poseidon warheads.¹⁵

The tripling of nuclear stockpiles on both sides in Europe had thus been completed before ever the first Cruise or Pershing missile arrived. The NATO 'modernisation' decision of December 1979 was not, as it was commonly presented, a 'response' to the Soviet SS-20 deployments but rather a programme to replace aging F-111 and F-104 nuclear bombers with the latest Cruise Missile technology.

Bombers were considered too vulnerable to attack and no longer able to penetrate Soviet air defences. GLCM was designed to evade Soviet radar and be deployed from the back of a lorry where it could not be targeted in advance. Full-scale development of GLCM was thus given the go-ahead in January 1977, and the plans for deployment in Europe were begun a year later¹⁶. By the time NATO

defence ministers were discussing the matter in December 1979, the first GCLM had already been flight-tested and contracts to produce 696 missiles had already gone out¹⁷.

To the military then, Cruise was a foregone conclusion. To European politicians it was not so simple. Plans to deploy the 'neutron bomb' had already caused an uproar across Europe forcing President Carter to withdraw the idea. NATO did not want to follow that with another embarrassment over Cruise, and so it was decided to adopt a 'twin-track' policy - deploying the missiles only if negotiations failed. This would pin the blame for deployment on the Soviet Union.

Nevertheless it was clear that NATO had every intention of deploying some, though not all, of the 572 Cruise and Pershing missiles announced in the twin-track decision. According to the memoirs of Z. Brzesinski, President Carter's National Security Advisor, the NATO decision was to deploy anywhere from 200 to 600 missiles¹⁸. Since Cruise came in multiples of 16 missiles (a Cruise 'flight' of four launch vehicles each with four missiles), and the number of Pershing II was set at 108 (to replace 108 Pershing I), the minimum deployment would have been 96 Cruise plus 108 Pershing (totalling 204 missiles)¹⁹.

With 108 Pershings due to be deployed in Germany, it is reasonable to assume that a minimum of 48 Cruise missiles each were due to be deployed at Greenham and at Comiso in Sicily, to ensure the minimum deployment of 96 Cruise. Above that bottom line of deployment, the rest was negotiable. Deployments were to be spread out over a five-year period, allowing ample time for an arms control agreement to be reached. Belgium and Holland were not due to receive their share of 48 missiles each until well into that five year timetable, and thus we may further surmise that behind the scenes there was at least an implicit assurance to the governments of Belgium and Holland that if they went along with the twin-track decision, they could reasonably expect that negotiations would save them from the potentially high political costs of proceeding with deployment against very strong opposition at home. If these assumptions are correct, then the twin-track decision was not just a commitment to deploy. It was a definite commitment to negotiate at least some of the missiles away before they ever were deployed.

Conclusions

The pressures which the peace movements of Western Europe were able to put on their governments were indeed enormous. Yet in election after election not a single European government fell as a result of this pressure. The issue put severe strains on the ruling coalitions in Belgium and the Netherlands in particular, but they nonetheless proved able to weather out the storm. The intense conflict which developed over Cruise may itself have been sufficient to polarise opinion where it stood in 1981 - that is, just short of altering the political balance of forces in Europe.

In the United States, the situation was quite different. For although Reagan was easily re-elected as President in 1984 (and Bush in 1988), the political balance of forces had shifted decidedly against support for the nuclear arms build-up - that is, within the US Congress, and state and local legislatures throughout the country. The Nuclear Freeze movement was located where the votes were, not for president, but for all other public offices at these various levels of the American political system.

It was political pressure from below which pushed Reagan into his first meeting with Gorbachev in 1985, but it was social and economic pressure that by 1987 had forced him into signing the INF treaty. The American peace movement was by then putting muscle behind its demands by enacting local, state and Congressional legislation that affected American business interests and began to 'tie the hands' of the Reagan administration over its foreign policy. The initiative coming from nuclear-free zones threatened the profit margins of some of America's largest corporations. Rather than give in to the demands that were being made - for an abrupt end to the nuclear arms race full stop - Reagan

bargained away the only thing that might have an effect on the peace movement without having an appreciable effect on the nuclear industry itself: Cruise.

It was the European peace movement who made Cruise an attractive card for Reagan to play in order to appease his own peace movement back home. The European peace movement also played a key role in opening the political space for the innovations of Gorbachev in the Soviet Union²⁰. But the demands of the European peace movement could not be met by the governments of the Western European governments to whom they were directed. If a single government had fallen as a result of the Cruise issue, the situation might have been radically different.

Effective political or economic pressure can only ever be brought to bear against those parties which stand to lose something as a result of that pressure. But politically speaking, Cruise was never a sufficiently salient issue to have an impact on elections dominated almost entirely by major economic issues in those countries under consideration. Nor was Cruise of any major economic importance in those countries. Whereas the Cruise programme injected several billion dollars into the US nuclear industry, and was but the tip of an iceberg involving the capital flow of over one and a half trillion dollars to the American 'military-industrial complex', the economic benefits to European industry were paltry in comparison.

Ultimately, the explanation for US willingness to agree to the INF Treaty by 1987 must be found within the economics of the Cruise Missile programme itself. The total US government outlay for the Ground-Launched Cruise Missile programme was more than \$1 billion. This money had all been spent by the end of 1987. All the missiles had been built and sent to Europe, and the industry was already in production of other weapons systems. It was these new systems that Reagan was trying to protect from the peace movement 'threat'. That threat was challenging not simply Cruise but the whole logic of the nuclear arms race itself. In that context, Cruise was an easy sacrifice to make on the altar of Reagan's \$1.5 trillion military build-up.

When the companies started feeling pressure from consumer boycotts and especially from city and county divestment efforts, they naturally turned to the Reagan administration for relief. By signing the INF Treaty and ushering in a new era of 'peace' with the (soon to disappear) Soviet Union, Reagan was able to dissipate what little energy remained for going after the nuclear weapons companies. Some of the strongest NFZ legislation remains on the books to this day in places like Oakland, CA, and Takoma Park, Maryland, but the movement quickly faded away, much like the Freeze campaign did in 1984.

But just as with the anti-apartheid movement, or the campaign to stop Nestle selling its baby formula in countries with unsafe drinking water, or more recent campaigns against the tobacco industry, the NRA and the fossil fuel industry, what the 1980s show us is that boycotts and divestment campaigns *work*. They work because they affect the only thing that matters to these companies, which is their bottom line. And that bottom line includes the value of their brand and how it is perceived by the broader public.

Companies are thus susceptible to public opinion in a way that politicians are not. A famous Princeton University study²¹ of 2,000 proposed pieces of legislation over a 20 year period found zero statistical correlation between public support for a particular piece of legislation and whether it was passed into law or not. Why? Because politicians need increasingly large sums of money to get re-elected. They need increasingly specialized know-how and advice to deal with increasingly complex legislative issues. And they need to know there is a job waiting for them if and when they don't get re-elected.

The corporations who have to most to gain or lose by the decisions of our politicians provide those very same politicians with all those things they most need: campaign finance, specialized lobbying and the revolving door to corporate board rooms and consultancies.

-
- ¹ Chadwick (1984), pg 93, gives this as one of the main reasons for the continued failure of the INF talks in Geneva from 1982 onwards.
- ² See annual *SIPRI Yearbooks* and IISS *Strategic Balance* for detailed breakdowns of both nuclear and non-nuclear weaponry of East and West during the Cold War. At no time during that period did the Soviet Union have a numerical advantage, let alone a qualitative advantage, over the US and its allies in nuclear weaponry.
- ³ See https://www.ge.com/sustainability/sites/default/files/GEA33634_Military_Products.pdf
- ⁴ In the New England states of Maine, Vermont, New Hampshire, Connecticut, Rhode Island and Massachusetts, each town or village holds an annual public meeting which all adult citizens may attend to propose and vote on legislation affecting the town. State and national legislation may over-rule these local laws, but the towns still retain a degree of autonomy unknown in the British system.
- ⁵ 30 of the 33 towns in Western Massachusetts that voted for Reagan in 1980 also voted in favour of the nuclear freeze.
- ⁶ Waller (1987), pg.163
- ⁷ Waller (1987), pg.291
- ⁸ Waller (1987), pg.284
- ⁹ Waller (1987), pg.298
- ¹⁰ By the end of October 1987, there were 3,923 nuclear-free zones in 24 countries, including 184 in Britain, and over 1,000 in Japan, where it all started. (*New Abolitionist* magazine, October 1987)
- ¹¹ Bennett (1987), pg.259
- ¹² The campaign tried to make a symbolic link with Gandhi's salt campaign of 1930-31.
- ¹³ Quoted in *New Abolitionist*, February 1987, pg 12.
- ¹⁴ Nuclear Free America, *Memorandum*, 21 March 1988.
- ¹⁵ Chadwick (1984), pg.25.
- ¹⁶ Greene (1983), pg. 46.
- ¹⁷ LaRoque (1982), pg.4.
- ¹⁸ Brzesinski (1982), pg.308
- ¹⁹ The first breakthrough in the INF negotiations, the so-called 'walk in the woods' agreement of June 1982, involved a ceiling of 225 missiles on both sides (see NATO (1983), p 17.
- ²⁰ See Randle (1991)
- ²¹ Gilens, Martin, and Benjamin I. Page. 'Testing Theories of American Politics: Elites, Interest Groups, and Average Citizens'. *Perspectives on Politics* 12, no. 3 (September 2014): 564–81. <https://doi.org/10.1017/S1537592714001595>.

Bibliography

- Barnes, S. and Kaase, M. (1979), *Political Action: Mass Participation in Five Western Democracies*, Beverly Hills, Cal.: Sage
- Barnet, R.(1983) "Annals of Diplomacy," in *New Yorker*, October 17,1983, New York:
- Bennett, G.(1987), *New Abolitionist: The Story of Nuclear Free Zones*, Elgin, Ill.: Brethren Press
- Brzesinski, Z.(1983) *Power and Principle: Memoirs of the National Security Advisor 1977-1981*, New York: Farrar, Straus, and Giroux
- Bulban, E.(1983) "USAF Trains Tomahawk Crews for NATO," in *Aviation Week and Space Technology*, July 25,1983
- Chadwick, L.(1984) *Cruise Missiles and the INF Negotiations* (Peace Research Reports no.4), Bradford: University of Bradford
- Chatfield, C (1992) *The American Peace Movement: Ideals and Action*, New York: Twayne
- Coward, L.(1987) "Attitudes to Nuclear Defence: an Investigation of Processes of Change in Elite and Non-elite Belief Systems," PhD, Bradford: Bradford University
- Evert, P. (1986) "The Impact of the Peace Movement on Public Opinion and Policy-Making" 11th General Conference of IPRA, U. Essex, April 1986.

-
- Gamson, W.(1990) *Strategy of Social Protest, 2nd edition*, Belmont: Wadsworth
- Garthoff, R.(1983) "NATO Decision on Theatre Nuclear Forces," in *Political Science Quarterly*, pp. 197-214
- Greene, O.(1983) *Europe's Folly: Facts and Arguments About Cruise*, London: CND
- IKV(1981) "Help Rid the World of Nuclear Weapons: Let it Begin in the Netherlands" Amsterdam: IKV
- Kitschelt, H.(1985) "New Social Movements in West Germany and the United States," in *Political Power and Social Theory*, vol.5, Connecticut: JAI Press, 273-324
- Kleidman, R. (1993), *Organising for Peace: Neutrality, the Test Ban and the Freeze*, Syracuse: Syracuse University Press
- Lofland, J. (1993) *Polite Protesters: American Peace Movement of the 1980s*, Syracuse: Syracuse University Press.
- Lynchcombe(1984) *At Least Cruise is Clean*, London: Niccolo Press
- Mather, I. and Davenport, H. (1983) "Greenham Countdown At the Wire," in *Observer*, 6 November 1983
- NATO Special Consultative Group (1983): *Progress Report on Intermediate Nuclear Forces*, 8 December 1983, Brussels: NATO
- Randle, M et al (1991), *People Power; The Building of a New European Home*, Stroud: Hawthorne Press
- Rochon, T. (1988) *Mobilising for Peace: The Antinuclear Movements in Western Europe*, London: Adamantine.
- Russett, B. and Deluca, D (1983) "Theatre Nuclear Forces: Public Opinion in Western Europe," in *Political Science Quarterly*, Summer 1983
- Smelser, N.(1962) *Theory of Collective Behaviour*, New York: Free Press
- Subcommittee of the Committee of Appropriations (1985), *Hearings*, 98th Congress, 2nd Session, Washington, DC: GPO
- Taylor, R. and Pritchard, C.(1980) *Protest Makers*, London: Pergamon
- Thompson, E.P. and Smith, D.(1980) *Protest and Survive*, London: Penguin
- Waller, D.(1987) *Congress and the Nuclear Freeze*, Amherst, Mass.: University of Massachusetts
- Wallis, Tim (1992): "Dialogue and Resistance: An Evaluation of Two Approaches to Peace Campaigning at RAF Molesworth (1980-1987)", unpublished PhD thesis, Bradford: Bradford University.

Paul D. Miller aka Dj Spooky

Statement in support of City Council Int. 1621 and Resolution 976 to divest from nuclear energy.

Hello, my name is Paul D. Miller aka Dj Spooky. I'm an Artist, writer, and composer based in Tribeca - District 1, whose City Council Member is Margaret Chin. I am honored to participate in today's hearings to offer my support for City Council Int. 1621 and Resolution 976.

We live in a time where the unintended consequences of so many choices and decisions made in the 20th Century echo over the 21st Century like some kind of clockwork winding down to the last 100 seconds of the Doomsday Clock of the Bulletin of Atomic Scientists. On one hand, the legacy of materials like asbestos, teflon, and many other household products has left a trail of cancer and lawsuits, while on the other hand, we were told that "miracle" materials like Plutonium and Uranium would open us to the world of the Space Age during the peak of the Cold War. In hindsight, we now call some of the chemicals we unleashed in the 20th Century "forever chemicals" because they cause massive degradation of the environment and do not decay naturally for untold centuries. We can add fossil fuels that generate plastic to that same list - these are materials that cause untold harm to the environment and human health - all in the name of short term profit over long term endurance of our species. And there is no question that the radioactive materials that I mentioned will outlive our society by tens of thousands of years. So too will many of the chemicals, and plastics I've mentioned.

It's no surprise that Robert J. Oppenheimer quoted the Bhagavad-Gita texts of India during the nuclear bomb tests that led to the destruction of Hiroshima and Nagasaki. The poetic words he said when he saw the destruction enabled by his inventions - "I am Become Death, Destroyer of Worlds" - linger over the modern 21st Century landscape where the codes to launch nuclear missiles are as long as a tweet. We in the United States have too often had a short sighted view of "progress" - we view it as a legacy of the "City on a Shining Hill" myth of Rome, or the Manifest Destiny of the open spaces we colonized to make the 50 states in the 19th Century. In this headlong rush into the future, we forget the lessons of the past and everywhere around us, we can see the casualties of that short term vision. From the art galleries located in the former Baker and Williams warehouses located at 521-527 W 20th Street, where over 300,000 pounds of uranium was stored during World War 2, to 3280 Broadway, uptown, where Columbia University did experiments with uranium, on over to Staten Island where over 1,200 tons of uranium was stored, and the infamous nuclear test sites in New Mexico on over to Los Alamos, and the testing fields of Bikini Atoll, on over to the decaying nuclear storage facilities in the Marshall Islands where, if you scuba dive, you will be exposed to serious ionizing radiation - and of course Indian Point Nuclear facilities - we in NYC have had the legacy of the Manhattan Project linger over the city for decades. In a world where nuclear disasters like Fukushima and Chernobyl, are a deeply fearful consequence of short sighted thinking, or climate change, or disruptive technologies that can be unleashed with no warning, we should bear witness to the common sense actions that would make this all have more deliberation before we hastily fund the madness of nuclear energy as it is currently envisioned by the financial markets.

I want to encourage the City Council to do the right thing and guide the cities finances away from the terrible legacy of the Atomic Age. This is a common sense situation. We can always find better ways to steam water, after all that's all nuclear turbines do. We can always find better and smarter ways for the funds the city divests from to make money in a smarter way.

We can always think of NYC as a place where careful thought and community interaction make a smarter and more dynamic use of city funds to create a more humane and common sense approach to how the city invests money. There are many ways to make money. Let's make NYC have a common sense approach to nuclear materials and investing in other methods of generating energy that the nuclear energy that can easily destroy our city. Let's make NYC a global thought leader that can match the incredible creativity that makes NYC the cultural capital of the world. I appreciate your time, and urge you to pass Int. 1621 and Resolution 976. Let's put the 20th Century behind us.

Thank you for your time
Paul D. Miller aka Dj Spooky
NYC 2020
<anansi5000@gmail.com>

RESOLUTION 976 and INTRO 1621

My name is Susan Schnall. I am currently President of NYC Veterans For Peace, Assistant Professor at New York University, and member of the NYC pension fund. 50 years ago I served this country as a nurse in the United States Navy, caring for our wounded young men coming home from war in southeast Asia. Like many of us in Veterans For Peace, I've witnessed the destruction, pain, horror of war, impact of bombs, of the use of chemical defoliants, the harm caused by our military, by our government.

Veterans For Peace is a member of ICAN, a coalition of non-governmental organizations in one hundred countries promoting adherence to and implementation of the United Nations nuclear weapon ban treaty. As a member, Veterans For Peace is dedicated to pressuring the United States to sign the treaty.

For three weeks in October, 2019 I was on a Peace Trip to Japan, speaking to civil society organizations, academics, Japan Self Defense Forces and children in grammar and junior high schools to apologize for my government dropping nuclear bombs on Hiroshima and Nagasaki that killed over 200,000 people. Today I come before the NYC Council to support Resolution 976 and Intro 1621 to make New York City a nuclear free city. And in support of Int 1621—divestment of NYC pension funds currently invested in companies involved in nuclear weapons production and maintenance. I am also a member of the pension fund in NYC, having worked for over 30 years in NYC public hospitals.

The [corporations manufacturing nuclear weapons](#) are fueling the nuclear arms race for their own financial gain. They actively lobby their parliaments and governments to continue allocating the funds to nuclear weapons. And they support think tanks and other public initiatives to promote the 'need' for nuclear weapons maintenance, modernization or expansion.

We must become a life affirming society, instead of a death enhancing culture.

It is our responsibility as citizens of the world who reside in NYC to make our voices heard to make our city a nuclear free zone and we come before you our-elected representatives— to hear us and divest from those nuclear companies that make their profits on death and destruction. We thank you for listening to us and carrying out our requests.

1/28/20

My name is Molly Nolan; I am a recently retired professor of cold war history at NYU and a long time activist with Brooklyn For Peace, a 36 year old peace and social justice organization.. There are three main reasons the City Council should support Res. 976 and Int. nr. 1621.

1. Nuclear weapons are infinitely more powerful and numerous now than when they were used for the first and only time by the US 75 years ago. Then they caused horrific death and destruction in Hiroshima and Nagasaki; the potential costs of a nuclear war now are much greater, even as many falsely claim now, just as they did throughout the Cold War, that such wars are “thinkable” and “winnable”.

2. As long as nuclear weapons are not banned and such a ban is not observed by all powers--both those currently with and those without such weapons--, the number of nuclear powers and nuclear weapons will increase. During the Cold War we learned that efforts to limit the number and types of such weapons would be passed now and again but such limits were repeatedly violated. We are learning that lesson again now, as the U.S. and R. both move to modernize and expand their nukes of all sorts, claiming the other has violated treaties limiting them from so doing. And businesses will continue to produce nuclear weapons, for it is highly profitable. Only total nuclear disarmament will end this vicious cycle. A first step in that direction is for municipal governments, like NYC, to stop investing in firms which produce such weapons.

3. Nuclear weapons are very expensive. Both the past and present nuclear arms race cost the U.S. billions of dollars and contributed significantly to making military spending account for c 60% of government discretionary spending. The current American nuclear arms escalation threatens to further erode spending on what we most need—more housing and better schools, improved health care and rebuilt infrastructure. We can't have these or a Green New Deal if we waste money on nukes and wars.

Thus it is imperative that the city council speak out for nuclear disarmament and for making NYC a nuclear weapons free zone. It is imperative that city pension funds not be invested in corporations that produce nuclear weapons.

ELEANOR HOLMES NORTON
DISTRICT OF COLUMBIA
COMMITTEE ON
TRANSPORTATION AND
INFRASTRUCTURE
SUBCOMMITTEES

CHAIRWOMAN, HIGHWAYS AND TRANSIT
AVIATION
ECONOMIC DEVELOPMENT, PUBLIC
BUILDINGS, AND EMERGENCY
MANAGEMENT
RAILROADS, PIPELINES, AND HAZARDOUS
MATERIALS



COMMITTEE ON OVERSIGHT AND
REFORM
SUBCOMMITTEES
CIVIL RIGHTS AND CIVIL LIBERTIES
GOVERNMENT OPERATIONS

Congress of the United States
House of Representatives
Washington, DC 20515-1501

January 27, 2020

New York City Council
City Hall
New York, NY 10007

Dear Esteemed New York City Council:

I write to express my support for New York Council Resolution No. 976, which calls for New York City to divest from companies involved in the production and maintenance of nuclear weapons, reaffirms New York City as a Nuclear Weapons Free Zone, and calls on the United States to support and join the United Nations Treaty on the Prohibition of Nuclear Weapons.

I am very pleased that the D.C. Council voted unanimously last year to approve the Sense of the Council Urging the Federal Government to Prevent Nuclear War Resolution of 2019. With that vote, the District became one of the first national capitals to express support of the Treaty, following only Canberra, Australia, and Oslo, Norway.

I have also introduced legislation here in Congress, the Nuclear Weapons Abolition and Economic and Energy Conversion Act of 2019 (H.R. 2419), which would require the United States to sign and ratify an international agreement to disable and dismantle America's nuclear weapons, strictly control fissile material and radioactive waste, and use nuclear-free energy. The Treaty would qualify as an international agreement. The goal is to convert the United States to a peace economy, which would occur when the President certifies to Congress that all countries possessing nuclear weapons have begun elimination under an international treaty or other legal agreement.

Until my legislation is realized, it would be appropriate for our largest city, New York City, to follow in the footsteps of the nation's capital and call on the country to adopt the Treaty. I appreciate the work of the Council in this matter and urge you to adopt this important resolution.

Sincerely,

Eleanor Holmes Norton

MAIN DISTRICT OFFICE
RONALD REAGAN BUILDING AND
INTERNATIONAL TRADE CENTER
1300 PENNSYLVANIA AVENUE, N.W., SUITE M-1000
WASHINGTON, D.C. 20004-3007
(202) 408-9041
(202) 408-9048 (FAX)

2136 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, D.C. 20515-1501
(202) 225-8050
(202) 225-3002 (FAX)
WWW.NORTON.HOUSE.GOV

SOUTHEAST DISTRICT OFFICE
2235 SHANNON PLACE, S.E. SUITE 2032-A
WASHINGTON, D.C. 20020-7026
(202) 678-8900
(202) 678-8844 (FAX)

NYC Council Public Hearing on Res. 0976 and Int.1621

My name is Brendan Fay I am with the NYC Divest Campaign & St. Pats For All. I urge all members of the NYC Council to support and pass the legislation to divest New York City pensions from nuclear weapons production and support for the global movement for nuclear disarmament.

I was a teenager in Ireland when I first learned of the horrors of the August 1945 bombing of Hiroshima and Nagasaki from the women of Greenham Common and leaders of the Irish CND. This awakening to the horror and presence of nuclear bombs and their threat to the human family has never left me. Indeed I was left only with a sense of the human responsibility not to be indifferent.

To become aware that in minutes our beautiful evolved world could be destroyed by nuclear war as governments were investing millions of hard earned wages and human resources challenged us to become active in the movements for nuclear disarmament and global peace.

It is with gratitude I am present with New York advocates and leaders in the global movement for nuclear disarmament today- recipients of the Nobel Peace Prize in 2017.

Today we speak up with our human hearts for peace and call on our political leaders to divest New York pensions from these weapons of death.

Instead-

Invest in the hard work of peace making and human development

Invest in our children's future – all children. Have they not a right to a future of peace- a world free of nuclear weapons?

Every dollar invested in nuclear weapons production is taken from resources desperately needed for healthcare, the child with sickle cell, the child with cancer, schools, housing for the homeless and food for the hungry.

Echoing leading voices of New Yorkers who dedicated their lives to nuclear disarmament -Bella Abzug, Bayard Rustin, Dorothy Day, Dan Berrigan, Pete Seeger, Paul O' Dwyer may future generations say of us – we too spoke up.

This afternoon let the message from City Hall be loud and clear.
No more investing in weapons of mass destruction.

**In these dangerous and urgent times silence is not an option
Because we care for life in our city and world. Because of our love for the earth and our children we unite with citizens and global leaders in taking a stand to preserve peace for future generations. 75 years after the atomic blasts over Hiroshima and Nagasaki - remembering all who died - we speak and vote to make our world safer free of nuclear weapons.**

I urge you to vote YES for Resolution 0976 and Intro. 1621.

Anthony Donovan
120 East 4th St. # 1 B
NY, NY 10003
c 212 388-1008, antoned@aol.com
www.GoodThinkingTheDocumentar.net

January 28th, 2020

re: NYC Council Resolution 0976 and INT 1621

Dear Esteemed New York City Council

Thank you. Deepest gratitude for your hearing the urgent call. These bills direct action, being watched around the world, are helping to awaken our City and the world in turning around our extremely costly, illegal, immoral, and incalculably catastrophic man made disaster.

MLK, Jr asked us, "How long?!" You join our NY Catholic Worker family members who are being imprisoned for non violent civil disobedience entering one of our hidden nuclear weapon submarine bases, which alone is capable of destroying every major city, and all human life, painting "Love One Another", and placing there Daniel Ellsberg's book The Doomsday Machine, and the UN's Treaty on the Prohibition of Nuclear Weapons. One is Martha Hennessy, grand daughter of Dorothy Day, who 65 years ago just outside City Hall was arrested doing penance for this industry and resisting as David McReynolds described, the pathological absurdity of our government thinking we could prepare for a nuclear detonation.

96 yr. old Professor Freeman Dyson, colleague of both Oppenheimer and Einstein, recently said to us, "Look, these things can do only one thing. They murder millions of people. Is that what you want? The answer should be quite clear." It is. Over the previous decades millions of NYC residents voted with their feet.

Here in the home of Wall Street, you, our representatives, especially by the act of divestment, are sending a clear directive to stop this renewed insane nuclear arms race, vast waste of needed resources, and most grave danger to humanity, to move us toward what is needed to save this planet, climate and civilization.

New Yorker Fr. Daniel Berrigan, SJ in his Plowshares trial of 1980 said of these weapons, "Call them by their right name. Which is: Murder. Death. Genocide."

Your esteemed predecessors, via uncovered 15 previous NYC Council Resolutions dating from 1963, speak to stopping the vast spending on this omnicidal industry and re-direct it to the underfunded, dire needs of the city, it's education, health care, housing, infrastructure, transportation, reforms and social services.

From the UN podium in 1960 until his death, a constant champion of nuclear disarmament and international security, Amb. Zenon Rossides of Cyprus guides us, "It is not the power of weapons, but the power of this Spirit that can save the world."

Onward together, in gratitude,

Anthony Donovan

Anthony Donovan
120 East 4th St. # 1 B
NY, NY 10003
c 212 388-1008, antoned@aol.com
www.GoodThinkingTheDocumentar.net

January 28th, 2020

Addendum to my Statement for NY City Council's Res. 976 and INT 1621

(Further clarification of thought attached to single page statement)

Personal connection and widening community often is what saves our lives, for this, a commendation to **Mr. Brendan Fay** is specifically deserved for these two bills.

He brought together decades long trusted relationships of **CM Danny Dromm**, truly our great hero in this, in the Queens community, and the NY Catholic Worker who helped him get his first St. Pat's For All in motion. From the moment of the terror of Hiroshima in 1945, the dedication and actions at the Catholic Worker have been ready to herald such a move as the UN Treaty on the Prohibition of Nuclear Weapons. The CW's bank, Amalgamated Bank had also declared no investments or transactions with nuclear weapon companies.

Mr. Fay decided to make nuclear disarmament a theme for St. Pats, gathering a number of us New Yorkers involved with the Treaty to the parade, which brings us all to this vital point.

The vast majority of the citizens of the world, thank each of the Council Members and staff who took time to listen and dig deeper to support this bill. It is brave leadership.

There will be strong winds of resistance from the status quo. We in NYC should be very proud to have the first and still only bank in the United States that made the decision to invest in sustainability, and community led projects, while stopping all transactions and investments with companies involved with the nuclear weapon industry. **Amalgamated Bank** who calls it a financially sound decision, deserves to be highly commended. Our Comptroller Scott Stringer will benefit by their model and example as we move forward with divestment.

Extremely supportive to our endeavor, in Sept. 2017, the day the Ban Treaty was officially introduced before the UN General Assembly, Amalgamated Bank made a public statement on it's webpage. Leadership, and accountability.

I've made several documentaries. The most overarching on this subject, which tried to pay homage to our greatest leaders and the millions of people who stood up to nuclear weapons over the 7 decades, was released in 2015. *Good Thinking, Those Who've Tried to Halt Nuclear Weapons*.

The many former NY City Council resolutions on stopping the arms race were remembered and unearthed during the above documentary research, honoring our wise predecessors, forming a solid foundation today for our work together.

The outline for *Good Thinking* largely followed a presentation given at the Iranian Mission to the United Nations in April 2008. This presentation attempted to persuade them that the people of the world would rise to support Iran in this, if President Ahmandinejad would turn the tables on the U.S. and shine the spot light focussed on Iran back on our own nuclear industry by saying "Sure, we'll let you come and verify if we are making nuclear weapons. But, one condition, show us, and tell us when you nuclear states are going to stop proliferating and

building new nuclear weapons yourselves.” We haven’t, and we don’t allow any verification by others of our own industry.

Besides living through the time of duck and cover drills for atomic attack, my pivotal awakening at the age of 18 was a few blocks south of where you sit, Wall Street. 50 years ago, June 1st, 1970 attending a demonstration under the statue of George Washington, listening to Vietnam Vets Against the War, and others from the War Resisters League, etc, connecting the profits on this street to the harsh realities of war, the business of war. Although the immediacy of Vietnam shifted the focus from the nuclear arsenal a moment, it was always present.

Even at this rally the focus was on our genuine security, the needs of education, health care, housing, economic justice, unfair police practice, etc. reinforcing the call of Martin Luther King, Jr.’s Poor People’s Campaign, to dismantle racism, militarism, and extreme materialism.

In complete surprise we were cut off and surrounded by many thousands of construction workers from the Tri-State area, waving the flag and carrying tools. Later it was found out to have been initiated by Pres. Nixon. As our indexed companies opened their windows cheering and throwing graffiti, and police stood by, 80 of us were sent to the hospital.

Since 1986 when researching a week at the Martin Luther King, Jr. Center for Non-Violence in Atlanta (and spending some time with a profound Mrs. Coretta Scott King) if recommending one speech of his, it is “Beyond Vietnam”, delivered here in NYC at Riverside Church, April 1967. Highly recommend downloading the live version and listening as you sit in Riverside, again and again. He makes our moral and logical case against nuclear weapons and war crystal clear.

In the first half of 1983 I sat individually with over 50 foreign diplomats to discuss the challenges and solutions for them, for a book titled *World Peace?* The prime discussion revolved around disarmament. The solutions were well known, the political will was lacking. It is here that I met my mentor on the subject, Ambassador Zenon Rossides of Cyprus. We would continue a friendship together with his wife Teresa until their death. Amb. Rossides had discussed nuclear disarmament with Pres. John Kennedy and was convinced he was sincerely heading in that direction. He was devastated by his assassination, and again with Robert Kennedy who he felt would carry that torch.

Since taking to the UN podium he did not tire chiding the nuclear weapon states to adhere to the UN Charter to build collective security instead. These weapons he knew did the opposite. He pleaded that we listen to the scientists about the effects of these weapons, and called out the economic interest if nuclear states in the arms race. “What negotiations?! Those powers are the two for one and the other (arms race and negotiations). The negotiations have been a stagnant **pretense to deceive** the people that something is being done about the arms race, which is a galloping reality!” Finally with the new TPNW (Ban Treaty) we have taken some of this deception away from the nuclear states. 122 nations worked day and night, and rose up along with the vast civil society within nuclear states, to say, we value life and each other. We want a future.

The TPNW is a magnificent historic document of mighty international effort that leads the way. It’s only several pages and very worth the read. Also highly suggested to listen to are the most erudite reasons the Nobel Committee gave for awarding the Peace Prize to ICAN in Dec. 2017 for their support for this Treaty.

Your passing this legislation today will be instructive in many ways to our U.S. Representatives in Washington, D.C. In 2016 I spent over a week sitting in the offices of every

one of our Representatives on both the Senate and House Arm Service Committee's and Appropriation Committee's with my documentary and lobbying for an issue, that very disturbingly I was to find out, those Representing us who are supposed to know, don't. Three vital points:

1. Those in charge had little to no idea of the cost of our nuclear weapons industry. No accounting or where to start accounting.
2. Most all had not given a thought to what one nuclear detonation actually does, or what it would mean if one went off. (None of them asked, had read John Hersey's essential book on this subject, *Hiroshima*. Please read this short work if you haven't. Hiroshima was a tiny detonation by today's standards.)
3. None knew anything about the 155 nations that had begun seriously meeting about the Humanitarian effects of these weapons and much more, the growing world movement to stop the threat to humankind. Most did not think it significant.

This is why it is so important you help awaken this extremely dangerous status quo in our land. You'll note well that as of this writing our Democratic Presidential hopefuls still do not talk of our own nuclear weapons (only of others) or simply, we "need to be strong".

Importantly in 2018 I had the honor to witness that the dangerous myth repeated about our allies and the citizens covered under our "nuclear umbrella" is very faulty. Americans are told that our allies rely on and want the protection of our nuclear arsenals. It became clear this is only the profiting industries of our governments advertising.

Participating with citizens for some weeks in gatherings, presentations and actions in both Büchel Air Base, **Germany** where the U.S. has 20 B-61 nuclear bombs ready to deploy (soon to be upgraded), and Faslane Naval Station, **Scotland** where the British keep their nuclear weapon submarine fleet, these were the facts on the ground:

Fifty three of fifty nine (or more) Members of the Scottish Parliament want all of the UK's nuclear warheads out of Scotland. They and some 90% of the Scottish citizens want them out, nuclear disarmament. The UK's submarines are serviced here in the USA.

When asked, the polls of German citizens done in recent years range from 70 to 93 % saying they indeed do not feel safe or protected with our nuclear bombs on their land, and want them out. Most Germans I met are unaware these weapons are even there. These are democracies. Thank you NY City Council for helping to support their democratic process. (Ours?)

In my single page statement was mentioned the Catholic Workers doing prison time. The Kings Bay Plowshares 7 (www.KingsBayPlowshares7.org) have after years of prayer and discernment did what they could to help awaken us to the unimaginable destructive power of one submarine base. Actor Martin Sheen felt compelled to fly to Georgia for their court hearing, and many luminaries around the world sent in support statements. Several of these Plowshares have submitted statements to you in full support, and are greatly encouraged by your action today.

Professor Jeannine Hill-Fletcher of Fordham University's Theology Department, one of the clearest voices to testify at their Federal Court hearing, calling these Plowshares genuine prophetic witness for our day, wanted to be present for you today, but has the responsibility of class, and has submitted her testimony to you.

They both are in communion with the call of His Holiness Pope Francis, who not only has denounced nuclear weapons since becoming Pope (2013), and encouraged and opened the UN Conference which became the nuclear weapon Ban Treaty in 2017, but recently (November 2019) traveled to both Hiroshima and Nagasaki, to pray and deliver again his message that the core teachings of the Catholic Church, are to "Love one another" and protect

God's creation. On these devices, he is clear, "the **threat** of their use, as well as their **very possession**, is to be **firmly condemned**. ...Weapons of mass destruction, particularly nuclear weapons, create nothing but a **false sense of security**. They cannot constitute the basis for peaceful coexistence between members of the human family, which must rather, be inspired by an ethics of solidarity."

He urges all Nations to initiate now "not at some vague future date, or waiting for some ideal international peace and security situation, the next steps toward the **total elimination of nuclear weapons**."

Paul Elie wrote a good worthy article about Pope Francis and the Kings Bay Plowshares 7 regarding these devices in the recent November 2019 issue of the New Yorker magazine.

His Eminence Cardinal Joseph Tobin of the Archdiocese of Newark, very close with His Holiness Pope Francis has written the NY City Council commending you on these bills.

His Holiness the Dalai Lama has for many decades been a clear advocate of total nuclear disarmament. His office was delighted to hear of your taking on this leadership, and submitted a statement.

In 1958 two time Nobel Laureate Linus Pauling gathered over 11 thousand respected scientists signatures from around the world, calling out the grave dangers of the radiation of these weapons to humanity, and demanding an immediate halt to all testing. He hand delivered them to the UN.

Prof. Freeman Dyson, as mentioned earlier, a colleague of Albert Einstein and Robert Oppenheimer, who still works with his office adjoining their old offices, would say four years before we'd have the TPNW treaty, in the doc *Good Thinking* that he wanted a treaty declaring these devices illegal. He said there was no need to wait or demand verification first for "that is where we always get hung up. It's a way of delaying things."

He reminded us Einstein called them "a false sense of security" and against militarization in general but especially the weaponizing of this technology. In plain English, Prof. Dyson declares, "These weapons are just stupid, inappropriate, of no value, and highly highly dangerous. So get rid of them, and that's it. You will all be a lot safer."

The nuclear weapon industries rely on one thing, enemies. When our Representatives offices are asked why we have them, the knee jerk answer is "Russia has them." "North Korea, China..." The Russian people are not our enemy. And yet these weapons only destroy the people, you and I. Our common enemy today is ourselves not facing together our global climate crisis. It is cyber attacks, and small cell terrorism, racism, hate, ignorance of each other, etc. Nuclear weapons cannot address our real challenges and enemies.

Eleanor Roosevelt knew this well. She welcomed the Soviet leader Nikita Khrushchev and his wife into her home. Pres. JFK had a planned visit to Moscow that was cut short by his murder. Decades later Michail Gorbachev would declare the same, and praised the American people. He told the world he was moved by the demonstrations against these weapons (1986), and it inspired him to plead that we get rid of all our nuclear weapons together, every single one of them. We came ever close to this reality, and President Reagan, and Sec. of State Shultz embraced this idea for a brief moment, until the industry quickly demanded we weaponize space with "Star Wars".

The ending of the Cold War in 1991 and what was assumed, the vast spending on these now obsolete weapons was widely heralded, for our great "enemy" was now gone. This was to give humanity a huge dividend for our common good. This dividend of trillions no longer

being spent did not arrive. Unknown to the American people, Sec. of Defense Dick Cheney would stealthily begin a new nuclear arms race for dominance of the world, "Global Strike". Everyone became the new potential enemy. And our money flowed to the industry.

Let's step back again for a moment to Pres. JFK's June speech at American University, where it was clear he knew what was needed for disarmament of our nuclear weapons. Highly worthy of a listen. Two months before the murder of both him and his vision for our country, at the podium of the UN, he would surprise the world (not Soviet leader Khrushchev, who was open to this) and ruffle an industry dependent on fear and "enemies":

"In a field where the Soviet Union and the United States have a special capacity, in the field of space, there is room for new cooperation, for further joint efforts, a joint mission to the moon.

Space offers no problems of sovereignty, by resolution of this assembly, the nations have foresworn territorial rights in outer space... and declare that international law and the UN Charter will apply. Why then should man's first flight to the moon be a matter of national competition? Why should the US and the Soviet Union in preparing for such expeditions become involved in immense duplicate of research, construction and expenditure....."

The hall erupted in a cheer. The world was desperate for this message of cooperation. He was dead two months later, along with this common good sense, along with his move toward ending the nuclear arms race.

Submitted to the Council this week are 15 of the past NY City Council Resolutions concerning the nuclear arms race, the first (1963) is calling on our U.S. Reps to support President Kennedy's Nuclear Test Ban Treaty. It is noted that his intention was this be only "a first step" toward disarmament. These two bills today, reinforce and acknowledge all the profound thought, the conviction and wisdom of millions who are no longer with us, who thank you from the other side, and encourage you, us all, onward.

It is encouraging to note that much of the same language in these NYC bills of 30 to 55 years ago can be found in the current Treaty on the Prohibition of Nuclear Weapons adopted in 2017, and reflected in Res. 976.

Our governments are increasingly run by financial interests which compete for resources, instead of learning to cooperate. New Yorkers filled Sixth Avenue as far and wide as the eye could see before beginning our now endless Iraq War with signs "No Blood for Oil." The reason given for invading? Nuclear weapons, Saddam Hussein and his (proven non existent) threat of a nuclear mushroom cloud upon us.

Who leads the world in proliferation? The U.S. and Russia. Again. Why? It's not the people, nor their safety.

For any Council Members who wish to hear from a military voice with experience with the nuclear weapon arm of our Pentagon, it's strongly recommended to read Daniel Ellsberg's Domsday Machine, Confessions of a Nuclear Arms Planner.

For another essential military view of why we need nuclear disarmament now, from a former Commander in the Royal Navy, Robert Green we have the 2018 renewed book, Security without Nuclear Deterrence. In this book he quotes often his friend and colleague, U.S. General George Lee Butler, who was in charge of the entire U.S. Strategic Command, all our nuclear forces on ground, air and sea. Cmdr. Green has submitted a statement to the Council in support.

Paul Nitze, who served from the Kennedy through the Reagan Administration and was not only U.S. Secretary of the Navy, and Deputy Secretary of State, but was the Reagan

Administration's chief negotiator for all nuclear arms control negotiation with the Soviets. He knew this issue inside and out. It all became clear to him to write in 1999 an op ed in the NY Times titled "A Threat Mostly To Ourselves". "I see no compelling reason why we should not unilaterally get rid of our nuclear weapons. To maintain them is costly, and adds nothing to our security... What would our targets be? Many innocent people." When asked that after so many years of negotiations with the Soviets, how he could say we should get rid of all our weapons unilaterally, he replied. "I know that the simplest and most direct answer to the problem of nuclear weapons, has always been, their complete elimination. It is the presence of nuclear weapons that threatens our existence."

You'll hear today from Thomas Dwyer, who for 3 years in the early 1950's served in the U.S. Army in Nevada, not only witnessing the effects of many dozens of nuclear detonations, but was responsible for measuring radiation exposure of the people involved, the explosion sites themselves and the surrounding towns outside the base. He knows why there were Atomic Vets dying, and increased civilian cancer death rates in some towns nearby.

For any repeating the American myth that the atomic bomb is to be celebrated for winning or ending the war, please read *Racing the Enemy*, by Tsuyoshi Hasegawa, a Japanese scholar giving us the view from Japan, and the Russian archives. Before Hiroshima, Japan was already defeated in most Japanese eyes, no air force left, no navy, cut off from needed resources, and most major cities already obliterated. The turning point for them he clarifies was Russia entering the Pacific war and rolling swiftly toward their nation, not our new bomb.

For any thinking there is a way to survive, we have Hibakusha still alive to tell the truth, and excellent recorded statements and books now of them.

We also have a recent modern day story in Hawaii, of what it feels like to be told there is an incoming nuclear missile heading in your direction. Ask those how they felt when an errant emergency test txt was called off a half hour later as a false alarm. For those who got the txt, it was sheer disbelief, panic, chaos, and the grim reality of not being with your loved ones, no time left, and no where to hide.

We can support Comptroller Scott Stringer by reminding and applauding his relative NYC Congresswoman Bella Abzug, who he well knows is looking down upon him, and was a tireless, brave, articulate and dedicated leader in the visionary fight for nuclear disarmament. Along with her, my Congressman Ted Weiss, soft spoken, gentle and kind, with a warm handshake, but unrelenting in the call to end the arms race. It was an honor and a guiding memory to know and be with both. Their voices ring out to NYC today, the world.

Please know Council that the greatest Americans in public life from the 1950's on, they have most all been for disarmament and ending nuclear weapons. You are now part of fulfilling their dedication. (The list of names is too long, but happy to provide, and many named in Good Thinking) This also applies to the most respected world leaders of our past.

Many refer to the largest rally in history for nuclear disarmament was June 1982 on the streets of New York City, flowing into Central Park. It was perhaps one of the most exhilarating and encouraging moments for any of us there. All professions, all walks of life, all people voting with their feet. The sentiment of we the people was clear and undeniable. End MAD (Mutually Assured Destruction). The industry didn't listen. But Gorbachev did.

What is not mentioned often are the many rallies and demonstrations that led up to it in our city. In 1976 led by a good number of New Yorkers, especially out of the War Resister's

League here, many took to the march across the nation from the West Coast to D.C., The Continental Walk. You will hear direct testimony from the WRL today. Each year there were rallies. The 1979 protest at Wall Street and the No Nukes Concert also drew many thousands... with our theme song by John Hall called *Power*, responding to the nuclear power plant accident of Three Mile Island, but the weapons were well part of it too.

Timmon Wallis, present with us at the hearing today, has written a must and easy to read book to help us answer any who rattle off the repeated excuses for maintaining our nuclear arsenals. It's called *Disarming the Nuclear Argument*. Not one reason holds up to scrutiny. Dr. Wallis has also had presented to the Congress by U.S. Rep. Jim McGovern and Rep. Barbara Lee this past June, 2019 his extremely useful study *Warheads to Windmills, How to Pay for The Green New Deal*. Available to all online, and given to CM Danny Dromm's office, Comptroller Stringer, as well as U.S. Rep Ocasio Cortez. It steers us toward combining solutions for both our two main crisis of Climate and nuclear annihilation.

Like millions, I personally have been inspired and moved to more urgent action by the 16 yr old, Greta Thunberg, who when told by some, "We're doing our best." She quipped, "Doing your best isn't good enough!" Bless her. She is right. Let's rise to the task.

For up to date information on the Ban Treaty and the worldwide movement to stop nuclear weapons, there are multiple sites, but a good place to start is the International Campaign to Abolish Nuclear Weapons (ICAN) and WILPF, The Women International League for Peace and Freedom's disarmament arm, Reaching Critical Will.

A source on nuclear activists in the U.S. is The Nuclear Resister. etc.

How do I make my living whilst this advocacy?

I'm a hospice nurse for a non profit organization founded in the LES in 1901 by Nathaniel Hawthorne's daughter. Graduating from Lehman College in the Bronx with an RN and BSN in the 1970's, worked in many of our city hospitals. Before we knew what HIV was or had a name for it, I was part of the response to this most devastating crisis and helped manage and open several home care companies to serve the flood of need in the years before the medications came along to hold the loss back.

For eleven years I then managed the medical clinic for NYC's largest homeless shelter (1200 beds at that time), before St. Vincents Hospital closed it's doors to developers. Since that closing some ten years ago, I've returned to non-profit hospice care for the dying poor.

What's this got to do with nukes? Nothing you might say, except what I constantly witness is how much energy it can take to make one person more comfortable, to address this one lip, this wound, this nausea, to clean a person carefully, etc., and that is constantly juxtaposed in my mind with the effects of just one nuclear detonation, of the millions not killed instantly, but who must agonize long and beyond description. It is sheer impossibility to address this, and I pray we never have to. This will be impossible if we continue as we are.

My aunt and godmother Marge McAllister, was a public school teacher who brought me to her kindergarten class in Brooklyn at age 4 to test the waters. She rose through the ranks to be NYC's Dept. of Education's Director of Early Childhood Ed. in the 1970's through the 1980's. I remember the long discussions of how to adapt to the floods of new immigrants, and the then adjustment to 65 different languages. She was tough, loving and brilliant with kids. It is this adapting to others that makes our city and our nation great. Nuclear weapons show a failure to adapt to differences, instead, rule by force, by threat, by putting a gun to another's

head. This shows our weakness. Thank you City Council for going forth here to teach and allow other means to achieve true security and community of humankind, our strength.

I am 5th generation from NYC's McAllister Towing (Formerly McAllister Brothers, and McAllister Tug, Barge Company) incorporated here in 1864. In 1867 my great great grandparents James and Catherine McAllister were married in our once bustling shipbuilding district, at St. Brigid's Church on E 8th Street and Avenue B a few blocks from where I live. Plying our mighty harbor today, the company remains family owned and operated. The waterfront was a tough world, but is why this Isle of Manhattan became a great city, world trade. We have it in our souls to deal with every culture from around the world, and learning often the hard way, like it or not, our neighbors were of every type. So too, our City Council represents this constant adjustment, growth, challenge and joy of our diversity. In my youth I worked on the tugs and shipyards, and this week travel to the launching of our newest tugboat, named after my late mother, Eileen. It's a blessing. Wave when you go by on the ferry.

The Donovan side of my family had a different story. Timothy O'Donovan who met his future wife while playing the concertina (squeeze box) on shipboard to our city from Ireland, eventually becoming a city trolley operator and dying at the young age of 28 in one of the devastating TB plagues that would ravage many thousands here. His child, John Timothy Donovan, a mechanic, chauffeur and church man would meet my grandmother Rita, orphaned at a young age in Brooklyn (sent to live at the large orphanage in Staten Island), who became a domestic worker in Brooklyn. She never finished 5th grade, but thanks to the NY Public Library became one of the most well read people I've known.

Another advocacy given to me is with my East Village neighborhood. Two days before this hearing, January 26th, is the 11th annual EV Spiritual Sounds event, with 13 of our local faith organizations and their faith leaders. Our neighborhood Imams, rabbis, Hindu and Tibetan monks, priests and ministers of all denominations gather. The purpose from 2009 was to stand up to hate and prejudice, and embrace our greatest strength, this diversity.

There is not one drop of bravery, no courage, no guts, no patriotism in readying one of these devices for launch. On the contrary is the utmost weakness, failure, cowardice and evil.

We know what it takes to rid the world of nuclear weapons, much like Brendan Fay has done with St. Pats For All, we build bridges to one another, increase trust by actions. The fear transforms to strength. And thus it is with this leadership of the Council today, to stop the unnecessary funding of omnicide. Use the resources to connect, to save our future together.

Finally, please thank your Legislative Directors and your hard working staff, many of whom I had the honor to speak with numerous times over the months. Thankful for this attention. Onward together.

In deep gratitude,

Anthony Donovan

My name is Mari Inoue. I am a lawyer, activist, mother, and concerned citizen in Jackson Heights. Thank you for the opportunity to submit a comment in support of Res. 976 and Int. 1621. I would like to pass on the message of peace from Hibakushas, who have repeatedly appealed to the world to realize a world free of nuclear weapons.

Mr. Senji Yamaguchi, who was 14 at the time of the Nagasaki bombing, appealed at the UN in 1982 that “for the sake of the people of the world, those yet to be born, the children and atomic bomb survivors like us, we cannot forgive the suffering or death of even one person in an atomic bombing”.

Mr. Sumiteru Taniguchi, who suffered from various health issues from the bombing, said in this city in 2015 that “nuclear arms are weapons of the devil, which will not allow humans to live nor die as humans”.

Mr. Terumi Tanaka, a Hibakusha from Nagasaki, emphasized in NYC several years ago that “the policy of nuclear deterrence is against humanity”. He made an important point that “no state would be spared and its existence would be threatened by a use of a nuclear weapon, even if the use of such weapon is to protect the survival of the state”.

The escalation of the arms race promoted by the current administration and the costs of modernizing and developing nuclear weapons represent a considerable expense for our nation.

It is important for us New Yorkers to deliver a firm message to the world that we need to set our priorities right. Instead of investing in nuclear weapons production and maintenance, the real priorities should be to fight against poverty, to promote peace, to improve our education and healthcare systems, and to fight against the climate crisis. Let’s stop investing in a destructive false sense of security, and instead let’s invest in hope that our children can live, which is a path toward a nuclear-free world.

Thank you very much.



January 28, 2020

Members of the Committee on Governmental Operations
and Committee on Civil Service and Labor, New York City Council
Regarding New York City Council hearing on Int 1621-2019 and Res 0976-2019

Dear Council and Committee Members,

I write from a small rural Quaker College in southwest Ohio to urge you to support the passage of RES 976 “Resolution on Nuclear Disarmament,” which would divest the pension funds of New York City public employees from companies that produce or maintain nuclear weapons. I serve at Wilmington College as the director of the Peace Resource Center, where I tend to the preservation of its Barbara Reynolds Memorial Archives, one of the most extensive collections of interdisciplinary materials related to the human experiences and legacies of nuclear war in the United States. Each day I walk through the materials of the collection, with the pain and trauma of nuclear war in various stages of preservation, and pray that the cumulative human effort to record and pass down the horrific experience of nuclear war will not be wasted.

At this juncture, following the 2017 UN passage of the Treaty on the Prohibition of Nuclear Weapons, New York City has the opportunity to not only reaffirm its long-standing commitment to nuclear disarmament, but also to create a model that will motivate cities and communities across the United States to do the same. Without a doubt, a nuclear detonation in New York City would lead to the catastrophic destruction of all human, cultural, and natural resources, erasing not only the present, but the past and future of the city, as well as the millions of lives within. It is also evident from numerous studies that wind currents would carry nuclear radiation across the United States and beyond its borders into Canada, causing untold physical illness and cancer. Thus, what happens in New York City is intrinsically tied to the larger currents of the nation and the globe.

Resolution 976 will be a message from New York City that cities across the United States can do more than give lip service to the tragedy of nuclear war and that concrete and meaningful action is possible. It can show that direct economic action is an expression of the knowledge, ethic, and morality drawn from 75 years of human harm from nuclear weapons—from the first use of the atomic bombs in Hiroshima and Nagasaki, to the harmful physical effects, pollution, and contamination by nuclear weapons tests in the

American southwest and the Marshall Islands. For those of us living throughout the United States, the passage of RES 976 will provide evidence that communities small and large can be politically decisive and create changes that are not possible within our current polarized House and Senate.

Thank you,

A handwritten signature in black ink, appearing to read "Tanya Maus". The signature is fluid and cursive, with the first name "Tanya" being more prominent and the last name "Maus" following in a similar style.

Tanya Maus, PhD
Director
Peace Resource Center
Wilmington College
tanya_maus@wilmington.edu

Anthony Donovan
East 4th St.
NY, NY 10003
c 212 388-1008, antoned@aol.com
www.GoodThinkingTheDocumentar.net

January 28th, 2020

re: NYC Council Resolution 0976 and INT 1621

Dear Esteemed New York City Council

Thank you. Deepest gratitude for your hearing the urgent call. These bills direct action, being watched around the world, are helping to awaken our City and the world in turning around our extremely costly, illegal, immoral, and incalculably catastrophic man made disaster.

MLK, Jr asked us, "How long?!" You join our NY Catholic Worker family members who are being imprisoned for non violent civil disobedience entering one of our hidden nuclear weapon submarine bases, which alone is capable of destroying every major city, and all human life, painting "Love One Another", and placing there Daniel Ellsberg's book The Doomsday Machine, and the UN's Treaty on the Prohibition of Nuclear Weapons. One is Martha Hennessy, grand daughter of Dorothy Day, who 65 years ago just outside City Hall was arrested doing penance for this industry and resisting as David McReynolds described, the pathological absurdity of our government thinking we could prepare for a nuclear detonation.

96 yr. old Professor Freeman Dyson, colleague of both Oppenheimer and Einstein, recently said to us, "Look, these things can do only one thing. They murder millions of people. Is that what you want? The answer should be quite clear." It is. Over the previous decades millions of NYC residents voted with their feet.

Here in the home of Wall Street, you, our representatives, especially by the act of divestment, are sending a clear directive to stop this renewed insane nuclear arms race, vast waste of needed resources, and most grave danger to humanity, to move us toward what is needed to save this planet, climate and civilization.

New Yorker Fr. Daniel Berrigan, SJ in his Plowshares trial of 1980 said of these weapons, "Call them by their right name. Which is: Murder. Death. Genocide."

Your esteemed predecessors, via uncovered 15 previous NYC Council Resolutions dating from 1963, speak to stopping the vast spending on this omniscidal industry and re-direct it to the underfunded, dire needs of the city, it's education, health care, housing, infrastructure, transportation, reforms and social services.

From the UN podium in 1960 until his death, a constant champion of nuclear disarmament and international security, Amb. Zenon Rossides of Cyprus guides us, "It is not the power of weapons, but the power of this Spirit that can save the world."

Onward together, in gratitude,

Anthony Donovan

Written Testimony on Res. 976 & INT 1621

Miyako Taguchi

New York City Council Hearing on Resolution 976 and Introduction 1621

Tuesday, January 28

My name is Miyako Taguchi. My parents were survivors of the atomic bombing in Nagasaki. I have been working for nuclear abolition for more than 10 years as a Nagasaki Peace Correspondent and as a member of Hibakusha Stories that tells survivors' true stories to students and adults in the New York area.

While we say we value peace, we invest in the deadly weapons due to our ignorance or our so called security and protection. What we lack is an imagination. The area destroyed by the first nuclear bombing in Hiroshima is almost the same size of New York City. Imagine, 140,000 dead bodies as there were in Hiroshima in 1945 cover New York city. Imagine your parents, spouses, children and friends who you deeply love were among them.

It was inhuman and savage: melting skins hanging from arms and mothers carrying dead infants. These were normal scenes in Nagasaki and Hiroshima in Summer 1945. My teenage parents were there. When I imagine the pain, hunger, and devastation they went through, I feel how precious and fragile our lives are. Even if people survive a nuclear bomb, radiation destroys their body system and poisoning the next generation.

I have lived in NYC for more than 20 years. One of the great things about living here is knowing people who passionately believe in peace without boundaries. We care. We act. We speak out for peace. I hope NYC will set a standard for nuclear abolition. As the Manhattan project started here, we as residents of NYC should take action to end the deadly weapons. Thank you.

<miyakoistudio@gmail.com>

Make Nuclear Disarmament the Law in NYC

Dear City Council,

I have lived in NYC on and off since 2007. Have worked there, voted, been a part of the community. I keep an apartment in Nolita, not far from you.

Please Support Resolution 976 and Int. 1621 to Make the Nuclear Ban Treaty the Law of the Land. If NYC does not lead the country and the world on this, no one will. And as a center of great liberal culture and a symbol of freedom, NYC has been the target of those who seek to destroy our way of life. Banning nuclear weapons is the surest way to guarantee that no maniacs with a nuke can do us harm or ever take us down.

Do the right thing and take the lead to disarm the world and ensure our global peace.

Thank you,

Matt De Vlieger

--

maTT De Vlieger
mattdevlieger@gmail.com

Jan 28 2020

Dear NY City Council

I am here today as a lifetime NYC resident to ask the council to support Council Resolution 976 and Introduction 1621. I want to thank Daniel Dromm for bringing this important legislation to the council, all the councilors who have co-sponsored, and especially my city council representative Carlos Menchaca.

My hero Dr Martin Luther King Jr. spoke about the fierce urgency of now, and there are no better words to describe where we find ourselves today regarding the threats of nuclear war and the survival of our planet. While our federal government is in complete crisis with the executive branch starting a new arms race, it is our city, on the front line of any potential conflict, that has to step up and show leadership, have vision and moral clarity on who we are and where we need to go. I applaud the city council for showing that leadership in the legislation that is before you today.

I was born in New York City and grew up on 22nd St in Chelsea in the 70's and 80's. I was shocked to learn just recently that right in the midst of our residential neighborhood the Manhattan Project had used a warehouse on 20th Street to store over 300,000 pounds of Uranium during the 1940's, and that the site was not cleaned up until the 1990's. We need to confirm that the clean up was complete and be sure there is no lingering radioactivity. We also need to create curriculum for our schools so that New Yorkers are informed about our history and the risks that continue to threaten the very survival of humanity. Introduction 1621 gives us the opportunity to do just that.

On July 7th, 2017, at the United Nations here in NYC, 122 nations voted to adopt the Treaty on the Prohibition of Nuclear Weapons. This treaty finally put into law the reality that these weapons are immoral instruments of omnicide that have no legitimate use and threaten the survival of life on earth every minute of every day.

While we will continue to work to have a federal government that recognizes this reality and signs and ratifies the treaty, we cannot wait for that eventuality. We must put pressure on the corporations that profit from the manufacture of these weapons, and make it untenable for them to continue business as usual. By divesting the New York City pension fund of these corporations, we will send a powerful message to the country and the world, that New York will not stand idly by. We will not have our money invested in our own destruction. Resolution 976 calls on the Comptrollers office to do just that.

Please pass these vital pieces of legislation, show the world that New York City has the moral leadership, and that we can overcome the blind militarism that has taken us to the brink.

Thank you.

Blaise Dupuy
21st Street Brooklyn, NY

From: Mr. Alfred C. Meyer
135 East 83rd Street
New York, New York 10028
alfred.c.meyer@gmail.com

To: The Members of the:
Committee on Governmental Operations and the
Committee on Civil Service and Labor,
New York City Council

Via email: hearings@council.nyc.gov

Date: 28 January 2020

RE: RES 0976-2019 legislation on nuclear disarmament; and
INT 1621-2019 a bill to create a nuclear disarmament and nuclear weapons-
free zone advisory committee.

Dear Council and Committee Members,

Nuclear weapons threaten, in an instant, to vaporize all that we love in New York City – we must act to end this grave danger to our survival.

Resolution 976 and Introduction 1621 are two important steps that New York City can take to protect and promote public health and safety. Thank you for moving these two items which show strong support for City Council action on such an important topic.

Cities are the targets of nuclear weapons, and cities are the first responders to an attack. From a medical perspective, there is no response possible, given that the medical providers, medical facilities and medical supplies are destroyed by a nuclear blast.

Prevention is the only medical response to this threat. Resolution 976 and Introduction 1621 are two good methods of prevention, which will benefit New York City residents.

New York City can play an important part in the growing cities, states, national and international movement to get countries to sign and ratify the 2017 United Nations “Treaty for the Prohibition of Nuclear Weapons.”

Divestment of New York City investments from nuclear weapons related corporations and banks is a strong statement of the seriousness of this topic and a moral statement that we don’t want our pensioners’ benefits to come from nuclear weapons activities which could destroy us.

When a nation possesses nuclear weapons, it harms its own population at many steps of the nuclear fuel and weapons chain, a complex and very large industry. As noted in the Treaty for the Prohibition of Nuclear Weapons, women and children are most impacted by exposure to radiation.

Even a “small” use of nuclear weapons could lead to a decade of world wide climate change and a 10 per cent reduction in agricultural output, leading to the starvation of 2 billion people as reported by Physicians for Social Responsibility (<https://www.psr.org/blog/resource/nuclear-famine-two-billion-people-at-risk/>). The example considered in this report is modeled on a limited exchange of nuclear weapons between India and Pakistan. There is daily conflict in Kashmir between these two governments which openly brag about their nuclear weapons.

So this matter is urgent for us to address, although it will take time to make the changes needed to achieve a nuclear weapons free world.

The wise leadership and support for Resolution 976 and Introduction 1621 to date is most appreciated. I trust that ongoing and attentive engagement by the City Council will support achievement of these important missions, which in turn benefit all of us.

Sincerely,

Mr. Alfred C. Meyer, Board Member
Physicians for Social Responsibility

Support of Res. 976 & INT 1621.

The Western Bands of the Shoshone Nation of Indians bear the burden of US nuclear weapons testing in Shoshone homelands at the Nevada National Security Site. Over 1,000 weapons tests have spread radiation across Shoshone country defined by the 1863 Treaty of Ruby Valley (Consolidated Treaty Series Vol. 127-1863). We have had to find our own ways to address the adverse health consequences known to be plausible from exposure to radiation if radioactive fallout. Diet, mobility and shelter--lifestyle differences, gave the Shoshone people increased risk by no fault of our own than non-Native Americans. It is a violation of US law to kill Native Americans with nuclear weapons. The Shoshone people have never consented to US nuclear weapons testing in Shoshone country. It is a violation of law, the US Constitution Article 6, Section 2 "treaties are the supreme law of the land." While American businesses benefit from nuclear development the Shoshone people bear an increased illness burden. It is a violation of every peace treaty in North American for Native Americans to face weapons of war including weapons of mass destruction. It is also an environmental racism. We have included an attached report on our work to address the consequences of US nuclear development.

Please accept the attached report on the health effects and continuing opposition to the development and testing of weapons of mass destruction and proposed destruction of the Shoshone people and land with high-level nuclear waste.

Sincerely,

Principal Man Ian Zabarte
Western Bands of the Shoshone Nation of Indians
<mrizabarte@gmail.com>

RESOURCES NEEDED FOR DEVELOPING NEW LICENSING CONTENTIONS ON GROUNDWATER AND OTHER IMPACTS OF THE YUCCA MOUNTAIN PROGRAM ON NATIVE AMERICAN COMMUNITIES AND CULTURAL RESOURCES¹

INTRODUCTION

The proposed Yucca Mountain high-level nuclear waste repository has the potential to expose Native Americans to radiation through unique exposure pathways should the Department of Energy (DOE) be issued the necessary license(s) for construction, transportation, operation and closure of a geologic repository. Native Americans would participate in advocating for their concerns if resources were available for their involvement.

This report assesses technical and financial resources of the Native Community Action Council (NCAC) to adjudicate existing licensing contentions and to develop additional contentions on groundwater, cultural resources, and other potential impacts to Native Americans from the proposed Yucca Mountain high-level nuclear waste repository.

BACKGROUND

The NCAC is composed of Western Shoshone and Southern Paiute people² brought together by a common need to address impacts experienced in tribal community that are known to be plausible from exposure to ionizing radiation released from nuclear weapons tested in the Great Basin. Both people possess an oral history of continuous use of the Yucca Mountain region that is *the people's* identity. The Western Shoshone and Southern Paiute people speak a similar Numic Uto-Aztecan language and possess similar cultural lifeways that overlap the Yucca Mountain region making combining both people for assessment an appropriate approach. (MAP 1).

In 1992, Native Americans hosted the Healing Global Wounds Conference and Pow-Wow at the University of Nevada Las Vegas. The event was a catalyst for collaboration between Joe Sanchez, Citizen Alert Native American Program, Dianne Quigley, Childhood Cancer Research Institute and Eric Fromberg, Clark University creating the Nuclear Risk Management for Native Communities Project (NRMNC). The NRMNC operated as a project of Citizen Alert Native American Program and became an autonomous organization in 2003, the Native Community Action Council (NCAC).

The NCAC sought to gain a deeper understanding between Indian tribes (community) and science (technical partners) to study what happened to tribal communities down-wind from the Nevada Test Site, now the Nevada National Security Site; and to develop appropriate protective health measures and policies. The project was one of the first collaborative health projects taking direction from Western Shoshone and Southern Paiute communities. Tribal communities identified plants, animals, other resources to be investigated for potential health effects with the

¹ This paper is based on a report prepared by Principal Man Ian Zabarte, Western Bands of the Shoshone Nation of Indians, for the Nevada Agency for Nuclear Projects in September 2019.

² Western Shoshone (Newe) and Southern Paiute (Nuwu) people speak of themselves as "the people" in Numic Uto-Aztecan language

goal of protecting health through investigative research, community education and development of community-based capabilities.

The NCAC considered the importance of lifestyle in review of the 1979 Off-Site Radiation Exposure Review Project (ORERP). The ORERP's goal was to estimate potential dose for any person who lived in an area where fallout from the NTS was deposited—both external and internal. The ORERP estimated exposure based upon the shepherd lifestyle that may estimate external dose accurately but is unrepresentative of internal dose because of missing exposure pathways including hunting, fishing, gathering and religious practices. The NCAC identified needed adjustments to the DOE the ORERP to account for missing Native American lifestyle to include: (1) models for missing exposure pathways, and (2) the included pathway models needed to be corrected to reflect Native American tradition lifeway practices.

YUCCA MOUNTAIN LICENSING

In 2001 the Environmental Protection Agency (EPA) issued radiation protection standards for the proposed Yucca Mountain repository intended to protect those living closest to the proposed Yucca Mountain repository. The 2001 disposal standards included a 10,000-year compliance period for protection of individuals and groundwater resources from potential release of radionuclides from the proposed Yucca Mountain site. The EPA required dose projections beyond the 10,000-year compliance period but did not establish a specific compliance standard for the longer-term projections. After a series of legal battles, the EPA and NRC adopted regulations that would limit radiation doses resulting from groundwater contamination to 15 millirem/year for the first 10,000 years and 100 millirem/year for the next 990,000 years.

In 2008, the DOE issued a Final Environmental Impact Statement (FEIS) that identified the "*region of influence*" as fifty (50) miles on each side of the Caliente and/or Mina rail alignment to the proposed Yucca Mountain site. The region of influence is an area known to include Western Shoshone and Southern Paiute ancestral lands and Executive Order created reservations near the proposed Yucca Mountain site.

On June 3, 2008, the Department of Energy (DOE) submitted a License Application (LA) to the Nuclear Regulatory Commission (NRC), seeking authorization to construct a high-level waste geologic repository at Yucca Mountain, Nevada. Potential parties then had to certify their documentary material on the Licensing Support Network (LSN) and file contentions with the Nuclear Regulatory Commission (NRC) Atomic Safety Licensing Board Panel (ASLBP).

The NCAC saw gaps in the LA that omitted the fact of Western Shoshone and Southern Paiute use and occupancy (Indian title) had not been extinguished; and that, Native American exposure risk would be significantly higher than the non-Native Americans based upon lifestyle differences. The NCAC prepared to intervene in the licensing proceedings to ensure their concerns were addressed.

The intent of the NCAC participation was to ensure Native American concerns were adequately considered and in doing so the record of the proceedings was as complete as possible. The obstacle for NCAC to participate as was achieving standing as a party in the NRC ASLBP. The

NCAC produced three (3) single, stand-alone contentions: A. Land Ownership and Control, (B) Water Rights, both legal contentions; and a (C) National Environmental Policy Act (NEPA) contention, a safety contention -- submitted to the NRC electronically on December 22, 2008³ in Docket # 63-001 Yucca Mountain.

On August 27, 2009 the ASLBP issued an ORDER granting party status to the NCAC and designating the acronym NCA was assigned by CAB-04. Each of the three (3) contentions submitted by NCAC were duplicated by the Timbisha Shoshone Tribe (TIM) and the Timbisha Shoshone Yucca Mountain Oversight Program (TSO) and submitted separately to the ASLBP. Contentions of TIM and TSO were later both combined as the Joint Timbisha Shoshone (JTS) for the proceedings at the NRC ASLBP Construction Authorization Board (CAB).

On March 3, 2010, the DOE filed a motion with the CAB to withdraw the LA with prejudice. Then, on September 30, 2011 CAB04 issued a Memorandum and Order suspending the adjudicatory proceeding.⁴

On October 17, 2011 the Government Accounting Office (GAO) issued a report: Nuclear Fuel Cycle Options: DOE Needs to Enhance Planning for Technology Assessment and Collaboration with Industry and Other Countries (GAO-12-70).

“Nuclear energy, which supplied about 20 percent of the nation's electric power in 2010, offers a domestic source of electricity with low emissions but also presents difficulties--including what to do with nuclear fuel after it has been used and removed from commercial power reactors. This material, known as spent nuclear fuel, is highly radioactive and considered one of the most hazardous materials on earth.”

On August 13, 2013, the US Court of Appeals for the District of Columbia Circuit granted a writ of Mandamus against the NRC and directed the Agency to *“promptly continue with the legally mandated licensing process”* associated with the captioned matter.⁵

In order to continue the legally mandated Yucca Mountain licensing proceedings the Safety Evaluation Report⁶ (SER) Volume 1-5 was completed by the NRC Staff; and in 2016, the Supplement to the DOE Environmental Impact Statement for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada⁷ (SEIS) was also completed by the NRC Staff.

³ Native Community Action Council Petition to Intervene as a Full Party before the Atomic Safety Licensing Board Panel in Docket No. 63-001, December 22, 2008.

⁴ LBP-11-24, 74 NRC.

⁵ Akin County, No. 11-1271 (DC Circuit August 13, 2013).

⁶ In August 2010 the NRC issued: Safety Evaluation Report General Information (NUREG-1949, Volume 1); In January of 2015 NRC issued: Safety Evaluation Report Repository Safety Before Permanent Closure (NUREG-1949, Volume 2); In October of 2014 Safety Evaluation Report Repository Safety after Permanent Closure (NUREG-1949, Volume 3); In December 2014 NRC issued: Safety Evaluation Report Administrative and Programmatic Requirements (NUREG-1949, Volume 4); In January of 2015 the NRC issued: Safety Evaluation Report Proposed Conditions on the Construction Authorization and Probable Subjects of License Specifications (NUREG-1949, Volume 5).

In the SEIS at 3.3.5 NRC Staff Conclusion:

“Thus, the NRC staff concludes that DOE would need to assess whether further consultation and investigation are necessary to account for potential impacts on cultural resources that may be located in areas where groundwater discharges to the surface.”

Also, in the SEIS at 3.4.1 Assessments in DOE’s EIS:

“In its EISs, DOE provided an analysis of environmental justice impacts but did not identify groundwater as a resource area for which potential environmental justice impacts could occur. Because DOE did not provide an environmental justice analysis for impacts from groundwater or from surface discharges of groundwater, the NRC staff concludes that, consistent with the finding in the ADR with regard to the need for further supplementation, this discussion in the EISs is incomplete.”

In the SEIS the NRC Staff describes the affected environment and assesses the potential environmental impacts with respect to potential contaminant releases from the repository on the aquifer environment, soils, ecology, and public health, as well as the potential for disproportionate impacts on minority or low-income populations. The NRC Staff concluded without further field work that:

Section 3.4.3. The NRC staff acknowledges the sensitivities and cultural practices of the Timbisha Shoshone Tribe concerning the use and purity of springs in the Furnace Creek area. Based on the analysis above, the NRC staff determines that there would be no disproportionately high and adverse human health or environmental effects from uses or discharges of groundwater flowing from the repository on minority or low-income segments of the populations in the Amargosa Valley area and in Death Valley National Park.”

For the Environmental Justice (EJ)⁸ statement the NRC Staff considered the impact on two (2) population centers that are recent introductions to the landscape, the town of Amargosa Valley and Death Valley National Park. Both historic population centers have experienced recent growth in farming and tourism from the mid-twentieth (20th) century and are not representative of Native American lifestyle and therefore are not appropriate for determining EJ impacts upon Native Americans. The NRC Staff Concluded:

“Based on the analysis above, the NRC staff determines that there would be no disproportionately high and adverse human health or environmental effects from uses or discharges of groundwater flowing from the repository on minority or

⁷ NUREG 2184 intended to bridge deficiencies identified by NRC Staff in its September 5, 2008 Adoption Determination Report (ADR).

⁸ Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, February 16, 1994

low-income segments of the populations in the Amargosa Valley area and in Death Valley National Park.” (NRC 2016 SEIS Final Report p,3-40)

Between 1986-1991 the State of Nevada conducted its own assessment based on Native American concerns as part of Nevada’s larger socioeconomic studies. Dr. Catherine Fowler, et.al., reviewed the ethnographic literature, most between 1920’s-1930’s on Yucca Mountain for accuracy and to determine if Native Americans had other concerns.⁹

“Consultation with involved Native Americans confirmed the general accuracy of both ethnographic and archeological interpretation, but also indicated that other features with less obvious physical manifestations were present: sites with mythological reference, water sources considered sacred, plants and animals used for medicines as well as foods, potential burial areas, etc. These, too, are potentially eligible for protection and mitigation by federal laws.”

Lifestyle is important and those people who are part of the ecosystem must be involved. According to Pauline Esteves, Shoshone elder and member of the Timbisha Shoshone Tribe,

“The water that is used on our tribal reservation is directly threatened by the proposed Yucca Mountain repository. I am informed that the groundwater flows down gradient from Yucca Mountain through the Amargosa Desert and into Death Valley, where our tribal reservation is located.”¹⁰

DISCUSSION

The DOE was required to address the impacts from the proposed repository under the NEPA. The DOE created a process for involvement of Native Americans to consent to a process that concludes that *the “overall effect of the proposed repository on the long-term preservation of archeological and historic sites in the analyzed area would be beneficial.”* The NEPA does not allow destruction of the landscape then allow the agency accountable to claim beneficial effects from abandoning the site. The circular logic is not accepted to fulfill NEPA requirements.

Native Americans view the Great Basin landscape as a seamless interconnected environment with *“the people”* centrally located to speak for all beings, animate and inanimate. Native Americans are good at looking far into the past and into the future, taking visionary perspective in relation to place and space, expanding and contracting *“vision.”* Visioning takes place by ceremony and quest. The southwest desert region is considered *“deep spiritual visioning”* by Native Americans.¹¹

⁹ Catherine S. Fowler, Maribeth Hamby, Elmer Rusco, and Mary Rusco, Cultural Resource Consultants, Ltd., Native Americans and Yucca Mountain Revised and Updated Summary Report on Research Undertaken Between 1987 and 1991, Volume I, Reno, Nevada, (1991)

¹⁰ Declaration of Pauline Esteves in Support of Petition to Intervene by Native Community Action Council, US NRC ASLBP Docket 63-001, March 6, 2009.

¹¹ Zabarte, I, 2019.

Western Shoshone and Southern Paiute people continue to rely upon the wealth of natural resources for sustenance and cultural identity. Annually, many ceremonies are held, and tribal community is drawn together and created. Medicine is gathered such as juniper, sage and Indian tea all abundant in the Yucca Mountain region. Desert ram, deer and antelope are harvested, and pine-nuts gathered that, in some cases, are consumed at the time of gathering.

Western Shoshone and Southern Paiute people received substantial exposure that was not described or accounted for by the DOE. Based on lifestyle differences – (a) diet--what foods the Western Shoshone and Southern Paiute people hunted and gathered then how they prepared the food; (b) mobility--where the people went, what they did there and how much time they spent there); and (c) shelter--where their homes were and what they were made from.

A Southern Paiute man provided a sense of the close relationship between Native Americans and the land that speaks to them:

“As a Southern Paiute Indian, my spiritual connection to the land defines my identity. Because of my religious and cultural beliefs, when the land is harmed, I also suffer harm. From the perspective of non-Indians, we would say that when a part of the land is taken away, a part of the Bible is taken away. Destruction of the land, whether by radioactive contamination or construction of a spent nuclear fuel storage facility, destroys a part of me. My beliefs about the connection between my health and the health of the land extends to the Yucca Mountain site.”

¹²

Additional study of potential impact from the repository are needed to identify, address or mitigate significant adverse health impact and consider the disproportionate burden those impacts will have on the health, welfare and spiritual well-being the Western Shoshone and Southern Paiute people. Also missing exposure pathways unique to Native Americans utilizing traditional lifestyles that include religious ceremony, visioning, hunting, gathering—living lifeways should be created.

Not to assess certain impacts may be a violation of the American Indian Religious Freedom Act (PL 95-341), by denying Native Americans access to land necessary for the free exercise of their religion affirmed by:

“policy of the United States to protect and preserve for American Indians the inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites.”

Potential impact from groundwater radiation released of the repository may increase exposure risk to the Shoshone and Paiute people significantly higher based upon lifestyle differences that have not been adequately studied. Setting radiation protection standards for those individuals

¹² Declaration of Calvin Meyers in Support of Petition to Intervene by Native Community Action Council, US NRC ASLBP Docket 63-001, March 6, 2009.

living a western farming lifestyle in Amargosa Valley or living seasonally a tourism-based lifestyle in Death Valley National Park are not appropriate.

In order to adequately assess impacts and identify unique exposure pathways further study of Native American cultural resources would be required and was recommended in 1998 by the involved tribes to include:¹³

- a. Ethnoarchaeology;
- b. Ethnobotany;
- c. Ethnozoology;
- d. Rock Art;
- e. Traditional Cultural properties;
- f. Ethnogeography;
- g. Cultural Landscapes.

CONCLUSION

A broad scope needs be taken to reevaluate the adequacy of studies conducted by parties involved in assessing impacts from the proposed Yucca Mountain repository. Impacts to Native Americans must be assessed with them as an essential part of the ecosystem based on their origin, thousands year old history and cultural relationship to the land.

It is notable that the NRC staff in their 2016 EIS Supplement, calculated that even if DOE installed thousands of titanium drip shields, one over each waste package, to reduce groundwater contamination from the proposed repository, some off-site contamination resulting in individual radiological doses up to 1.3 millirem/year would occur over the one-million-year regulatory compliance period. The State of Nevada's consultants have calculated that without drip shields, the 10,000 year standard (15 millirem/year) could be exceeded in less than 900 years and the million-year standard (100 millirem/year) could be exceeded in 2,000 years.

The DOE and NRC analyses are insufficient to adequately identify, address and mitigate potential adverse impacts to resources used by the Western Shoshone and Southern Paiute people in the Yucca Mountain region. The DOE has not considered a broad range of potential impacts on the health through unique exposure pathways; cultural resources; or disseminate facts and conclusions for comment; respond to legitimate concerns; and communicate the risks bearing upon Native American communities. The DOE has instead placed Native Americans at a disadvantage by focusing the entirety of their world view into the funnel of cultural resources studies that is necessary but, effectively silencing research outside that narrow scope.

It is imperative that the NCAC continue its legal and technical challenges to the proposed Yucca Mountain site in licensing. Native American must be given the opportunity to advocate for themselves and the irreplaceable biological and cultural resources that give spiritual, religious and traditional significance to the people.

¹³ American Indian Perspectives on the Yucca Mountain Site Characterization, Consolidated Groups of Tribes and Organizations (1998).

FINANCIAL AND TECHNICAL RESOURCES

The NCAC has relied upon its own funds from grants specifically to cover the costs of representing the three (3) original contentions submitted to the ASLBP. Should licensing resume, those costs of adjudicating the original contentions would be borne by the legal team representing the NCAC in the ASLBP CAB hearings. However, creating additional contentions will place an unanticipated burden on NCAC legal team that make another approach necessary.

Collaboration between community and science is a useful tool. Joint contentions are possible and should be considered as an appropriate method for parties to consider lifestyle differences that contribute to disproportionate impacts borne by Native Americans.

Technical work would need to review the adequacy of the DOE FEIS 2002 and 2008, and SEIS 2016 for direct and indirect effects on Shoshone and Paiute use, occupancy, water resources, biological resources, cultural resources,¹⁴ archeological, land use practices, hazardous materials transportation, socioeconomics and environmental justice—to ensure a complete understanding of the potential impacts.

Additionally, missing exposure pathways need to be identified and models created, and the existing models needed to be corrected to reflect Native American tradition lifeway practices. A thorough review and assessment is needed to identify gaps in the data and interpret the results in a culturally appropriate context by Native Americans to obtain intended meaning.

A preliminary study could be prepared to look at Western Shoshone and Southern Paiute traditional practices in the Yucca Mountain region and take six (6) months and cost approximately \$40,000 dollars. The focus would be in identifying traditional practices that are recurring and may add increased risk of exposure from repository releases into the groundwater. Because of the close relationship NCAC has as a grassroots community-based organization it is able to gain access to tribal stakeholders and is willing to do so at this time.

Ten thousand years was only yesterday for the Western Shoshone and Southern Paiute people and there is still time to protect the extant living lifeways from potential impacts of the proposed Yucca Mountain nuclear waste repository.

¹⁴ Recommendations of the involved tribes to include a. Ethnoarchaeology; b. Ethnobotany; c. Ethnozoology; d. Rock Art; e. Traditional Cultural properties, f. Ethnogeography; and g. Cultural Landscapes.

ACRONYMS

ADR – Adoption Determination Report

ASLBP – Atomic Safety Licensing Board Panel

CAB – Construction Authorization Board

DOE – Department of Energy

EPA – Environmental Protection Agency

FEIS – Final Environmental Impact Statement

GAO –Government Accounting Office

LA – License Application

LSN –Licensing Support Network

NAS – National Academy of Sciences

NCAC – Native Community Action Council

NEPA – National Environmental Policy Act

NRMNC – Nuclear Risk Management for Native Communities

NRC – Nuclear Regulatory Commission

ORERP -- Off-Site Radiation Exposure Review Project

SEIS – Supplemental Environmental Impact Statement

BIBLIOGRAPHY

Adoption Determination Report NUREG 2184 (2008).

Akin County, No. 11-1271, DC Circuit (2013).

American Indian Religious Freedom Act, PL 95-341 (1978).

B. W. Church, D.L. Wheeler, C. M. Campbell, R. V. Nutley, and L. R. Anspaugh, "Overview of the Department of Energy's Off-Site Radiation Exposure Review Project," *Health Physics* 59, 503-510 (1990).

Code of Federal Regulations PART 197—Public Health and Environmental Radiation Protection Standards for Yucca Mountain, Nevada (40 CFR Part 197).

DOE Off-Site Radiation Exposure Review Project (1979).

Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, (1994)

DOE FEIS for a Geologic Repository for the Disposal of Spent Nuclear Fuel and High-Level Radioactive Waste at Yucca Mountain, Nye County, Nevada Chapter 4, Environmental Consequences of Repository Construction, Operation and Monitoring, and Closure page 4-41 (2008).

Native Community Action Council Petition to Intervene as a Full Party before the Atomic Safety Licensing Board Panel in Docket No. 63-001, December 22, 2008

The Assessment of Radiation Exposure in Native American Communities from Nuclear Weapons Testing in Nevada Fromberg, Goble, Sanchez and Quigley, *Risk Analysis*, Vol. 20, No.1, (2000).

Technical Bases for Yucca Mountain Standards, Committee on Technical Bases for Yucca Mountain Standards, Board on Radioactive Waste Management, Commission on Geosciences, Environment and Resources, National Research Council, National Academy Press (1995).

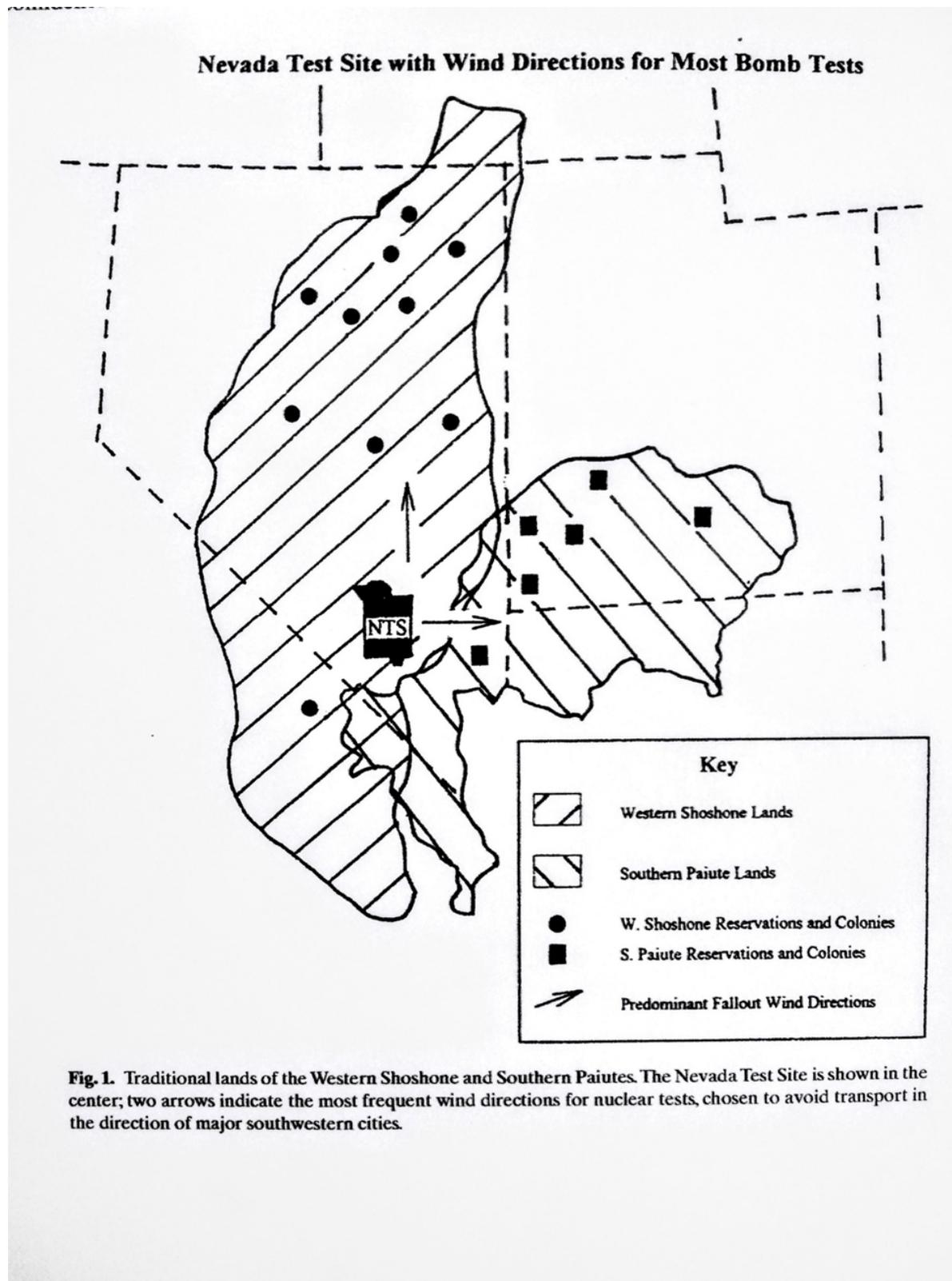
SER General Information, NUREG-1949, Volume 1 (2010).

SER Repository Safety Before Permanent Closure, NUREG-1949, Volume 2 (2015).

SER Repository Safety after Permanent Closure, NUREG-1949, Volume 3 (2014).

SER Administrative and Programmatic Requirements, NUREG-1949, Volume 4 (2014).

SER Proposed Conditions on the Construction Authorization and Probable Subjects of License Specifications, NUREG-1949, Volume 5 (2015).



MAP 1 The Assessment of Radiation Exposure in Native American Communities from Nuclear Weapons Testing in Nevada
 Fromberg, Goble, Sanchez and Quigley, *Risk Analysis*, Vol. 20, No.1, (2000).

Testimony for RES 976 Resolution on Nuclear Disarmament and for INT 1621 Bill to Create a Nuclear Disarmament and Nuclear Weapons-Free Zone Advisory Committee

Testimony by Dr Patricia Lewis^{1,2} on Res. [976](#) and Int. [1621](#) before City Council Joint Hearing of Committee on Governmental Operations and Committee on Civil Service and Labor

28 January 2020

I write in support of efforts by New York City Council to advance progressive legislation on nuclear disarmament. We are encountering new risks and dangers in regard to nuclear weapons, but many national policymakers in several key countries seem to be unaware of the urgency of the situation.

In recent years, there has been evidence that suggest poor procedures are in place at nuclear weapons facilities. For example, in August 2007, six US nuclear-armed cruise missiles were mistakenly placed under the wings of a B-52 plane and went missing for 36 hours in flight from Minot Air Force Base in North Dakota to Barksdale, Louisiana; the 2009 crash between the United Kingdom's HMS Vanguard and France's FNS Le Triomphant, two nuclear powered, ballistic missile-carrying submarines (SSBNs), in the Atlantic Ocean illustrated the high risk of accidents at sea; and the break-in at the Y-12 National Security Complex in 2012 by three peace activists (including an 82-year old nun Sr Megan Rice) showed the very lax security at nuclear weapons facilities. Over the last few years there have been [several reports](#) on [drug](#) and [alcohol abuse](#) at nuclear weapons facilities. There are many more such near-accidents (or 'broken arrow') events [documented](#).

During and after the cold war, there were [several – now documented - instances](#) when nuclear weapons were nearly launched as a result of faulty information, misinterpretation or miscalculation and there may be others of which we remain unaware. Most notable were the [events in 1983](#) when the live NATO exercise '[Able Archer](#)' was erroneously believed to be a cover for an all-out attack against the USSR and again in the same year, when USSR satellites indicated that US nuclear missiles were on their way to Russia and Lieutenant [Colonel Stanislav Yevgrafovich Petrov](#) decided not to act on the information, believing correctly that it was likely to be false information.

Today, for a variety of reasons that bear little resemblance to the cold war stand-off, the US and Russia are increasing their nuclear weapons capabilities and increasing the rhetoric on nuclear weapons use. Neither party is keen to reduce their numbers of nuclear weapons, employ transparency measures, or establish new confidence-building measures, and both countries are modernizing their arsenals, including the development of hypersonic missiles.

The United States and Russia are [estimated to possess](#) between 6,000 to 6,500 nuclear warheads each; two-thirds of the total nuclear warhead in the world today. According to the [SIPRI Yearbook 2019](#): "Nine states—the United States, Russia, the United Kingdom, France, China, India, Pakistan, Israel and the Democratic People's Republic of Korea (DPRK, North Korea)—possessed approximately 13,865 nuclear weapons, of which 3,750 were deployed with operational forces. Nearly 2,000 of these are kept in a state of high operational alert.'

The high-alert status increases the probability of nuclear weapon detonations via intercontinental ballistic missiles (ICBMs) or submarine launched ballistic missiles (SLBMs). Recent research has shown

¹ <https://www.chathamhouse.org/expert/dr-patricia-lewis>

² Written in my personal capacity

that inadvertent use could result from technical malfunctioning that leads to false alert, or cyber-attacks to command and control systems. During the cold war, false-alerts, Marshal Shulman suggested in the late 1970s were [‘not a rare occurrence’](#). It would be prudent to assume that false alarms do still occur and indeed a recent example of a [miscommunication to the public in Hawaii during](#) a time of heightening tensions would suggest that mistakes are indeed still possible. The potential for error – even more importantly the need to take into account the possibility of cyber interference – would serve to pressure the response system, increase the level of uncertainty when considering response; thus, destabilize any deterrent assumptions. The risks of inadvertent or deliberate nuclear weapons use would thus further increase in times of crisis.

In the current situation, the status quo is not sustainable. The weapons systems relying on the performance of military satellites and command and control systems, today, are additionally vulnerable to cyber-attacks. This was not a concern during the Cold War. And there are several new dangers. For example, the risks of cyber-attacks on command and control systems, including the spoofing of global navigation satellite systems (GNSS) such as GPS data potentially [taking control of missile systems](#) are now [well documented](#). Drone attacks on missile bases or on submarines could overcome existing defenses. Both of these new threats to the control of nuclear weapons could be carried out by states or even – in the longer term – by non-state armed groups. During a crisis such possibilities could have knock-on effects on strategic military calculations and may increase risks of misperception and inadvertent use.

Concerns are rising over Russia’s modernization of its nuclear forces; as well as its exercises to train and test its forces while also testing the NATO Alliance’s air defense capabilities. NATO, in return, conducts warfare exercises, for example, searching for [submarines in open-waters](#) or [reconnaissance operations](#). Although exercises are part of routine training, they are increasing the reliance on nuclear operations. Integrating realistic nuclear exercises could create an over-reliance on nuclear weapons and thus, affect the nuclear calculus in crisis situations. This narrative creates conditions add into the drivers for deliberate or inadvertent nuclear weapons use with catastrophic consequences.

The type of missiles deployed in current conflicts also affects the risks of nuclear confrontation. Russia’s [Iskandar tactical ballistic missiles](#) and the current debate on the status of tactical nuclear weapons in Europe are indications of a resurgent nuclear capability and an increased reliance. The use of nuclear-tipped cruise missiles in conflicts would blur the distinction with conventionally-armed cruise missiles and further complicate the available responses in crisis situations. When used, the recipient country would not know the nature of the attack until after the attack. During crises, states act best when they consider all options without extraordinary time pressure. The reliability of missiles is another factor to consider: in a single operation, Russia launched twenty-six cruise missiles from the Caspian Sea to Syria; [four of these missiles crashed on undesignated areas in Iran](#). Under any circumstances, relying on cruise missiles that could mistakenly or deliberately carry nuclear warheads is highly dangerous.

Behavioral research indicates that states are more prone to take risks when they only consider the possible positive gains rather than the possible negative consequences of their actions. Nuclear planners to day need to incorporate the lessons from the cold war and focus on the catastrophic impacts of nuclear weapons use before they are used again.

People understand risk far more than statisticians or politicians give them credit for. They understand that low consequence events even if they are high frequency are manageable – high frequency implies that events occur often and, if they are low consequence, they are everyday irritants. High frequency,

high consequence events are risks we cannot ignore and we take them very seriously indeed – hence all the car safety features that have been developed and the medical research that has tackled diseases such as polio, cardiovascular and cancer.

High consequence events of an unknown probability are a completely different matter. People often ignore them and hope that they will never occur. However, any high consequence event must be carefully thought through and planned for. The probabilities are rarely well understood. They are assumed to be low due to infrequent occurrence, but uncertainty dominates the equations.

It was in this context that the 2017 [Treaty on the Prohibition of Nuclear Weapons](#) brought a fresh perspective to the current range of risks associated with nuclear weapons. This approach that includes the humanitarian impacts of weapons systems has spawned studies and projects that have taken a fresh look at the consequences of nuclear weapons and what the likelihood and impacts of such use might be today. The attempts to ascertain the new risks humanity faces as a result of the continuing retention of nuclear weapons has resulted in new understandings about long-term impacts on the environment and on human health – particularly on women's health – and on the likelihood of use as a result of understanding more about the number of near-accidents and near, inadvertent use incidents.

These new understandings have led in turn to a new sense of urgency on the part of participating government and non-governmental organizations. The step-by-step process that has not made any tangible progress since the negotiation of the CTBT in 1996 has run into the ground in Geneva and New York. Even though some governments suggest that the step-by-step process is still alive, it is hard to see how such a conclusion could be reached following over 20 years of failed attempts to begin negotiations on the 'next step'. As a result, a number of other attempts and pathways are being tried. The first of these, the Treaty on the Prohibition of Nuclear Weapons, has gained substantial traction with 80 signatories and 35 ratifications to date. The TPNW prohibits nuclear weapons – their possession, development, deployment and use for all (most countries have already committed to these measures through the Nuclear Non Proliferation treaty) – in order to pave the way for further nuclear disarmament.

The second approach, which is less developed and also less of a departure from current practice, is to adopt the step-by-step approach into a more fluid 'progressive approach' in which the steps are no longer in any sequence and new steps (such as de-alerting measures for example) might be introduced.

A new approach, now in the early stages of development is to incorporate the complexity of decision-making in the world nuclear disarmament of and nonproliferation and create a visual model which will help decision-makers see the range of outcomes for specific decisions and situations.

Dr Beyza Unal of Chatham House has addressed the issue of urgency and proposing that a nuclear emergency is declared – similar to that of the climate emergency. As she says in her paper appended below:

“Although risk is an important concept to highlight; it has not been enough to raise awareness on the urgency of arms control and disarmament. Unless an incident sets alarm bells ringing, the decision-makers will likely to continue the business as usual. While the nuclear community has not been able to address the urgency of implementing arms control and disarmament measures; some communities addressing climate change have done the opposite. For instance, Prof Hans Joachim Schellnhuber and his colleagues used urgency together with risk as a factor to define emergency. According to them,

urgency is defined as 'the time that it takes for countries to react to an incident divided by the intervention time left to avoid a bad outcome'. In other words, climate emergency required an assessment of both risk (R) and urgency (U). By doing this, they were able to separate a climate emergency from climate management. When both risk and urgency are high, then the situation is called an emergency, $\text{Emergency} = R \times U$. When there is enough time to control the situation, then it all boils down to how the situation is managed. They argue there is quantifiable relationship between urgency and risk. ...(and) ...urgency should be integrated into the nuclear risk equation. There is a need to collectively and objectively decide which areas qualify as emergency situations. Different situations need to be analyzed and assigned a priority in terms of urgency: placing preventing future nuclear catastrophe being the main aim. An emergency approach which incorporates both risk and urgency would help to define which risk reduction measures are higher priority.

Whatever the outcome of these new attempts to address the hard-to-crack problem of nuclear weapons, clearly there are new concerns and new dangers. Experts may like to imagine that a nuclear conflict 'would never happen' but it would be foolish to imagine that to be true. The human race has had far too much experience lately of devastating events that are considered highly unlikely to occur – catastrophic earthquakes, tsunamis, floods, fires, meteor explosions, nuclear reactor meltdowns and so on – for people to believe that a war which included the use of nuclear weapons by accident or by design is impossible. Complacency with nuclear weapons when so many are on high alert and belong to countries in conflict would be hard to forgive. Devastating events such as tsunamis, floods, natural disasters may already be upon us and are unavoidable, though we can avoid a nuclear weapon detonation through disarmament.

Appendix

A Call for Nuclear Emergency: why focusing on risk is not enough by Dr Beyza Unal January 2020

2020 marks the fiftieth anniversary of the nuclear Non-proliferation Treaty's (NPT) entry into force. It is also the twenty-fifth anniversary of the treaty's indefinite extension and the 75th anniversary of the first and only use of nuclear weapons in conflict. Over the course of these years, the NPT has vigorously incorporated the vision and the ambition of state parties in three pillars: nuclear non-proliferation, the peaceful uses of nuclear energy, and disarmament. Recently, however, the NPT architecture has been challenged on all fronts and progress has stalled.

The Cold War arms control architecture has been under serious stress since the [U.S. withdrawal](#) from the landmark Intermediate-Range Nuclear Forces (INF) treaty in August 2019. Russia's expressed interest in [renewing the New START Treaty](#) without any preconditions has not yet received a response from the United States. The Joint Comprehensive Plan of Action (JCPOA), also known as the Iran deal, is in danger of collapsing after the US withdrawal. President Trump's recent decision to order the killing of Iran's top general, Qasem Soleimani, in the claim to reestablish deterrence has facilitated the process for Iran to announce it would no longer abide by [the uranium enrichment centrifuges limits](#) set out in the deal, which led the EU to trigger the dispute mechanism in the Joint Comprehensive Plan of Action. North Korea has not taken any concrete steps towards denuclearization, contrary to the hopes of U.S. officials.

There seems not to be much interest nor appetite among the state parties to move beyond risk reduction. Even when states talk about risk reduction, they have different views as to the content of it.

Nuclear risk reduction measures start to become a laundry list: reiterate not to conduct nuclear tests; reiterate Reagan and Gorbachev's statement that 'a nuclear war cannot be won and must never be fought'; declare no-first use, establish de-alerting measures, etc. etc. None of these measures *alone* can respond to the need to restore or to reassess the nuclear order. Moreover, states do not necessarily agree on the measures.

Perhaps we got our priorities wrong.

The nuclear non-proliferation and disarmament communities have been urging state parties to implement risk reduction measures, due to concerns that nuclear risk is rising. It is true that risks are changing but not necessarily increasing. It is dynamic and constantly changing. For example, comparing the level of risk of today to the risk height of the Cold War, risk might have decreased. Fortunately, the nuclear field lacks empirical data to measure nuclear weapon risks.

Moreover, the nuclear risk literature has been dominated by traditional risk analysis, where risk is the product of a probability happening and the consequences of an event. A high impact - low probability event (e.g. accidental/deliberate nuclear weapon launch) has been considered high importance because although it is rare when they occur; when they do, they inflict unacceptable damage. The discussion has not evolved into what experts hoped for: perhaps it is because the element of urgency has been missing in the discussion. Although risk is an important concept to highlight; it has not been enough to raise

awareness on the *urgency* of arms control and disarmament. Unless an incident sets alarm bells ringing, the decision-makers will likely to continue the business as usual.

Urgency in Risk Calculations

While the nuclear community has not been able to address the urgency of implementing arms control and disarmament measures; some communities addressing climate change have done the opposite. For instance, Prof Hans Joachim Schellnhuber and his colleagues used urgency together with risk as a factor to define emergency. [According to them](#), urgency is defined as 'the time that it takes for countries to react to an incident divided by the intervention time left to avoid a bad outcome'. In other words, climate emergency required an assessment of both risk (R) and urgency (U). By doing this, they were able to separate [climate emergency from climate management](#). When both risk and urgency are high, then the situation is called an emergency, $\text{Emergency} = R \times U$. When there is enough time to control the situation, then it all boils down to how the situation is managed. They argue there is quantifiable relationship between urgency and risk. Climate modelling techniques have also helped to raise awareness on climate emergency.

The nuclear communities have not so far focused on the urgency of arms control nor the urgency of nuclear disarmament. Experts do not agree on whether there is an acceptable risk is and decision-makers are still trying to manage all types of risk: from accidental/deliberate use to nuclear arms race.

There are several reasons why the idea of a nuclear emergency has not gained the attention of decision-makers. Apart from the fact that nuclear weapons have not been used in conflict for seventy-five years, the intervention time left to prevent a nuclear catastrophe is a variable that is hard to quantify. Essentially, no-one can state exactly when the next detonation might take place. For some countries, the risk of use is exaggerated while, for others, the sheer existence of nuclear weapons poses enormous risk.

Despite existing challenges, urgency should be integrated into the nuclear risk equation. There is a need to collectively and objectively decide which areas qualify as emergency situations. Different situations need to be analyzed and assigned a priority in terms of urgency: placing preventing future nuclear catastrophe being the main aim. Which areas does the nuclear community require to act quickly in order to prevent future nuclear catastrophe.

An emergency approach which incorporates both risk and urgency would help to define which risk reduction measures are higher priority. For instance, the intervention time to prevent a catastrophe is quite small when it comes to the use of hypersonic weapons or to respond to cyber threats in nuclear command and control. Nuclear security or verification measures, for instance, receive high interest across the community because they are less politicized matters, but, do they currently require an urgent response?

Nuclear risk and urgency calculations should be based on existing facts. In areas of disagreement or lack of evidence, the precautionary principle should apply. If states start to see the problem through the lens of a nuclear emergency, this could reset the orientation for the upcoming NPT Review Conference in May 2020.



International Physicians for the Prevention of Nuclear War



Vote in Favor of Nuclear Disarmament Bills on Res. [976](#) and Int. [1621](#) New York City Council Joint Hearing of Committee on Governmental Operations and Committee on Civil Service and Labor

Testimony by Charles K. Johnson, Program Director for International Physicians for the Prevention of Nuclear War (IPPNW) - 28 January 2020

Dear Committee Members,

I am honored to have the opportunity to speak to you today and wish to thank the New York City Council for having the foresight to consider these two measures, which, taken together, would be the strongest statement yet by a US municipality in favor of global sanity in the face of the continued and renewed threat to global survival posed by nuclear weapons and nuclear war.

It is apropos that the international city of New York would lead the way toward reconsidering our nation's reliance on the judgement and actions of a few flawed and fragile individuals to prevent a nuclear catastrophe – or as our president put it: “fire and fury like the world has never seen.”

International Physicians for the Prevention of Nuclear War (IPPNW) is a federation consisting of 63 national affiliates worldwide that have studied the effects of a single atomic bomb and of nuclear war at various levels of severity. In all cases, we find that there is no adequate medical response to the use of a nuclear weapon, which destroys medical and other infrastructure, and wounds and kills the professionals who would ordinarily provide aid to the sick and wounded. Consequently, we concluded, as our founding organization Physicians for Social Responsibility in the United States originally said in the 1960s, that “prevention is the only cure,” and the only responsible medical position to take on the subject.

You have received in your packets three statements from physicians representing International Physicians for the Prevention of Nuclear War (IPPNW) from:

- Co-President Tilman Ruff, MD, on the faculty of the University of Melbourne in Australia – and founding chair of International Campaign for the Abolition of Nuclear Weapons (ICAN) – who addresses the severity of the threat we face with nuclear weapons today and draws comparisons to the global threat of climate change and previous treaties banning chemical and biological weapons;
- Co-President Ira Helfand, MD, a practicing physician in Northampton, Massachusetts and a leader in Physicians for Social Responsibility since the 1970s – who gives further detail about the catastrophic climate impacts of nuclear winter, resulting in potentially billions dying from starvation, initiated by the use of even a portion of the world's nuclear arsenal;
- IPPNW Germany representative Inga Blum, MD, a physician in Hamburg, Germany who writes movingly about the firestorm her city experienced during the Second World War due to a conflagration intentionally started by a conventional bombing attack – and her wish that this experience not be visited upon any other city in the future.

IPPNW, a registered U.S. charity according to I.R.S. code 501(c)3, is a not-for-profit organization comprised of physicians, health care professionals, and medical students in 63 nations and is the recipient of the 1985 Nobel Peace Prize.

In addition, I am attaching to end of my testimony the statement of IPPNW, the World Medical Association, the International Council of Nurses, and the World Federation of Public Health Associations in strong support of the 2017 UN Treaty on the Prohibition of Nuclear Weapons.

Working together with the International Committee for the Red Cross we are actively encouraging all levels of government to support the nuclear ban treaty in any way they can.

We applaud the New York City council for its initiative, in concert with hundreds of cities worldwide. Your passage of these measures would echo our slogan, adopted by American and Soviet leaders Reagan and Gorbachev in their Reykjavik statement that “nuclear war can never be won, and must never be fought.”

Thank you.



International Physicians
for the Prevention of Nuclear War



Ban treaty is a “significant forward step” toward elimination of nuclear weapons

[The following joint statement has been released by IPPNW, the World Medical Association, the International Council of Nurses, and the World Federation of Public Health Associations. The Treaty on the Prohibition of Nuclear Weapons opens for signature at the United Nations on September 20, 2017.]

September 18, 2017

The landmark [Treaty on the Prohibition of Nuclear Weapons \(TPNW\)](#), adopted on July 7 by 122 non-nuclear-weapon states following negotiations earlier this year, prohibits the development, testing, production, possession, stockpiling, use, or threatened use of nuclear weapons. The Treaty completes the process of stigmatizing and delegitimizing nuclear weapons on the basis of their catastrophic health, environmental, and humanitarian impacts.

Our federations, representing millions of doctors, nurses, and public health professional around the world, welcome this treaty as a significant forward step toward eliminating the most destructive weapons ever created, and the existential threat nuclear war poses to humanity and to the survival of all life on Earth. The TPNW’s recognition of the “unacceptable suffering” nuclear weapons have caused to victims of the use of nuclear weapons (hibakusha) and to the victims of nuclear testing, and of the disproportionate impacts of nuclear weapons on women and girls and on indigenous peoples, adds to the moral and legal force of the norms it has established.

We share the Treaty’s evidence-based conclusion that the elimination of nuclear weapons is “the only way to guarantee that nuclear weapons are never used again under any circumstances.” The establishment of a new international norm prohibiting nuclear weapons is a crucial step toward their elimination, but it is *only* a first step. The parties to the TPNW must now work diligently and urgently to bring the nuclear-armed and nuclear-dependent states into compliance with this norm.

Nuclear weapons violate international law because they are inevitably indiscriminate and disproportionate in their effects. The ionizing radiation produced at detonation kills people from radiation sickness, while radioactive contamination of the environment causes cancers, chronic diseases, birth defects, and genetic damage. Even a small fraction of the nuclear weapons that exist today can damage the global climate and food production so severely that billions of people would starve. The health and international relief communities cannot respond to the terrible devastation caused by nuclear weapons, and no amount of planning or spending on improved capacity can change this reality.

We urge all states to sign the treaty soon after it opens for signature at the United Nations in New York on September 20, and to ratify it as soon as possible thereafter so that it can enter into force.

The states that currently possess nuclear weapons or rely on the nuclear weapons possessed by others can and must completely and irreversibly dismantle the warheads, nuclear weapons programs and facilities, and cease all nuclear-weapons-related activities; which threaten the security of everyone, including their own citizens. The Treaty provides practical and verifiable pathways for them to comply with the prohibitions and with their nuclear disarmament obligations, and we urge them in the strongest possible terms to do so.

International Physicians for the Prevention of Nuclear War

World Medical Association

International Council of Nurses

World Federation of Public Health Associations

**Vote in Favor of Nuclear Disarmament Bills on Res. 976 and Int. 1621
New York City Council Joint Hearing of Committee on Governmental Operations and Committee
on Civil Service and Labor**

Testimony by Ira Helfand, MD of the International Physicians for the Prevention of Nuclear War
28 January 2020

Dear Committee Members,

I am submitting an article I wrote that describes the devastating global effects that would result if nuclear weapons were ever used, even in a regional exchange with a relatively 'small' number of weapons launched. We are closer to this reality than many people realize which is why the legislation on nuclear disarmament before you deserves your support, with the hoped for effect that cities across the nation and the world will follow your lead.

Climate Disruption and Global Famine: nuclear weapons impact on the environment

During the Cold War the enormous arsenals of nuclear weapons possessed by the United States and the Soviet Union were capable of catastrophic destruction on a global scale. A US National Academy of Sciences (NAS) study of the medical consequences of nuclear war concluded that, in a large scale nuclear conflict, several hundred million people would die directly and the subsequent famine would lead to the death of one to four billion people, most of the earth's population at that time.

The study highlighted a key insight: "the primary mechanisms for human fatalities would likely not be from blast effects, not from thermal radiation burns, and not from ionizing radiation, but, rather, from mass starvation."¹ Climate disruption, and the resulting disruption of food production worldwide would kill far more people than the direct effects of the nuclear explosions themselves.

With the end of the Cold War, there has been a dramatic decline in the number of nuclear warheads in the world. But the weapons remaining are still able to produce catastrophic humanitarian impacts. A 2002 study of the direct effects of a nuclear war involving post Cold War forces in the US and Russian arsenals showed that if only 300 Russian warheads got through to urban targets in the United States, 75 to 100 million people would be killed directly by the explosions, fires and radiation, and the entire economic infrastructure on which the rest of the population depended would be destroyed.² A US attack on Russian cities would produce similar results.

However, as suggested by the NAS study, these direct fatalities would constitute only a small portion of the total death toll. Recent climate studies have confirmed that even the reduced number of weapons remaining in the US and Russian arsenals can produce a nuclear winter, and they have shown that this catastrophic global cooling will persist for more than a decade. A conflict involving only those weapons that will still be allowed to the US and Russia when the New START treaty is fully implemented could

¹ Harwell M, Harwell C, 1986: "Nuclear Famine: The Indirect Effects of Nuclear War." In, Solomon F, Marston R (Eds.). The Medical Implications of Nuclear War. Washington, D.C.: National Academy Press, pp. 117-35.

²Helfand I, Forrow L, McCally M, Musil R, 2002: "Projected US Casualties and Destruction of US Medical Services From Attacks by Russian Nuclear Forces," *Medicine and Global Survival*, 7, 68-76.

inject some 150 million tons of soot into the upper atmosphere dropping temperatures around the world an average of 8°C. In the interior regions of North America and Eurasia temperatures would drop 25 to 30°C.^{3,4} In the temperate regions of the Northern Hemisphere there would be two to three years without a single day free of frost — the temperature would drop below freezing for some portion of every day. Under these conditions ecosystems would collapse and food production would halt. The vast majority of the human population would starve and it is possible we could become extinct as a species.

It would not require a full-scale nuclear war between the United States and Russia to cause catastrophic humanitarian impacts around the world. A more limited war between the nuclear superpowers, or a war between smaller nuclear powers, such as India and Pakistan, would also cause catastrophic regional effects, worldwide climate disruption, and staggering numbers of fatalities potentially threatening the survival of human civilization. These enormous global consequences of a limited regional nuclear war are less widely understood than the effects of a larger nuclear war and deserve to be considered in some detail.

In 2007, a study by Toon et al. examined the effects of a 'limited' regional nuclear war, using the example of India and Pakistan and assuming the use of only 100 Hiroshima-sized bombs, or less than 0.03% of the world's nuclear arsenal, targeted on urban areas. They found that up to 21 million people could be killed directly by the explosions, fires, and local radiation and that the conflict would loft up to 6.6 Tg (6.6 teragrams or 6.6 million metric tons) of black carbon aerosol particles into the upper troposphere.⁵

Robock et al. then calculated the effect that this injection of soot would have on global climate assuming a war in South Asia occurring in mid May. Their study employed a conservative figure of only 5 Tg of black carbon particles. They found that, "A global average surface cooling of -1.25°C persists for years, and after a decade the cooling is still -0.50°C. The temperature changes are largest over land. A cooling of several degrees occurs over large areas of North America and Eurasia, including most of the grain-growing regions." In addition the study found significant declines in global precipitation with marked decreases in rainfall in the most important temperate grain growing regions of North America and Eurasia, and a large reduction in the Asian summer monsoon.⁶

Two additional studies, one by Stenke et al, and the other by Mills et al, each using a different climate model have also examined the impact on global climate of this limited nuclear war scenario and they have both found comparable effects^{7,8}

³ Robock A, Oman L, Stenchikov G, 2007: " Nuclear winter revisited with a modern climate model and current nuclear arsenals: Still catastrophic consequences," J. Geophys. Res.,112, D13107

⁴ Toon O, Robock A, Turco R, 2008: "Environmental consequences of nuclear war," Physics Today, 61, No. 12, 37-42

⁵ Toon O, Turco R, Robock A, Bardeen C, Oman L, Stenchikov G, 2007: " Atmospheric effects and societal consequences of regional scale nuclear conflicts and acts of individual nuclear terrorism," Atm. Chem. Phys., 7, 1973-2002.

⁶ Robock A, Oman L, Stenchikov G, Toon O, Bardeen C, Turco R, 2007a: "Climatic consequences of regional nuclear conflicts," Atm. Chem. Phys., 7, 2003-2012.

⁷ <http://www.atmos-chem-phys-discuss.net/13/12089/2013/acpd-13-12089-2013.html>

⁸ Mills M, Toon O, Taylro J, Robock A, 2014: "Multi-decadal global cooling and unprecedented ozone loss following a regional nuclear conflict," *Earth's Future*, 2, 161-176

A number of studies have subsequently attempted to estimate the impact this climate change would have on food production.

Ozdogan et al⁹ examined the impact on corn and soybean production in the US Corn Belt where more than 70% of US grain is produced. The calculated change in crop yield was based on the decline in precipitation, solar radiation, growing season length, and average monthly temperature predicted in Robock's study.

The calculations in this study are probably conservative, as the study did not consider two other environmental factors, which would be expected to produce a further significant decline in yield. It did not factor in the increase in UV light secondary to ozone depletion, and, perhaps more importantly, it did not consider daily temperature extremes, which may lead to complete crop failure.

Despite this conservative bias, the study shows very significant declines in both corn and soybean production. Averaged over 10 years, corn production would decline by 10% at all four sites. But there would be a great deal of variation from year to year, and losses would be most severe in year 5, averaging more than 20%. For soybeans the decline in production would be about 7%. Again the losses would be most severe in year 5, averaging more than 20%.

In a separate study, Xia and Robock²⁰ examined the decline in Chinese middle season rice production in response to this 5 Tg event. This study used a different crop model, which also considered changes in monthly precipitation, solar radiation and temperature. Like Ozdogan's study it did not consider the effect of UV light increases or daily temperature extremes, or the possible decline in available fertilizer, pesticide and gasoline. Again, despite this conservative bias, the study showed a significant decline in Chinese middle season rice production. Averaged over 10 years, the shortfall would be 15.1 million Metric tons per year, about 12% of the total crop. In the case of Chinese rice production the decline would be most severe in the first 3 years.

The impact on rice production was found to vary widely by province. In some areas in the South and East of China, production would actually rise. For example, in Hainan rice yield would increase by 5 to 15% per year.

In other areas to the North and West the decline would be much more severe than the national average. In heavily populated Sichuan the decline would average about 50% over the ten year period and in the first two years after the war it would be greater than 60%, rising to a 90% decrease in the 3rd year. These regional variations would, at the very least, cause severe distribution problems.

In a follow up 2013 study, Xia, Robock and their colleagues looked at the impact of the climate change following limited nuclear war on rice, maize and, wheat production in China.²¹ For this study they used

⁹ Ozdogan, M, Robock A, and Kucharik C, 2013: "Consequences of a regional nuclear conflict for crop production in the Midwestern United States," *Climatic Change*, **116**, 373-387

²⁰ Xia L, Robock A, 2013: "Impacts of a nuclear war in South Asia on rice production in mainland China," *Climatic Change*, **116**, 357-372,

²¹ Xia L, Robock A, Mills, Stenke, Helfand I, 2015: "Decadal reduction of Chinese agriculture after a regional nuclear wa," *Earth's Future*, **3**, 37-48,

the 2007 climate change projections by Robock et al that were used in the earlier studies of US maize and Chinese rice production, and also the subsequent climate projections of Stenke et al and Mills et al. There were some variations in the crop outputs found using the different climate models, but they all showed significant declines in crop size. For maize the average decline was about 16% over a full decade. For middle season rice the projected decline was somewhat larger than in their earlier estimates: 20% for the first 5 years and 17% over the course of 10 years. The most disturbing new projection related to the Chinese winter wheat crop which is usually just a little bit smaller than middle season rice crop. The effect on winter wheat was much more severe, averaging about 39% for the first 5 years and 31% for a full decade. In the first year, the projected decline in winter wheat was more than 50%.

Declines in food production of the magnitude suggested by these studies would have a major impact on human nutrition. As of September 2016 the UN Food and Agriculture Organization estimated that world grain reserves would be 664 million metric tons in 2017. Expressed as days of consumption, this reserve would last for only 92 days.²² Furthermore, the UN Food and Agriculture Organization estimates that in 2016 there were 795 million people in the world who already suffer from malnutrition.²³

Given this precarious situation, even small further declines in food production could have major consequences. The large and protracted declines in agricultural output predicted by Ozdogan and Xia are unprecedented in modern times, and the full extent of their impact on human nutrition are difficult to predict.

Normally a decline in agricultural production affects food consumption by raising the cost of food; the decline in "accessible" food, the amount of food that people can afford to buy, is much greater than the decline in "available" food, the actual agricultural output. The impact of rising food prices is, of course, felt disproportionately by people who are already malnourished precisely because they cannot, at baseline prices, afford to buy enough food.

At the time of the great Bengal famine of 1943, during which three million people died, food production was only 5% less than it had been on average over the preceding five years, and it was actually 13% higher than it had been in 1941 when there was not a famine. But in 1943, after the Japanese occupation of Burma, which had historically exported grain to Bengal, the decline in food production was coupled with panic hoarding and the price of rice increased nearly five fold, making food unaffordable to large numbers of people.²⁴ These two factors, hoarding and the severe increase in rice prices, caused an effective inaccessibility of food far more severe than the actual shortfall in production.

We would have to expect panic on a far greater scale following a nuclear war even if it were a 'limited' regional war, especially as it became clear that there would be significant, sustained agricultural shortfalls over an extended period.

²² <http://www.fao.org/worldfoodsituation/csdb/en/>

²³ <https://www.wfp.org/hunger/stats>

²⁴ Sen A, Poverty and famines. Oxford: Oxford University Press. 1981.

It is probable that there would be hoarding on an international scale as food exporting nations suspended exports in order to assure adequate food supplies for their own populations. In the last decade and a half there have been a number of examples of nations banning grain exports. In September 2002, Canada, faced with a sharp decline in wheat production because of drought conditions, suspended wheat exports for a year. The next year the European Union took similar action, as did Russia. And in August 2004 Vietnam indicated it would not export rice until the following spring.¹⁵ India banned rice exports in November 2007, which, followed by restrictions on rice export in Vietnam, Egypt, and China in January 2008, contributed to historic increases in world rice prices. In 2010, Russia, responding to the severe drought conditions that year again suspended grain exports.¹⁶ In the event of a regional nuclear war, the grain exporting states would be faced with major crop losses and the prospect of bad harvests for the next several years. It is probable that they would take similar action, and refuse to export whatever grain surplus they might have, retaining it instead as a domestic reserve. It is also probable that there would be widespread speculation on agricultural markets.

Even if we do not take into account the way that rising food prices exacerbate the effects of a fall in food production, the declines in available food predicted by Ozdogan and Xia would be devastating.

For the 795 million people who are currently malnourished, the majority of their caloric intake is derived from grain. For example, in Bangladesh the figure is about 78%. We cannot know with certainty that a 10-20% decline in grain production would translate directly into a 10-20% decline in grain consumption for all 795 million. For example, some of the malnourished are subsistence farmers who live in areas where grain production might not decline. But we do know that the chronically malnourished cannot survive a significant, sustained further decline in their caloric intake. With a baseline consumption of 1750 calories per day, even a 10% decline would lead to an additional deficit of 175 calories per day. While many of the malnourished might survive the first year, it is realistic to fear that they would not survive if these conditions persisted for a decade.

The agricultural disruption caused by a limited nuclear war would also pose a threat to the several hundred million people who enjoy adequate nutrition at this time, but who live in countries that are dependent on food imports. The nations of North Africa, home to more than 150 million, people import more than 45% of their food.¹⁷ Malaysia, South Korea, Japan and Taiwan, as well as a number of countries in the Middle East, import 50% or more of their grain.¹⁸ The anticipated suspension of exports from grain growing countries might cause severe effects on nutrition in all of these countries. The wealthier among them might initially be able to obtain grain by bidding up the price on international markets, but as the extent and duration of the crop losses became clear, exporting countries would probably tighten their bans on exports threatening the food supplies of all these importing countries.

¹⁵ Brown L, 2010: *Outgrowing the Earth*. New York: WW Norton & Co.

¹⁶ Khrennikov I, 2010: "Medvedev orders review of Russian grain export ban at harvest end." <http://www.businessweek.com/news/2010-10-04/medvedev-orders-review-of-russia-grain-export-ban-at-harvest-end.html>.

¹⁷ www.ers.usda.gov/publications/gfa16/GFA16CountryTablesNAfrca.xls.

¹⁸ www.iucn.org/themes/wani/eatlas/html/gm19.html.

In addition, there are some 1 billion people in China who have not shared in the economic growth of the last three decades and would have great difficulty buying food given the major short falls in Chinese food production that are projected.

Combined with the 795 million people who are currently malnourished, and the populations of food importing countries, this would place the number of people potentially threatened by famine at well over two billion.

Two other issues need to be considered as well. First, there is a very high likelihood that famine on this scale would lead to major epidemics of infectious diseases. The prolonged cooling and resultant famine in 536-545 AD was accompanied by a major outbreak of plague which developed over the next half century into a global pandemic.¹⁹ The famine of 1816 triggered an epidemic of typhus in Ireland that spread to much of Europe²⁰ and the famine conditions in India that year led to an outbreak of cholera that has been implicated in the first global cholera pandemic.²¹ The well studied Great Bengal Famine of 1943 was associated with major local epidemics of cholera, malaria, smallpox, and dysentery.²²

Despite the advances in medical technology of the last half century, a global famine on the scale anticipated would provide the ideal breeding ground for epidemics involving any or all of these illnesses. In particular, the vast megacities of the developing world, crowded, and often lacking adequate sanitation in the best of times, would almost certainly see major outbreaks of infectious diseases; and illnesses, like plague, which have not been prevalent in recent years might again become major health threats.

Finally we need to consider the immense potential for war and civil conflict that would be created by famine on this scale. Within nations where famine is widespread there would almost certainly be food riots, and competition for limited food resources might well exacerbate ethnic and regional animosities. Among nations, armed conflict is a very real possibility as states dependent on imports attempt to maintain access to food supplies.

It is impossible to estimate the additional global death toll from disease and further warfare that this 'limited regional' nuclear war might cause, but, given the world wide scope of the climate effects, the dead from these causes might well number in the hundreds of millions.

The newly generated data on the decline in agricultural production that would follow a limited, regional nuclear war in South Asia support the concern that more than two billion people would be in danger of

¹⁹ Keys D. Catastrophe. London : Century. 1999.

²⁰ Stommel H. Volcano weather: The story of 1816, the year without a summer. Newport, Rhode Island: Seven Seas Press. 1983.

²¹ Stommel H, Stommel E, 1979: " The year without a summer,". Scientific American. 240:176-186g

²² Sen. op.cit.

starvation. Epidemic disease and further conflict spawned by such a famine would put additional hundreds of millions at risk. Death on this scale would not mean the extinction of our species, but it would almost certainly mean the end of modern industrial civilization. No civilization in human history has withstood a shock of this magnitude and there is no reason to expect that ours would either.

Dear Committee Members,

My name is Molly McGinty and I am the Nuclear Program Assistant for the International Physicians for the Prevention of Nuclear War. I am honored to be here today as a youth representative, but I want you to know that my beliefs do not represent the majority of my friends, former classmates, and other acquaintances. This is not because they hope for a world in which the proliferation of nuclear weapons continues, but rather, they are not aware that we are as close, if not closer, to nuclear war now as we were at the height of the Cold War. In fact, the most recent report by the Bulletin of Atomic Scientists reports that the doomsday clock is at 100 seconds to midnight, which is the closest to nuclear warfare they have ever estimated; a way to warn world leaders and civilians alike.

Youth are taught that the use of nuclear weapons ended World War 2, the former Soviet Union and U.S. had a nuclear arms race, and with the fall of the Berlin Wall, all of that is behind us. Prior to starting my position at IPPNW, I was not aware of the bleak future we are currently facing, I too believed the pretense that this is an issue of the past. It is my job, along with many others in the room, to educate youth on the reality of nuclear weapons in the year of 2020. We deserve the right to know that a "limited" nuclear conflict between India and Pakistan will create world-wide famine. We deserve the right to know that our cities, universities, and banks are investing in these weapons that will inevitably change our world as we currently know it. With all that being said, I am not alone, the next generation is becoming more and more aware of the "hidden" dangers that nuclear weapons pose. And we deserve the right to have faith in our local, state, and federal leaders to do everything in their power to put an end to these weapons of mass destruction.

I am doing my part to educate all people, and specifically the rising generation, on the current dangers of nuclear warfare. As a young person and nuclear disarmament professional, I urge you to pass Resolution 976 and Introduction 1621 to ensure a necessary step forward to shifting the world toward being nuclear free.

It is imperative that youth be aware of the imminent danger that nuclear weapons pose to our future, and, just as importantly, that they know we still have the opportunity and power to shift our future. By passing these pieces of legislation, you are showing me, and countless other youth, whether they know it yet or not, that you are actively invested in our future.

We are prepared to bring progress into this world, but we are going to need to ensure that there is a livable world to bring progress to. On behalf of young people throughout New York and beyond, we thank you in advance for using your platform to take action for our survival.

Thank you.

Good afternoon to members of the Committee on Civil Service and Labor and members of the Committee on Governmental Operations. My name is Emily Rubino, I'm the Director of Policy and Outreach at Peace Action New York State. Please accept this testimony in regards to Res. 976 & INT 1621.

Peace Action's roots date back to 1957, long before I was born, out of the National Committee for Sane Nuclear Policy (SANE) and the Nuclear Freeze Movement. Sixty-three years later, we're still part of the anti-nuclear struggle and working to bring it to the next generation. We currently have 25 campus chapters across the state, with about 7 of those chapters in New York City. Like me, our students were born in a post-Cold War era, not knowing a world in which nuclear weapons do not exist. We will, however, continue to fight for a nuclear-free future. Our students are greatly concerned by nuclear issues and understand both the economic impact, the environmental impact, and the humanitarian impact these weapons have. As the semester is just getting started, our students weren't able to join us here today, but I am here to represent them and their voices and experiences, as well as my own.

When I was in 5th grade, I remember reading the story of Sadako and the thousand paper cranes. Years later while in college with a passion for social justice and a strong desire to change U.S. foreign policy, I began interning at Peace Action New York State. Through what went from a semester-long internship to a full-time organizing position, I have had the opportunity to hear testimony from Japanese and Korean hibakusha, intent on sharing their stories and seeing an end to nuclear weapons in their lifetime. I have had the incredible opportunity to twice visit Hiroshima for the World Conference Against Atomic and Hydrogen bombs, and to walk through the Peace Memorial Museum, where some of the cranes that Sadako folded while in the hospital receiving treatment for leukemia are memorialized next to other mementos documenting the horrific bombings and the days and years that followed. That we even consider possessing and utilizing these weapons is an insult to the memory of those who suffered in these bombings, as well as victims of our nuclear tests. As citizens of the only country to ever use nuclear weapons in combat, we have a unique responsibility to ensure they will never be used again.

I'd like share a quick personal testimony from Carly Brownell, our student organizer at Manhattan College. She writes:

“Nuclear Disarmament is an issue that is very close to my heart because as a child I lived on the Navajo reservation in Shiprock, New Mexico. My mom was a doctor in the Public Health Service and she was stationed there at the local hospital. Where I lived in Shiprock is directly downwind of the Nevada Test Site, where the United States government tested hundreds of nuclear weapons during the 1940s and 1950s, and the radiation still affects people to this day. As a kid I knew lots of people who suffered health defects from the radiation from these tests, and as I got older and learned more about the issue, I realized that I myself also carry this harmful radiation in my body...I have been passionate about this issue for years because I never want anyone else to be in the same situation I am, and so I have done countless class presentations on the subject and will talk about it to anyone who will listen. However, it has always felt so personal that I never thought to get actively involved in campaigns against nuclear weapons... This changed this [past] fall when I learned about the Treaty on the Prohibition of Nuclear Weapons. I urge the City Council to adopt these resolutions.”

This semester, Carly and the Manhattan College chapter are organizing an Anti-Nuclear Weapons Week on campus, to continue to raise awareness of the dangers of nuclear weapons and nuclear testing, and also working to divest Manhattan College from weapons manufacturers. The bills before the City Council today set a powerful example and precedent not just for other cities across the country and world, but for universities as well.

If we ever want to see an end to these horrific weapons, we must stop investing in the companies responsible for manufacturing and “modernizing” them and commit to the Treaty on the Prohibition of Nuclear Weapons.

Thank you.

Written Testimony in Support of Res. No. 976 and Int. No. 1621

Prepared by Justin Werner (ret. Capt. FDNY) and his daughter, Sarah Kenny Werner (WILPF)

We are submitting this joint testimony because we both believe that these bills should be passed. We believe they should be passed for a number of reasons. The destructive capabilities and resultant consequences of a nuclear incident, whether intentional or accidental, are self-evident and would be of catastrophic proportions not only to this city but to this planet. We consider these resolutions, and in particular the creation of an advisory committee, to be requisite first steps in opening a dialogue regarding the dire consequences of nuclear incidents and emphasize the need for further legislative actions specifically designed to address these issues.

One need only to recall the images of 9/11 and its aftermath, of which we are both intimately familiar, to get a profound sense of the type of destructive capacity and death that would result from a nuclear detonation. It is consequential and devastating.

We believe it is our responsibility to do what we can to prevent this from happening. We believe that speaking out and voicing our support for these bills is one way of taking concrete and thoughtful action to ensure that legislative measures addressing nuclear weapons and incidents are passed, to protect our futures and the futures of those to come.

**Int 1621-2019
Res 0976-2019**

**New York City Council
New York, New York**

**January 28, 2020
For: Public Comment**

Public Comments of Dr. Heidi Hutner:

In relation to create a nuclear disarmament and nuclear weapons-free zone Advisory committee; and, Calling on the New York Comptroller to instruct the pension funds of public employees in New York City to divest from and avoid any financial exposure to companies involved in the production and maintenance of nuclear weapons, reaffirming New York City as a Nuclear Weapons Free Zone, and joining ICAN Cities Appeal and calling on the United States to support and join the Treaty on the Prohibition of Nuclear Weapons.

Honorable New York City Councilors, staff and visitors, I thank-you for the opportunity to address introduction 1621-2019 and Resolution 0976-2019.

My name is Dr. Heidi Hutner and I'm a professor at Stony Brook University. I am the former Director of Sustainability Studies and a former Dean in the School of Marine and Atmospheric sciences.

Your legislation promotes world peace. Thank you.

I research, write about, and film stories about nuclear history, with a particular focus on women and gender, racial issues. I came to this work after learning that my own mother was a member of Women Strike for Peace, the activist mother's group, 50,000 of whom protested and rallied to stop atmospheric bomb testing in 1961. Women Strike for Peace was instrumental in establishing the Limited Test Ban Treaty (1963) —signed by President Kennedy, U.K., and U.S.S.R. This treaty effectively put an end to *atmospheric* bomb testing by the U.S. et al. These 50,000 mothers took up the call to stop atmospheric bomb testing when they learned-- from the St. Louis Baby Teeth Survey-- that baby teeth gathered from across the U.S. contained Strontium 90 (the body perceives Strontium 90 to be calcium). The fallout from the Nevada Test site, where 100 bomb tests had been detonated, had traveled far and wide. The mothers rose up and fought back. The U.S. also "test" bombed 67 nuclear weapons in the Marshall Islands. The Marshallese were harmed irreparably. Children the world over have been gravely impacted from this nuclear bomb testing—as fallout spreads.

The story of Women Strike for Peace is instructive on many levels. Citizens the world over have been harmed by nuclear technology, but they have had little to no say in this and many were not and are not informed or warned. Mothers fought back to protect their own in the case of Women Strike for Peace, but this is not always the case and these problems persist the world over. The harm done to communities and the most vulnerable—our children and future generations by nuclear technology—is a part of a bigger story of environmental injustice. I have devoted my life to learning more and to giving voice to the silenced.

What I know from all of my research: nuclear war is a heinous option, and it must never happen. We must do all in our power to de-nuclearize. The fallout and impact of all aspects of the development of nuclear weapons, from mining to bomb building, to the waste produced, to test bombing, to war itself, brings an unacceptable amount of harm to human beings and threatens life on earth at every stage.

You will be receiving testimony from many people about all the reasons nuclear weapons must be abolished.

I wish to express particular concern for women, children, indigenous and all people of color—specifically-- as they suffer disproportionately from the nuclear weapons system and they have had the least voice in this story. Historically and today, this is a masculinized and violent system, dominated by men. So, those most harmed have the least power in all aspect of nuclear policy, design, and implementation. Indeed, the whole weapons' system is bound up in white patriarchal violence—it is based on the exploitation of the indigenous and women.

Important and startling facts that must be considered—based on the **Beir VII** report:

- *There is no safe dose of radiation.* –Dr. John Gofman. *Scientist, Manhattan Project.*
- When exposed to the same dose of ionizing radiation: Women are twice as likely to get cancer and nearly twice as likely to die of that cancer, as adult white men.
- Children and little girls most of all, are most vulnerable to radiation exposures.
- Girls are 7x or more likely to get cancer when exposed to ionizing radiation as adult men.
- Safety standards are for the most part based on a white adult male body.
- Fetuses exposed to a single x-ray in the womb—have double the chance of developing cancer as children. This is a single x-ray! Children living in proximity to uranium mining, and contamination from weapons development and detonation, are exposed to far higher doses.
- Indigenous people whose grandparents were uranium miners and now live in communities where uranium mining remains and pollutes are born with uranium in their bodies.
- Ionizing Radiation causes mutagenic (multi-generational) and long-term harm to all life.

Thank you for your time and service.

Sincerely yours,

Dr. Heidi Hutner

English, Sustainability Studies, Women's and Gender Studies

Associate Professor, writer, filmmaker

Stony Brook University

Stony Brook, NY 11795



International Campaign to
Abolish Nuclear Weapons

2 Place de Cornavin
1201, Genève, Switzerland
+41 22 788 20 63
icanw.org

Committee on Governmental Operations
New York City Council
City Hall
New York, New York 10007
United States

28 January 2020

To the Committee on Governmental Operations:

As Executive Director of the 2017 Nobel Peace Prize Laureate, the International Campaign to Abolish Nuclear Weapons (ICAN), I would like to express my full support for Res. No. 976 and Int. No. 1621.

New York has a long history of nuclear disarmament activism, as documented in a recent paper by Pace University Professor Matthew Bolton.[i] New York is one of many cities in the United States to advocate for nuclear disarmament. Twelve other U.S. cities have joined ICAN's Cities Appeal to call on the U.S. government to join the Treaty on the Prohibition of Nuclear Weapons, including the nation's capital. Three states – New Jersey, Oregon and California – have also endorsed the TPNW. Nearly two dozen federal and local representatives from around the country have endorsed ICAN's Parliamentary Pledge to call on the U.S. government to sign and ratify the TPNW.

But why is it so important for cities to speak up in support of a treaty banning nuclear weapons?

The risk of a nightmare scenario occurring is increasing at a terrifying pace. In addition to the status quo of unacceptable nuclear use risk, experts are raising concerns about increasing risks of nuclear weapons use posed by emerging technology including artificial intelligence and advanced cyber operations.[ii] The Doomsday Clock is now set to an unprecedented 100 seconds to midnight, due in large part to the rising risks of the use of nuclear weapons and the ripping up of existing arms control treaties and agreements.

In a nuclear war, New York City would likely be a target.



**International Campaign to
Abolish Nuclear Weapons**

2 Place de Cornavin
1201, Genève, Switzerland
+41 22 788 20 63
icanw.org

A single nuclear weapon can destroy a city and kill most of its people. Several nuclear explosions over modern cities would kill tens of millions of people. Casualties from a major nuclear war between the United States and Russia would reach hundreds of millions.

It takes around ten seconds for the fireball from a nuclear explosion to reach its maximum size. A nuclear explosion releases vast amounts of energy in the form of blast, heat and radiation. An enormous shockwave reaches speeds of many hundreds of kilometres an hour. The blast kills people close to ground zero, and causes lung injuries, ear damage and internal bleeding further away. People sustain injuries from collapsing buildings and flying objects. Thermal radiation is so intense that almost everything close to ground zero is vaporized. The extreme heat causes severe burns and ignites fires over a large area, which coalesce into a giant firestorm. Even people in underground shelters face likely death due to a lack of oxygen and carbon monoxide poisoning.

Nuclear weapons produce ionizing radiation, which kills or sickens those exposed, contaminates the environment, and has long-term health consequences, including cancer and genetic damage. Their widespread use in atmospheric testing has caused grave long-term consequences. Physicians project that some 2.4 million people worldwide will eventually die from cancers due to atmospheric nuclear tests conducted between 1945 and 1980.

The use of less than one percent of the nuclear weapons in the world could disrupt the global climate and threaten as many as two billion people with starvation in a nuclear famine in the long-term. The thousands of nuclear weapons possessed by the United States and Russia could bring about a nuclear winter, destroying the essential ecosystems on which all life depends.

Physicians and first responders would be unable to work in devastated, radioactively contaminated areas. Even a single nuclear detonation in a modern city would strain existing disaster relief resources to the breaking point; a nuclear war would overwhelm any relief system we could build in advance. Displaced populations from a nuclear war will produce a refugee crisis that is orders of magnitude larger than any we have ever experienced.

This is why the TPNW is so important – and why cities and representatives around the world are speaking out to support it. The Treaty on the Prohibition of Nuclear Weapons is the first global legal prohibition of nuclear weapons. It represents the will of the world's majority against the feeble arguments of a handful of nuclear-armed countries. Today, the treaty has 80 signatory states and 35 states-parties. It enters into force when 50 countries ratify it.



**International Campaign to
Abolish Nuclear Weapons**

2 Place de Cornavin
1201, Genève, Switzerland
+41 22 788 20 63
icanw.org

Prior to the treaty's adoption, nuclear weapons were the only weapons of mass destruction not subject to a comprehensive ban, despite their catastrophic, widespread and persistent humanitarian and environmental consequences. The new agreement fills a significant gap in international law.

As cities are the main targets of nuclear weapons, cities have a special responsibility to their constituents to speak out against any role for nuclear weapons in national security doctrines. The pressure from the grassroots, catalyzed by city governments, can contribute directly significantly to the success of the TPNW.

Cities are champions in challenging the world's most urgent existential issues. Just like with nuclear weapons, climate change is forecasted to impact cities especially hard. This has motivated cities to take action and we are seeing the establishment of new coalitions of cities across the world to deliver the goals of the Paris Agreement at the local level. This approach also underpins the ICAN Cities Appeal, and is strongly reflected by Res. No. 976 and Int. No. 1621.

Both are clear examples of the concrete steps cities can take to drive progress for the elimination of nuclear weapons. ICAN endorses the establishment of an advisory committee to examine nuclear disarmament, as proposed by Int. No. 1621, and the call in Res. No. 976 for the New York City Comptroller to instruct the pension funds of public employees in New York City to divest from and avoid any financial exposure to companies involved in the production and maintenance of nuclear weapons. These proposals would be decisive contributions to the stigmatization of nuclear weapons and would bolster efforts on the divestment of nuclear weapons by financial institutions as a major contribution in the push for nuclear disarmament.

It is vital that governments committed to nuclear disarmament and a rules-based world order work to strengthen the nuclear taboo by joining the TPNW. Nuclear weapons serve no legitimate military or strategic purpose and this new instrument, through its stigmatizing normative effect, offers the best hope of ending decades of deadlock in disarmament and moving the world towards the elimination of nuclear weapons.

City governments form a close and active link with their constituents and local social movements. An international coalition of cities and civil society can therefore play a game-changing role in breaking the unacceptable status quo in nuclear weapons policy, taking a decisive step towards elimination.



International Campaign to
Abolish Nuclear Weapons

2 Place de Cornavin
1201, Genève, Switzerland
+41 22 788 20 63
icanw.org

New York City, as an international city that is home to UN Headquarters and millions of people, cannot afford to stay on the sidelines when it comes to banning nuclear weapons. The New York City Council should pass Res. No. 976 and Int. No. 1621 for the safety and security of the city and the planet.

Sincerely,

A handwritten signature in black ink, appearing to read "BF", is positioned above the typed name of the signatory.

Beatrice Fihn
Executive Director
International Campaign to Abolish Nuclear Weapons

[i] Matthew Bolton, “From Manhattan Project to Nuclear Free: New York City’s Policy and Practice on Nuclear Weapons,” Pace University, December 2019.

[ii] Vincent Boulanin, “The Impact of Artificial Intelligence on Strategic Stability and Nuclear Risk,” Stockholm International Peace Research Institute, May 2019.



S. Bryn Austin, Sc.D.
Professor
Boston Children's Hospital
Division of Adolescent/Young Adult Medicine
333 Longwood Avenue, Boston, MA 02115
phone 617-355-8194 | fax 617-730-0185
bryn.austin@childrens.harvard.edu



TESTIMONY

**Submitted to the New York City Council Committee on Health in support of
Int. No. 1485, Sponsored by Councilor Mark Levine,
A Local Law to amend the administrative code of the city of New York, in relation
to restricting the sale of senna- and saffron-based products**

Submitted by S. Bryn Austin, ScD
Professor, Harvard T.H. Chan School of Public Health,
Dept. of Social & Behavioral Sciences
Professor, Harvard Medical School, Dept. of Pediatrics
Director, Strategic Training Initiative for the Prevention of Eating Disorders

Jan. 27, 2020

Dear Esteemed Members of the New York City Council Committee on Health:

I am Professor of Pediatrics at Harvard Medical School and Professor in Social and Behavioral Sciences at the Harvard T.H. Chan School of Public Health. I am also the Director of the Strategic Training Initiative for the Prevention of Eating Disorders based at the Harvard T.H. Chan School of Public Health and Boston Children's Hospital. I would like to share research supporting NYC bill 1485, "A Local Law to amend the administrative code of the city of New York, in relation to restricting the sale of senna- and saffron-based products," filed by Councilor Mark Levine, and to strongly urge you to vote in favor of this important bill.

Senna is an herbal laxative, and saffron is an herbal stimulant that often are used in dietary supplements sold to consumers with claims of weight loss. Laxatives sold as over-the-counter drugs also often contain senna. Although most consumers believe that the fact that senna and saffron are herbs makes them a safe and effective way to manage weight, this misconception could not be further from the truth. Weight-loss supplements and over-the-counter laxatives containing senna, saffron, and other harmful ingredients have been linked with a wide range of serious health consequences, including: chronic diarrhea, constipation, and bowel dysfunction, dehydration, hypokalemia, metabolic

acidosis, and other electrolyte imbalances, cardiac arrhythmia, hemorrhagic and ischemic stroke, hepatic and renal failure, and death.(Steffen et al. 2007; Roerig et al. 2003; Blanck et al. 2007; Schneider 2003; Copeland 1994; Tozzi et al. 2006; Vanderperren et al. 2005) In addition, in a study conducted by my Harvard-based research team with data from over 10,000 adolescent and young adult women followed over a 15-year period found that those who used over-the-counter diet pills or laxatives for weight control were six times more likely than peers who did not use these products to be diagnosed with an eating disorder within one to three years of beginning use of these products.(Levinson et al. 2020) Eating disorders have among the highest mortality rate of any psychiatric disorder. (Arcelus et al. 2011)

Weight-loss dietary supplements, many of which contain senna or saffron extract, make up over \$2 billion of the overall \$40 billion a year U.S. market in dietary supplements. (Nutrition Business Journal 2018) We have all seen these products, which are commonly used by adults and children, in pharmacies, grocery stores, health food stores, and other retailers. What many people do not know is that dietary supplements are not prescreened for safety or efficacy by the U.S. Food and Drug Administration (FDA) before they enter the market. In 1994, Congress passed the Dietary Supplement Health and Education Act, which prohibits the FDA from prescreening dietary supplements before they enter the market. Instead, manufacturers are expected to adhere to the honor system and self-assess the safety of their own products.(Pomeranz et al. 2015)

In the absence of FDA prescreening, many dietary supplements on the consumer market, especially those sold for weight loss, have been found to be adulterated with prescription pharmaceuticals, banned substances, heavy metals, pesticides, and other dangerous chemicals.(Cohen 2014; Park et al. 2013; FDA 2017) A study led by the FDA tested a small selection of the tens of thousands of dietary supplements on the market and found hundreds of those sold for weight loss to be contaminated with pharmaceutical drugs and banned chemicals, which often are associated with serious health consequences.(FDA 2017)

Weight-loss dietary supplements have been linked with stroke, liver and other organ damage, sometimes necessitating organ transplant or resulting in death.(Cohen 2014) In fact, the rate of liver failure has risen 185% in the past decade,(Cohen 2014) and 16% of serious drug-induced liver injury cases in the United States are attributed to dietary supplement use, a high proportion of those being those sold for weight loss.(Navarro et al. 2014) The FDA relies on the report of serious adverse incidents such as injury or fatality to find out after the fact when dietary supplements have caused harm to consumers.(Pomeranz et al. 2015) Since consumers do not always associate health problems with dietary supplements and commonly believe that herbal ingredients such as senna or saffron are safe, they often do not reveal to their healthcare providers that they are using these products. As a result, the true number of adverse incidents due to dietary supplements sold for weight loss and over-the-counter laxatives containing senna is likely far higher than the number reported to the FDA.

A recent national study by the Centers for Disease Control and Prevention estimated that dietary supplements result in over 23,000 emergency department visits every year, and weight-loss supplements in particular account for over a quarter of these visits.(Geller et al. 2015) Which age group is hit hardest by the dangers of the weight-loss supplements? Young adults ages 20-34 years. And for young people ages 5-19 years, weight-loss supplements make up the largest single type sending them to the emergency department too. Another recent study, this one of reports to poison control centers nationwide, documented nearly 275,000 reports related to dietary supplement use from the period from 2000 to 2012; the study also found that reports of supplements to poison control centers increased 50% between the years of 2005 to 2012.(Rao et al. 2017) Finally, a study published last year in *Journal of Adolescent Health*, a leading international journal in adolescent medicine, conducted by my Harvard-based research team using the FDA's Adverse Event Reporting System database, we found that youth using weight-loss supplements were nearly three times more likely than those using ordinary vitamins to experience severe medical harm, including hospitalization, disability, and even death.(Or et al. 2019)

In 2012, 17-year-old Christopher Herrera was hospitalized in Texas with severe liver damage after using a concentrated green tea extract – a known liver toxin – purchased at a nutrition store to lose weight. Doctors recalled that when he arrived, his chest, face, and eyes were “almost highlighter yellow” and the damage was so severe that Christopher was put on the waiting list for a liver transplant. Although young Christopher survived this near-fatal poisoning by a weight-loss supplement, he can no longer spend much time outdoors or exert himself through sports or exercise.(O'Connor 2013) The following year, the Hawaii Department of Health, U.S. Centers for Disease Control and Prevention (CDC), and FDA conducted a public health investigation when a number of otherwise healthy patients reported severe acute hepatitis and liver failure. The investigation identified 29 cases of hepatitis and found that 24 (83%) of these patients reported using OxyELITE Pro, a dietary supplement marketed for weight loss and muscle building, during the previous two months.(Park et al. 2013)

And finally, just a few weeks ago, the tragic story of 23-year-old Emily Goss of Amarillo, Texas, made headlines across the nation. She had been taking weight-loss supplements for several months leading up to Christmas of 2019, probably, like most people who use these products, assuming they were a safe way to shed a few pounds. Instead, she ended up with acute liver failure within just months of starting to use the supplement and had to undergo a liver transplant late last year. While doctors were able to prevent her death, the previously healthy young woman now faces of lifetime medications and medical management to keep their body from rejecting the new organ.(Castro 2020) These are just three of the many examples of serious health consequences linked with weight-loss supplements.(Cohen 2014; Park et al. 2013; FDA 2017)

Weight-loss dietary supplements and over-the-counter laxatives are not recommended by reputable physicians for healthy weight management. In fact, in 2016, the American

Academy of Pediatrics issued a report strongly cautioning against their use by teens.(Golden et al. 2016) Despite these warnings, we have an industry rife with unscrupulous manufacturers that have repeatedly failed to meet their legal obligation to ensure the safety of their products before they are placed on the consumer market. Knowing what we know today about the repeated violations of trust on the part of these manufacturers, how can we continue to let them and the retailers who profit from their products play Russian roulette with the children of New York City?

It is clear that action must be taken to protect New York City youth and other vulnerable consumers. In 2015, the New York State Attorney General, along with 13 other state attorneys general, signed a letter urging the U.S. Congress to increase regulation of and investigation into the dietary supplements industry.(NBC New York 2015) Now five years later, this issue is as urgent as it was then and needs your serious attention. City governments have the right and responsibility to act.(Pomeranz et al. 2015) NYC bill 1485 gives New York City lawmakers the opportunity to take action to protect children and other vulnerable consumers in the municipality from these harmful products. This bill would ban sale of products containing senna or saffron, many that are sold with deceptive promises of healthy weight loss, to minors younger than 18 years old. We must act now to put limits on the sale of these dangerous products to protect the children of New York City. I urge you to vote in support of NYC bill 1485. Thank you for your leadership on this important issue.

Sincerely,

A handwritten signature in black ink, appearing to read 'S. Bryn Austin', written in a cursive style.

S. Bryn Austin, ScD
Professor
Harvard Medical School
Harvard T.H. Chan School of Public Health

Citations

- Arcelus J, Mitchell AJ, Wales J, Nielsen S. Mortality rates in patients with anorexia nervosa and other eating disorders: A meta-analysis of 36 studies. *Arch. Gen. Psychiatry*. 2011;68(7):724-731.
- Castro B. Doctors believe health supplement led to 23-year-olds acute liver failure. NBC Dallas-Fortworth, 2020. Accessed Jan. 27, 2020: <https://www.nbcdfw.com/news/health/doctors-believe-health-supplement-led-to-23-year-olds-acute-liver-failure/2284635/>
- Blanck HM, Serdula MK, Gillespie C, Galuska DA, Sharpe PA, Conway JM, et al. Use of nonprescription dietary supplements for weight loss is common among Americans. *Journal of the American Dietetic Association* 2007;107:441-447.
- Cohen P. How America's flawed supplement law creates the mirage of weight loss cures. *Harvard Public Health Review* 2014;2:1-4.
- Copeland PM. Renal failure associated with laxative abuse. *Psychotherapy and Psychosomatics* 1994;62(3-4):200-202.
- Geller AI, Shehab N, Weidle NJ, et al. Emergency department visits for adverse events related to dietary supplements. *N Engl J Med*. 2015;373(16):1531-1540.
- Golden NH, Schneider M, Wood C, American Academy of Pediatrics. Preventing obesity and eating disorders in adolescents. *Pediatrics*. 2016;138(3):e1-e10.
- Navarro VJ, Barnhart H, Bonkovsky HL, et al. Liver injury from herbals and dietary supplements in the U.S. Drug-Induced Liver Injury Network. *Hepatology*. 2014;60:1399–1408.
- O'Connor A. Spike in harm to liver is tied to dietary aids. *New York Times*. Dec. 21, 2013.
- Or F, Kim Y, Simms J, Austin SB. Taking stock of dietary supplements' harmful effects on children, adolescents, and young adults. *J Adolesc Health* 2019; 65(4): 455-461.
- Levinson JA, Sarda V, Sonnevile K, Calzo JP, Ambwani S, Austin SB. Diet pill and laxative use for weight control and subsequent incident eating disorder in U.S. young women (2001-2016). *Am J Public Health* 2020; 110(1): 109-111.
- NBC New York. 14 attorneys general seek congressional probe of herbal supplement industry after New York investigation. 2015. <http://www.nbcnewyork.com/news/local/Herbal-Supplement-Warning->

[Congressional-Probe-New-York-Ingredients-Schneiderman-Consumer-Health-298522901.html](https://www.congress.gov/116/legislation/298522901/html). Accessed Jan. 27, 2020.

Nutrition Business Journal. *NBJ's Supplement Business Report 2018*. 2018.
<https://www.nutritionbusinessjournal.com/reports/2018-nbj-supplement-business-report>. Accessed Jan. 27, 2010.

Park S, Viray M, Johnston D, Taylor E. Notes from the field: Acute hepatitis and liver failure following the use of a dietary supplement intended for weight loss or muscle building — May–October 2013. *Morbidity and Mortality Weekly Report, Centers for Disease Control and Prevention*. 2013;Oct. 11, 2013.

Pomeranz JL, Barbosa G, Killian C, Austin SB. The dangerous mix of adolescents and dietary supplements for weight loss and muscle building: Legal strategies for state action. *J Public Health Manag Pract*. 2015;21(5):496-503.

Rao N, Spiller HA, Hodges NL, et al. An increase in dietary supplement exposures reported to US poison control centers. *J Med Toxicology*. 2017;13(227-237).

Roerig JL, Mitchell JE, de Zwaan M, Wonderlich SA, Kamran S, Engbloom S, et al. The eating disorders medicine cabinet revisited: A clinician's guide to appetite suppressants and diuretics. *International Journal of Eating Disorders* 2003;33:443-457.

Schneider M. Bulimia nervosa and binge-eating disorder in adolescents. *Adolescent Medicine: State of the Art Reviews* 2003;14(1):119-131.

Steffen KJ, Mitchell JE, Roerig JL, Lancaster KL. The eating disorders medicine cabinet revisited: A clinician's guide to ipecac and laxatives. *International Journal of Eating Disorders* 2007;40:360-368.

Tozzi T, Thornton LM, Mitchell J, Fichter MM, Klump KL, Lilenfeld LR, et al. Features associated with laxative abuse in individuals with eating disorders. *Psychosomatic Medicine* 2006;68(3):470-477.

U.S. Food and Drug Administration. *Tainted products marketed as dietary supplements_CDER*. 2017.

Vanderperren B, Rizzo M, Angenot L, Haufroid V, Jadoul M, Hantson P. Acute liver failure with renal impairment related to the abuse of senna anthraquinone glycosides. *Annals of Pharmacotherapy* 2005;39(7-8):1353-1357.

Hearing of New York City Council Committee on Governmental
Operations and Committee on Civil Service and Labor
Proposed Resolution (Res 0976-2019) and Bill (Int 1621-2019)
Strengthening New York City's Status as a Nuclear Weapons-Free Zone

January 28, 2020

Written Statement of Dr. John Burroughs, Executive Director, Lawyers
Committee on Nuclear Policy, New York City
(johnburroughs@lcnp.org)

My name is John Burroughs. I am the Executive Director of the New York City-based Lawyers Committee on Nuclear Policy, and a resident of this city. The Lawyers Committee on Nuclear Policy serves as the United Nations office of the International Association of Lawyers Against Nuclear Arms.

In the 1990s, I lived in Oakland, California, and worked as an attorney to defend and support the City of Oakland's adoption of an ordinance that among other things required divestment from nuclear weapons producers. I am delighted to be able now to support New York City's adoption of a bill and resolution strengthening its status as a nuclear-weapons free zone, including divestment from nuclear weapons makers.

At the outset, I want to affirm that the Lawyers Committee on Nuclear Policy supports the adoption of the proposed resolution and bill and offers our assistance in development and implementation of the measures. Furthermore, we are prepared to work to engage the New York City legal community in implementation and in related activities to make New York City visible in reducing and eliminating nuclear weapons worldwide. Board members and I have in the past worked through the New York City Bar Association on nuclear arms control and disarmament.

I will focus on the international law supporting adoption of the measures before the Council.

Nuclear disarmament has been on the international agenda since the very first United Nations General Assembly resolution in 1946. Some notable developments have taken place in the last 25 years.

In 1995, I had the privilege of serving as non-governmental legal coordinator at the hearings before the International Court of Justice on the legality of threat or use of nuclear weapons. In its 1996 Advisory Opinion, the Court observed that under the

fundamental international humanitarian law principle of distinction, states must “never use weapons that are incapable of distinguishing between civilian and military targets.” The Court found that in “view of the unique characteristics of nuclear weapons,” their use “seems scarcely reconcilable with respect” for that requirement. In a conclusion, the Court held that the threat or use of nuclear weapons is “generally” contrary to international law but also found that it could not assess all circumstances.

In another significant conclusion, largely interpreting Article VI of the Nuclear Non-Proliferation Treaty, the Court unanimously concluded that there “exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control.” That conclusion has been very widely accepted in governmental and non-governmental quarters alike, though not, at least in its precise wording, by the United States and some other nuclear-armed states.

Since 1996, the understanding of the legal status of threat and use of nuclear arms has evolved beyond the Court’s already powerful finding. The Final Document of the 2010 Nuclear Non-Proliferation Treaty Review Conference includes this provision: “The Conference expresses its deep concern at the catastrophic humanitarian consequences of any use of nuclear weapons and reaffirms the need for all States at all times to comply with applicable international law, including international humanitarian law.” The implication that nuclear weapons cannot be used in accordance with law was clear enough.

Around the same time, the International Committee of the Red Cross and the International Red Cross and Red Crescent Movement began to express moral and legal condemnation of the use of nuclear weapons in strong terms. In its first 2011 resolution, the Council of Delegates of the Movement “finds it difficult to envisage how any use of nuclear weapons could be compatible with the rules of international humanitarian law, in particular the rules of distinction, precaution and proportionality,” and “appeals to all States - to ensure that nuclear weapons are never again used, regardless of their views on the legality of such weapons”.

Then in 2017, 122 states negotiated the Treaty on the Prohibition of Nuclear Weapons. Its preamble is a powerful statement of the moral, legal, and political norms motivating the non-use and abolition of nuclear arms. The treaty will enter into force when 50 states have ratified it; as of this date 35 have done so. Just as an agreement negotiated by 122 states, the treaty reinforces and develops existing international law; the effect will be stronger still when it enters into force, and the effect will be further strengthened when it gains a large number of states parties.

As to law, the preamble states that the states parties base themselves “on the principles and rules of international humanitarian law, in particular the principle that the right of

parties to an armed conflict to choose methods or means of warfare is not unlimited, the rule of distinction, the prohibition against indiscriminate attacks, the rules on proportionality and precautions in attack, the prohibition on the use of weapons of a nature to cause superfluous injury or unnecessary suffering, and the rules for the protection of the natural environment.” The preamble then states: “*Considering* that any use of nuclear weapons would be contrary to the rules of international law applicable in armed conflict, in particular the principles and rules of international humanitarian law.”

The preamble also reaffirms that “any use of nuclear weapons would also be abhorrent to the principles of humanity and the dictates of public conscience.” Those are factors with legal value in international law.

The final development I will mention is the October 2018 General Comment (CCPR/C/GC/369) on the right to life by the UN Human Rights Committee, a body established by the International Covenant on Civil and Political Rights, a major treaty with all of the nuclear powers except China as states parties. Paragraph 66 of the comment states in part:

The threat or use of weapons of mass destruction, in particular nuclear weapons, which are indiscriminate in effect and are of a nature to cause destruction of human life on a catastrophic scale is incompatible with respect for the right to life and may amount to a crime under international law.

As you can see, it has been a long road from the first UN General Assembly resolution, and there is still far to travel. In its 1983 resolution no. 364 proclaiming New York City a nuclear weapons-free zone, the New York City Council rightly observed that “common discourse treats nuclear weapons and nuclear war as wagering chips for international politics instead of as the instruments of the most horrible death for which they were designed and intended.” Over the decades since then nuclear arms have gone from being a phenomenon thought of as somehow outside the realm of law to a military technology that like others is considered subject to the requirements of law. It is now widely accepted – though not yet by the nuclear powers - that use and threatened use of nuclear arms is incompatible with the requirements of the law of armed conflict, in particular international humanitarian law, and with international law generally, including the UN Charter.

The measures under consideration for adoption by the Council would be a major step to advance the understanding that nuclear arms are morally and legally indefensible, and that the abolition of nuclear weapons is key to construction of a world fit for our generation and all future generations and indeed all life.

War Resisters League
168 Canal St #600
New York, NY 10013

Jan 28th NYC Council Public Hearing, Re: Res. 0976 and INT. 1621

Dear Esteemed New York City Council,

As the oldest secular antiwar organization in the United States, the War Resisters League has organized for decades against nuclear weapons as tools of endless war.

In the early 1950s, as the Cold War was picking up steam, members of WRL and the Catholic Worker refused to participate in mandated “civil defense drills” in New York City, when the public would be whipped into frenzy to take mock shelter in basements and subway stations as practice for surviving an atomic bomb. They were arrested and jailed for taking a stand against fear-mongering, but the city eventually ceased holding the drills. In 1976, WRL organized the Continental Walk for Disarmament and Social Justice, and continued to call for unilateral U.S. nuclear disarmament at a time when that demand was being dismissed by other antiwar organizers as too pie-in-the-sky. Our commitment to this vision set the stage for 1982, when WRL initiated a “Blockade the Bombmakers” series of mass actions in NYC at the U.N. Missions of the five nuclear powers at the time. It was day one of the United Nations’ Special Session on Disarmament, and nearly 1,700 people were arrested in the blockades, which followed a march of an estimated 1 million.

We understand that nuclear weapons were designed to wipe out human life, and to destroy the world many times over. Today, instead of five nuclear powers, there are nine. Though all of us continue to live under the existential threat of global annihilation by accidental or deliberate nuclear strike, Black, Indigenous, and non-white communities on Turtle Island and globally are affected daily by nuclear weapons – displaced from their lands and poisoned by decades of nuclear testing, mining, and dumping of toxic, radioactive waste.

It is crucial that our institutions remove their financial and social support for a war-making industry that has caused uncountable harms. Therefore, we support this resolution to instruct the pension funds of public employees in NYC to divest from the companies who profit from the production and maintenance of nuclear weapons, and commend city council for standing up to the grave threat of nuclear warfare.

However, in our 96 years of organizing against war, we know that the only way to truly eliminate the threats posed by nuclear weapons is to end all wars. The only way to end all wars is to address their root causes, which include racism, sexism, and all forms of exploitation. These systems threaten humanity’s common desire to live well and without fear, and we see them at play in the daily lives of all New Yorkers. We see the root causes of war thriving in a city that chooses to spend billions on building new jails and on cracking down on fare evasion instead of on NYCHA, harm reduction programs, and

poverty benefits. The systems that wage war across the world – and the systems that police, harass, surveil, and detain people in our city – are the same.

This resolution affirms that (1) nuclear weapons do not keep us safe, (2) that the suffering of those harmed by their use, development and testing is unacceptable, and (3) that to be in solidarity with these communities means refusing to comply with and financially benefit from an industry that threatens their lives. Supporting divestment from nuclear weapons for the well-being and future of humanity necessarily means supporting an end to jails and jail expansion. It is morally contradictory to support this resolution and to also fund and advocate for projects that criminalize people for being Black, brown, queer and trans, and poor. It is essential to fight for people's lives in every arena.

As a city council, it is your responsibility to vote *consistently* for the safety and dignity of New Yorkers and those with whom we share this earth. We celebrate that a veto-proof majority supports this powerful and needed resolution, and we urge you to take a stand against violence in *all* its forms.

Yuni Chang
War Resisters League Field Organizer
1774A Pacific St #1, Brooklyn, NY 11233

**Peace Boat US - Statement, July 28, 2020 NY City Council Hearing
(Legislation Resolution 0976-2019 on nuclear disarmament; and INT1621-2019 bill)**

Attn: Representatives of the Committee on Governmental Operations and the Committee on Civil Service and Labor of the New York City Council

Dear Council and Committee members,

My name is Emilie McGlone, Director of Peace Boat US, an organization working in collaboration with the United Nations and civil society towards peace and sustainability, with a strong commitment to disarmament education. I am honored to speak to you today and share my support for these proposals to divest from and avoid any financial exposure to companies involved in the production and maintenance of nuclear weapons, reaffirming New York City as a Nuclear Weapons Free Zone and supporting the Treaty on the Prohibition of Nuclear Weapons.

As an international NGO, we fully support **RES 0976-2019 and INT1621-2019** for it is not only a city-wide declaration, but can also serve as an example for a nuclear-free world. With our office located in Manhattan, we are in favor of this nuclear disarmament legislation to let our *home, New York City*, shine as a role model for other major cities around the globe.

Peace Boat is also a member of the international steering group of ICAN - the International Campaign to Abolish Nuclear Weapons, which was awarded the 2017 Nobel Peace Prize. We work together with the Hibakusha, atomic bomb survivors from Hiroshima and Nagasaki onboard our Global Voyages to raise awareness of the humanitarian consequences of nuclear weapons.

As we know, the atomic bombings in Japan killed more than 200,000 people in 1945. Even today, the survivors continue to suffer diseases and health issues associated with exposure to ionizing radiation - nearly 75 years later. Given that New York City started the nuclear age as a key node in the Manhattan Project, which developed the atomic bombs, we have a responsibility to work towards the total elimination of these weapons and to maintain our status as a nuclear weapon free zone.

Together with our partners here today, we support our Council Members, and request that you “align our city’s financial power with our progressive values” and direct New York City’s pension funds to divest from companies profiting from nuclear weapons. If New York City Council would pass the legislation before you, it would enhance our role as a progressive capital, sending a signal to the world that we will take action for nuclear disarmament. Thank you for your consideration and the opportunity to support these historic resolutions for our city.

Emilie McGlone | January 28, 2020



My name is Raymond Black. I am an attorney and activist with the group Rise and Resist, which has endorsed this legislation and co-sponsored today's earlier press conference. I have also been a New Yorker for the past 30 years. I ask, no I implore, that the New York City Council pass both these important bills and not allow them to languish in Committee. We must do everything that we can as New Yorkers to stop the spread of nuclear weapons on our planet. We owe the world a special responsibility since the atomic bomb began here with the Manhattan Project. If a nuclear bomb were to explode in New York City on purpose or by accident it would mean 8 million people dead, 8 million lives extinguished, all the vegetation, all the animals, all the art, all the architecture gone. Forever. The great story of New York would be over. Human beings have continuously inhabited this island on which we are all gathered today for 3,000 years. If a nuclear weapon explodes in New York City it will be as if those 3,000 years never happened. And the nuclear fallout and carcinogens would remain in the air, the water, the soil, for thousands of years, longer than our 3,000 year history, and the entire region would remain uninhabitable, possibly forever. The only issue more crucial than combatting climate change for the survival of human beings on our dear, fragile planet is the abolition of all nuclear weapons. As a member of the activist community here in New York City I promise you we will be back on this issue if that is what it takes to get these bills passed.

Raymond Black

rdiskinblack@gmail.com

Written Testimony on Res. 976 & INT 1621

January 28, 2020

Dear Members of the New York City Council,

I am honored to submit this testimony in regards to Res. 976 & INT 1621.

My name is Sally Jones. I am the Chair of Peace Action Fund of New York State and I submit this testimony on behalf of Peace Action, an organization that began in New York City in 1957 as the Committee for a SANE Nuclear Policy. I volunteer at Peace Action New York State, a Peace Action affiliate, in an office just a few minutes walk away from City Hall on Fulton Street. My local chapter, Peace Action of Staten Island, holds its meetings just a ferry ride away across the harbor. I have been involved with Peace Action since 2002, when I was alarmed that our country was planning to invade Iraq. Although I am not a lifelong nuclear abolition activist like many others who will testify before you today, I am like most New Yorkers. I want to live in a nuclear weapons free world. And through my involvement with Peace Action over the last 18 years, I have learned how present the danger is of nuclear war and nuclear accident, and how much damage just the building of nuclear weapons is doing around the globe. This damage extends to my hometown of Staten Island, where tons of uranium was stored under the Bayonne Bridge during World War II, in a site which has still not been properly remediated.

This is a significant day for Peace Action members and we are thankful to the organizers who worked so hard on this legislation and the City Councilmembers who made these hearings possible by being co-sponsors. A special thank you goes out to my own representative, Councilmember Debi Rose of Staten Island.

When New York City takes a stand, as it is about to do on nuclear weapons, the world pays attention. We as New Yorkers have a special relationship to the bomb and a special responsibility to hold our city, our state, and our country accountable. The Manhattan Project began here; we stored the uranium used on the bomb that fell on Hiroshima; and we are a target city for nuclear attack. Through it all, we as New Yorkers have petitioned, marched and gone to jail to oppose the bomb. One million of us gathered on June 12, 1982 to demand the Nuclear Freeze and Nuclear Abolition.

In 3 months, on April 24th to 25th, eight hundred Japanese, including survivors of the August 6 and 9, 1945 atom bomb attacks on Hiroshima and Nagasaki, along with hundreds of other local and international activists, will gather at Riverside Church, then march on April 26th from Union Square to the United Nations to call on the nations of the world to end the threat of nuclear weapons, avert climate catastrophe, and build a just society.

What a wonderful symbolic gift it will be for the atom bomb survivors, the Hibakusha, to be greeted by New York City Council's passing of Res. 976 calling on divestment from nuclear weapons, creating NYC as a Nuclear Weapons Free Zone, pressing for ratification of the Treaty on the Prohibition of Nuclear Weapons and backing it up with a nuclear disarmament and nuclear weapons-free zone advisory committee created by INT 1621.

The Big Apple is a natural nuclear weapons free zone and now we can make it official.

Thank you for your time,

Sally Jones

Chair, Peace Action Fund of NYS

NY Representative, International Peace Bureau

sallyjones@panys.org

917-362-0897

www.panys.org



Mayors for Peace

Secretariat

c/o Hiroshima Peace Culture Foundation, 1-5 Nakajima-cho, Naka-ku, Hiroshima 730-0811 JAPAN
E-mail: mayorcon@pcf.city.hiroshima.jp Website: www.mayorsforpeace.org

North American Coordinator

655 13th Street, Suite 201
Oakland, CA 94612
E-mail: wslf@earthlink.net Tel : (510) 306-0119

January 28, 2020

**Written testimony to the New York City Council Governmental Operations JOINT
Committee Hearing regarding Initiative 1621 and Resolution 976,
strengthening New York City's status as a Nuclear Weapons-Free Zone
Submitted by Jacqueline Cabasso, North American Coordinator, Mayors for Peace**

I grew up in a suburb of New York City and my weekend trips to Greenwich Village were the highlight of my teenage years. I have always felt a strong connection to the City. After moving to the west coast, as an adult, during the 1980s I was active in the coalition opposing the homeporting of the nuclear-capable Battleship Missouri and its Surface Action Group in San Francisco Bay. During that period, I worked closely with our sister coalition in New York City, working to stop the homeporting of the nuclear-capable Battleship Iowa and its Surface Action Group in New York City's harbor. Both campaigns were successful!

A few years later, I was centrally involved in defending a lawsuit brought by the federal government against Oakland's 1988 voter-enacted "Oakland Nuclear Free Zone Act," ultimately resulting in adoption by the City Council of "An Ordinance Declaring the City of Oakland a Nuclear Free Zone and Regulating Nuclear Weapons Work and City Contracts With and Investment in Nuclear Weapons Makers" in 1992.¹ As a frequent participant in activities at the United Nations, I currently split my time between Oakland, California and Bronx, New York.

I speak today in support of Initiative 1621 and Resolution 976 on behalf of Mayors for Peace. It is my honor to convey warm greetings from Mayor Kazumi Matsui of Hiroshima, the President of Mayors for Peace.

In August 1945, atomic bombs instantaneously reduced the cities of Hiroshima and Nagasaki to rubble, taking hundreds of thousands of precious lives. Nearly 75 years later, thousands of *hibakusha* citizens still suffer the devastating aftereffects of radiation and unfathomable emotional pain. To prevent any repetition of the A-bomb tragedy, the cities of Hiroshima and Nagasaki have continuously sought to tell the world about the inhumane cruelty of nuclear weapons and have consistently urged that nuclear weapons be abolished.

On June 12, 1982, as many as one million people gathered in New York City's Central Park during the Second United Nations Special Session on Disarmament, to call for the elimination of nuclear weapons. It was the largest political demonstration in U.S. history until that time.² On June 24, then-Mayor Takeshi Araki of Hiroshima proposed a new Program to Promote the Solidarity of Cities toward the Total Abolition of Nuclear Weapons, offering cities a way to transcend national borders and work together to press for nuclear abolition. Subsequently, the

mayors of Hiroshima and Nagasaki called on mayors around the world to support this program, which ultimately became Mayors for Peace and was registered as an NGO in Special Consultative Status with the United Nations Economic and Social Council in 1991.

As of January 1, 2020, Mayors for Peace has grown to 7,861 member cities in 163 countries, representing a total of more than one billion people. There are 218 U.S. members. The United States Conference of Mayors (USCM), the nonpartisan association of 1,408 American cities with populations over 30,000, has unanimously adopted ever-stronger Mayors for Peace-sponsored nuclear disarmament resolutions for 14 consecutive years. Resolutions adopted at its annual meetings become USCM official policy.

Directly relevant to Resolution 976, is its 2016 resolution, *Calling on the Next U.S. President to Pursue Diplomacy with Other Nuclear-Armed States; Participate in Negotiations for the Elimination of Nuclear Weapons; Cut Nuclear Weapons Spending and Redirect Funds to Meet the Needs of Cities*, in which “the USCM commends Mayor Denise Simmons and the Cambridge City Council for demonstrating bold leadership at the municipal level by unanimously deciding on April 2, 2016, to divest their one-billion-dollar city pension fund from all companies involved in production of nuclear weapons systems and in entities investing in such companies.”

Relevant to both Resolution 976 and initiative 1621, in the same resolution, “the USCM reaffirms its support for Mayors for Peace and urges additional U.S. cities to join in its campaign to reach 10,000 member cities by 2020,” and “calls on member cities to take action at the municipal level to raise public awareness of the humanitarian impacts and financial costs of nuclear weapons, the growing dangers of wars among nuclear-armed states, and the urgent need for good faith U.S. participation in negotiating the global elimination of nuclear weapons by, for example, planting seedlings of A-bombed trees, hosting A-bomb poster exhibitions and film screenings, sharing *hibakusha* testimonies via Skype, promoting Hiroshima-Nagasaki Peace Study Courses; and having their mayors speak at local Hiroshima-Nagasaki commemorations.”³ (I note that New York City Mayor Bill DeBlasio, though not a member of Mayors for Peace, was a co-sponsor of this resolution.)

Again, directly relevant to Resolution 976, in its 2017 resolution, *Calling on President Trump to Lower Nuclear Tensions, Prioritize Diplomacy, and Redirect Nuclear Weapons Spending to meet Human Needs and Address Environmental Challenges*, “the United States Conference of Mayors welcomes the historic negotiations currently underway in the United Nations, involving most of the world's countries, on a treaty to prohibit nuclear weapons, leading to their total elimination; and.... deeply regrets that the United States and the other nuclear-armed states are boycotting these negotiations.” The USCM “calls on the United States to support the ban treaty negotiations as a major step towards negotiation of a comprehensive agreement on the achievement and permanent maintenance of a world free of nuclear arms, and to initiate, in good faith, multilateral negotiations to verifiably eliminate nuclear weapons within a timebound framework.” In the same resolution, “the United States Conference of Mayors calls on the President and Congress to reverse federal spending priorities and to redirect funds currently allocated to nuclear weapons and unwarranted military spending to restore full funding for Community Block Development Grants and the Environmental Protection Agency, to create jobs by rebuilding our nation's crumbling infrastructure, and to ensure basic human services for all, including education, environmental protection, food assistance, housing and health care.”⁴

In its 2018 resolution, *Calling on the Administration and Congress to Step Back From the Brink*

and Exercise Global Leadership in Preventing Nuclear War; “the USCM urges the United States government to reverse its stance and to embrace the TPNW [Treaty on the Prohibition of Nuclear Weapons] as a welcome step towards negotiation of a comprehensive agreement on the achievement and permanent maintenance of a world free of nuclear arms.” Endorsing the Back From the Brink Campaign, the USCM also “calls on the United States to lead a global effort to prevent nuclear war by renouncing the option of using nuclear weapons first; ending the sole, unchecked authority of any president to launch a nuclear attack; taking U.S. nuclear weapons off hair-trigger alert; cancelling the plan to replace its entire arsenal with enhanced weapons; and actively pursuing a verifiable agreement among nuclear armed states to eliminate their nuclear arsenals.”⁵ More than 40 U.S. cities, including Los Angeles, Washington, DC and Philadelphia have adopted their own Back From the Brink resolutions.⁶ New York City will certainly not be alone in adopting the two bills before you.

At its 2019 annual meeting, the USCM unanimously adopted a resolution *Calling on All Presidential Candidates to Make Known Their Positions on Nuclear Weapons and to Pledge U.S. Global Leadership in Preventing Nuclear War, Returning to Diplomacy, and Negotiating the Elimination of Nuclear Weapons*. The resolution “encourages all USCM members to call on all Presidential candidates to make known their positions on nuclear weapons and to pledge U.S. global leadership in preventing nuclear war, returning to diplomacy, and negotiating the elimination of nuclear weapons.”⁷ Adoption of the two bills before you will help send this timely message to the candidates.

On January 23 of this year, the Bulletin of the Atomic Scientists moved the hands of its iconic Doomsday Clock to 100 seconds to midnight, the closest it’s ever been since its inception in 1947. A statement issued by the Bulletin declares: “Humanity continues to face two simultaneous existential dangers—nuclear war and climate change—that are compounded by a threat multiplier, cyber-enabled information warfare, that undercuts society’s ability to respond. The international security situation is dire, not just because these threats exist, but because world leaders have allowed the international political infrastructure for managing them to erode.”⁸

When President Trump announced his plans to withdraw the U.S. from the Paris Climate Accord, over 400 U.S. Climate Mayors responded by announcing their intentions to “adopt, honor, and uphold the commitments to the goals enshrined in the Paris Agreement. We will intensify efforts to meet each of our cities’ current climate goals, push for new action to meet the 1.5 degrees Celsius target, and work together to create a 21st century clean energy economy.”⁹ In the same way that cities rose up to take responsibility for addressing the climate crisis, they need to take leadership in responding to the other existential threat— nuclear weapons. Of course, it’s easier for cities to engage in direct action to mitigate climate change, so they must be creative and determined. The two bills before you are a good start.

In remarks to a plenary session of the USCM’s 2019 annual meeting, Hiroshima Mayor Kazumi Matsui, declared: “As mayors, you are working every day for the wellbeing of your citizens, but all your efforts could be for naught if nuclear weapons are used again. I would also like to point out that, while every one of the nuclear-armed states is spending billions of dollars to modernize and upgrade their arsenals, that money could be much more productively spent to meet the needs of cities and the people who live in them.”

Initiative 161 would establish an Advisory Committee to examine nuclear disarmament and a nuclear weapons-free zone. The commissioner of the mayor's office on international affairs or such commissioner's designee would serve as chair. In addition, three members of the advisory committee would be appointed by the mayor. This makes it all the more natural for Mayor DeBlasio to join Mayors for Peace. He has been personally invited by the mayors of both Hiroshima and Nagasaki, and I would publicly like to invite him again to join. Hiroshima is prepared to welcome New York City to Mayors for Peace by offering to plant an A-bombed sapling at a mutually agreed location in New York.

Finally, I would like to offer a definition included in the 1992 Oakland Nuclear Free Zone Ordinance that has relevance to both Resolution 976 and Initiative 161, once adopted. "Nuclear Weapons Maker' means any person knowingly engaged in nuclear weapons work; subsidiaries, affiliates and subdivisions under operating control of such person; the parent entities that have operating control over such person, and the subsidiaries, affiliates and divisions under operating control of such parent entity."¹⁰

In closing, I would like to quote Mayor Frank Cownie of Des Moines, Iowa, the U.S. Vice President of Mayors for Peace: "If you don't think nuclear weapons are a local issue, ask the mayors of Hiroshima and Nagasaki."

¹<http://www.nuclearweaponsmoney.org/wp-content/uploads/2018/03/Oakland-nuclear-weapon-free-ordinance-1.pdf>

²<https://www.wnyc.org/story/wnyc-covers-great-anti-nuclear-march-and-rally-central-park-june-12-1982/>

³<https://www.usmayors.org/the-conference/resolutions/?category=a0F61000003s4H8EAI&meeting=84th%20Annual%20Meeting>

⁴<https://www.usmayors.org/the-conference/resolutions/?category=a0F6100000BLCpXEAX&meeting=85th%20Annual%20Meeting>

⁵ <https://www.usmayors.org/the-conference/resolutions/?category=c9179&meeting=86th%20Annual%20Meeting>

⁶ <https://www.preventnuclearwar.org/whos-on-board>

⁷<https://www.usmayors.org/the-conference/resolutions/?category=a0D4N00000FDCYRUA5&meeting=87th%20Annual%20Meeting>

⁸ <https://thebulletin.org/2020/01/press-release-it-is-now-100-seconds-to-midnight>

⁹<https://medium.com/@ClimateMayors/climate-mayors-commit-to-adopt-honor-and-uphold-paris-climate-agreement-goals-ba566e260097>

¹⁰ *Supra* note 1 at p. 3

Anthony Donovan
East 4th St.
NY, NY 10003

Addendum to my submitted written testimony for:

New York City Council Res. 0976 and INT 1621, January 28th, 2020

The following pages are:

1. **Dorothy Day's** article in the Catholic Worker papers, September 1945 issue:

And

2. **Fifteen Past NYC Council Resolutions** brought before the NYC Council from 1963 through 1999.

All concerning nuclear weapon abolition and ending the arms race.

Unearthed from boxes offsite during research for *Good Thinking*. The quality of my photography could have been better, no flash permitted at the time.

This great history of our predecessors represent the back bone of the bills before us today, and the report delivered to you from our team. They were given to Pace University to post and share freely. (Placed up on my FB page in 2018 for general FB public as well).

Note that the 1963 Res was put forth before Pres. Kennedy's assassination and was meant to be only the first step toward eventual nuclear abolition.

Most all bills call out the unbearable expense for these, and list the real great and oft urgent needs of our great city. Most call for urgent negotiations with the Soviets. Today's bills call for the same. We have the TPNW which welcomes the Russian and U.S. governments to come to their senses. To stop spending the future of humanity.



WE GO ON RECORD
By Dorothy Day
The Catholic Worker, September 1945

Mr. Truman was jubilant. President Truman. True man; what a strange name, come to think of it. We refer to Jesus Christ as true God and true Man. Truman is a true man of his time in that he was jubilant. He was not a son of God, brother of Christ, brother of the Japanese, jubilating as he did. He went from table to table on the cruiser which was bringing him home from the Big Three conference, telling the great news; "jubilant" the newspapers said.

Jubilate Deo. We have killed 318,000 Japanese. That is, we hope we have killed them, the Associated Press, on page one, column one of the Herald Tribune, says. The effect is hoped for, not known.

It is to be hoped they are vaporized, our Japanese brothers -- scattered, men, women and babies, to the four winds, over the seven seas. Perhaps we will breathe their dust into our nostrils, feel them in the fog of New York on our faces, feel them in the rain on the hills of Easton.

Jubilate Deo. President Truman was jubilant. We have created. We have created destruction. We have created a new element, called Pluto. Nature had nothing to do with it.

Excerpts of a separate article by Dorothy Day, "Created To Destroy" in this same issue:

"A cavern below Columbia was the bomb's cradle," born not that men might live, but that men might be killed. ... This new weapon which conceivably might wipe out mankind, and perhaps the planet itself. "We have spent two billion on the greatest scientific gamble in history and won," said President Truman jubilantly.

The papers list the scientists (the murderers) who are credited with perfecting this new weapon. ... Scientists, army officers, great universities (Notre Dame included), and captains of industry -- all are given credit lines in the press for their work of preparing the bomb -- and other bombs, the President assures us, are in production now.

This new great force will be used for good, the scientists assured us. And then they wiped out a city of 318,000. This was good. The President was jubilant.

... Today's paper with its columns of description of the new era, the atomic era, which this colossal slaughter of the innocents has ushered in, is filled with stories covering every conceivable phase of the new discovery.

... Our Lord Himself has already pronounced judgement on the atomic bomb. When James and John wished to call down fire from heaven on their enemies, Jesus said: "You know not of what spirit you are. The Son of Man came not to destroy souls but to save." He said also, "What you do unto the least of these my brethren, you do unto me."



THE COUNCIL

1963

Res. No. 648

Resolution Requesting Speedy Senate Ratification of the Atmospheric Nuclear Test Ban Treaty.

By Mr. Manheimer—

Whereas, A treaty banning nuclear testing in the atmosphere has been negotiated and signed by many of the great nations of the world; and

Whereas, The United States Senate is presently determining whether it shall ratify the treaty; and

Whereas, Discontinuance of testing in the atmosphere will avoid adding radioactive debris to that presently being deposited in larger amounts than ever before upon the nation and the world; and

Whereas, The treaty represents a first step toward the peaceful solution of extent the proliferation of atomic and nuclear weaponry; and

Whereas, The treaty represents a first step toward the peaceful solution of world problems; now, therefore, be it

Resolved, That the New York City Council express, for the people of the City, its demand that the test ban treaty be speedily ratified; and be it further

Resolved, That copies of this resolution be sent to the two United States Senators from New York.

On motion of Mr. Manheimer, seconded by Mr. Ross, and there being no objection to immediate consideration, the foregoing resolution was made a General Order for the day and unanimously adopted by a vive voce vote.

Resolution by the City Council of The City of New York Calling Upon the Congress of the United States to Refrain From Appropriating Further Funds for the Needed Domestic Programs of our Cities.

Res. No. 130
 April 17, 1970

By Mr. Katzman—

Whereas, In response to President Nixon's decision to deploy an anti-ballistic missile system, the United States Congress has already appropriated over \$2 billion; and the cost to United States taxpayers of the second round President Nixon is requesting is variously estimated at \$8-12 billion now, and up to \$50 billion in future years; and

Whereas, The desirability and technical feasibility of the ABM system has been strongly questioned by many scientists, statesmen and military experts; and

Whereas, Our proceeding with the program can impede our disarmament negotiations with the Soviet Union and will surely escalate the arms race; and

Whereas, Large numbers of our people are living at and below poverty levels, housing is deteriorating, transportation is inadequate and other desperately pressing needs are unfilled; and

Whereas, Urgently needed economic and social programs within our cities are not properly funded for lack of federal aid; and

Whereas, Serious immediate attention to such needs by government is essential to repair and improve the quality of life in our cities; and

Whereas, The expenditure of billions of dollars for military purposes in recent years has contributed to a disruptive inflation characterized by rising prices for daily requirements, thus imposing an additional burden on our people; and

Whereas, The intended deployment of an ABM system will siphon off massive amounts of federal monies that could be committed to domestic programs, and will further advance inflation; now therefore be it

Resolved, That the City Council of the City of New York calls upon the Congress of the United States to refrain from appropriating any further monies for the ABM program; and be it further

Resolved, That the City Council urges that funds saved by such action be made available to assist the cities in coping with urban blight, poverty, pollution, housing, health education, transportation, drug addiction, lack of equal opportunity, and other economic and social ills; and be it further

Resolved, That a copy of this Resolution be forwarded to the President of the United States, the Vice-President, and the Senators and Congressmen representing New York City in the Congress of the United States.

Referred to the Committee on General Welfare.

121
 to Immediately Cor-
 city of

THE COUNCIL



March 27, 1979.

Res. No. 512

Resolution Calling Upon the President of the United States to Issue a Call for an Emergency Meeting of All Nuclear Nations to Plan an End to the Escalating Arms Race.

By Council Member Friedlander; also Council Members Alter, Codd, Foster, Gerena-Valentin and Messinger—

Whereas, The international arms race has led to stockpiles in the five nuclear nations which can destroy every major city in the world seven times over; and

Whereas, Over \$1 million per minute are being spent on arms in a world where 300 million children are suffering from malnutrition; and

Whereas, The proposed military budget, the highest in American history, is a major cause of inflation, eating \$130 billion a year out of the American economy but producing nothing for people's use; and

Whereas, The American people are angered at the increasingly heavier tax burden and lower standard of living while arms builders enjoy increased tax benefits and great profits; and

Whereas, Reversing nuclear weapon stockpiling and the arms race could not only bring tax relief, but also release the billions of dollars now used for monstrous weapons to feed, house and educate our children; and

Whereas, The United Nations' Declaration of 1979 as "The Year of the Child," unanimously supported by the New York City Council, could become meaningless in an uncontrolled drift to nuclear extinction; and

Whereas, Many women's and other organizations are asking President Carter to call an emergency meeting of heads of the nuclear nations to stop the escalating arms race and plan for the dismantling of nuclear weapons in a campaign called "Proposition #1—A People's Referendum for Survival"; now, therefore, be it

Resolved, That the Council of The City of New York joins in calling upon the President of the United States to issue a call for an emergency meeting with the heads of all nuclear nations to plan an end to the arms race and the dismantling of all nuclear weapons down to only those conventional weapons necessary for each nation's defense.

Adopted.

THE COUNCIL



April 27, 1982.

Res. No. 1907

Resolution Supporting Passage of House Joint Resolution 434 and Senate Joint Resolution 163 Calling for a Mutual and Verifiable Freeze and Reduction in Nuclear Weapons by the United States and the Soviet Union.

By Council Member Michels; also Council Members Alter, Codd, Dryfoos, Eisland, Foster, Gerges, Greitzer, Katzman, Messinger, Orlow, Pinkett, Ryan, Steingut, Wallace and Stern—

Whereas, International nuclear armament is the greatest threat to the continued existence of humanity; and

Whereas, A nuclear arms race between the United States and the Soviet Union can only result in rising international tensions and an increased probability of nuclear conflict between them; and

Whereas, The nuclear capabilities of both the United States and the Soviet Union are substantially equivalent and neither nation could hope to survive or win a nuclear war because of the retaliatory power of the other; and

Whereas, The concept of a limited nuclear confrontation is a fallacy because any use of nuclear weapons, given their vast destructive power, would inevitably escalate into a full-scale nuclear conflict resulting in mutual, total destruction; and

Whereas, The production and deployment of nuclear weapons is also an economically counterproductive expenditure which creates an enormous strain on our federal budget; and

Whereas, Funds expended on nuclear weaponry could be better utilized for basic human needs and improving the condition of our domestic economy; and

Whereas, Freezing the production of nuclear weapons is the first essential step towards the elimination of all such weapons and an end to the risk of nuclear war; and

Whereas, House Joint Resolution 434 and Senate Joint Resolution 163 call for a mutual and verifiable freeze and reduction in nuclear weapons by the United States and the Soviet Union; and

Whereas, House Joint Resolution 434 is sponsored by 164 members of the House of Representatives and Senate Joint Resolution 163 is sponsored by 24 Senators; and

Whereas, Passage of these resolutions by the Congress of the United States would send a clear message to the President that the American people want to see an end to the nuclear arms race and a world that is safe for them and future generations; now, therefore, be it

Resolved, That the Council of the City of New York supports passage of House Joint Resolution 434 and Senate Joint Resolution 163 calling for a mutual and verifiable freeze and reduction in nuclear weapons by the United States and the Soviet Union; and be it further

Resolved, That the Clerk of the Council forward copies of this resolution to the Honorable Ronald Reagan, President of the United States, to the President of the Senate of the United States, to the Speaker of the House of Representatives of the United States, and to each member of the Congress of the United States from the City of New York.

Adopted.

Res. No. 1932

Resolution Calling Upon the City of New York to Reject the Federal Administration's Proposals for Expanding Evacuation Planning in the Event of a Nuclear Attack.

By Council Member Alter; also Council Members Berman, Codd, Dryfoos, Eisland, Friedlander, Gerena-Valentin, Messinger and Wallace—

Whereas, President Reagan has asked Congress for 4.2 billion dollars in the Fiscal Year 1983 to develop relocation plans for cities in the event of a nuclear attack; and

Whereas, In a city the size of New York such a plan has little or no change for success; and

Whereas, Such a plan would be likely to cause panic and confusion if it ever had to be put into effect; and

Whereas, The money to develop these plans could be better used to expand health and education services in the inner cities; and

Whereas, Opponents of an evacuation plan agree that such a plan would actually lessen national security by suggesting that a nuclear war could be won by the United States; and

Whereas, In a hearing on this topic before the Philadelphia City Council almost 40 speakers spoke against the idea of drawing up evacuation plans while not one speaker supported the plans; and

Whereas, If even a small megaton nuclear bomb were dropped over New York City several million people could die immediately and millions would probably die later from fallout radiation; and

Whereas, Unless many days warning were given of an impending attack, the radiation cloud would most likely cover the metropolitan area before any real evacuation could take place in this congested city; and

Whereas, On June 14, 1982 the United Nations will open debate on the issue of disarmament; and

Whereas, The United States would be better off working toward the goal of mutual disarmament rather than drawing up evacuation plans; now, therefore, be it

Resolved, That the Council of the city of New York recommends that this city reject the Federal Administration's proposals for expanding evacuation planning in the event of a nuclear attack.

Referred to the Committee on Environmental Protection.

Res. No. 1996

Resolution Calling on the New York State Legislature to Pass Senate Bill No. 10239 Authorizing a Statewide Referendum on the Issue of a Nuclear Weapons Freeze at the General Election in November 1982.

By Council Member Michels; also Council Members Dryfoos, Friedlander, Gerges, Greitzer, Orlow and Steingut—

Whereas, Citizens' efforts to halt the nuclear arms race are spreading rapidly throughout the country; and

Whereas, Popular concern about the potential threat of nuclear war is being expressed in many forms such as town meetings, rallies, petition drives and actions by local legislative bodies across the nation; and

Whereas, This grassroots anti-nuclear movement has gained the support of numerous diverse religious, civic and political organizations; and

Whereas, The aim of these groups is a mutual and verifiable freeze on the testing, production and deployment of nuclear weapons by the United States and the Soviet Union and subsequent reductions in the nuclear arsenals of both nations; and

Whereas, Organizers of a petition drive in California have collected over 900,000 signatures—more than twice the required number—to place the nuclear freeze proposal on the November ballot in that state; and

Whereas, Campaigns are underway in a number of other states to put similar freeze proposals before the voters at their November 1982 elections; and

Whereas, The people of New York deserve the right to be heard on this critical issue; and

Whereas, A bill, S-10239, has been introduced in the New York State Legislature, with bipartisan support, that would place a nuclear freeze referendum on the New York State ballot at the November 1982 general election; and

Whereas, This bill calls for submission to the voters of the following question: "Should the government of the United States and the government of the Soviet Union agree upon a mutual and verifiable nuclear weapons freeze halting the testing, production and deployment of all nuclear weapons, missiles and other delivery systems to be followed by major, mutual and verifiable reductions by both nations in nuclear weapons, missiles and other delivery systems in a manner that enhances world peace and stability?"; now, therefore, be it

Resolved, That the Council of the City of New York calls on the New York State Legislature to pass Senate Bill No. 10239 authorizing a statewide referendum on the issue of a nuclear weapons freeze at the general election in November 1982; and be it further

Resolved, That the Clerk of the Council forward copies of this resolution to the President Pro Tem and the Minority Leader of the State Senate, and the Speaker and the Minority Leader of the State Assembly.

Immediate consideration being objected to by Council Member Long this item was referred to the Committee on General Welfare.



THE COUNCIL

April 26, 1983

Res. No. 364

Resolution calling upon the Council of the City of New York to prohibit the production, transport, storage or deployment of nuclear weapons within the City and proclaiming the City a Nuclear Weapons Free Zone.

By Council Member Gerges; also Council Members Dryfoos, Eisland, Friedlander, Greitzer, Katzman, Leffler, Maloney, Messinger, Michels, Pinkett, Alter, Foster and Lisa—

Whereas, The development and production of nuclear weapons continues at a horrifying rate; and,

Whereas, The discussion of nuclear weapons and nuclear war is no longer concerned with hypothetical moral debate, but strategic planning; and,

Whereas, A too great proportion of our society views the issue of nuclear weapons and nuclear war as a discussion of fantasy, ignoring the very real potential for utter destruction; and,

Whereas, There exists a stunning trend within the halls of power of this nation and other nations to deal with nuclear war planning as a realistic, viable option in international political negotiation; and

Whereas, The City of New York is the host city to the United Nations which is committed to brotherhood and peaceful, equitable advancement of mankind; and

Whereas, The City Council of New York has committed itself to the tandem notions of Jobs With Peace and a Nuclear Freeze by resolution; and,

Whereas, Many proponents of these two ideals waver in their commitment, proving the urgent need to strengthen these ideals within the community of the people of the City of New York; and,

Whereas, Common discourse treats nuclear weapons and nuclear war as wagering chips for international politics instead of as the instruments of the most horrible death for which they were designed and intended; and,

Whereas, The continent of Antarctica has enjoyed the designation of a nuclear weapons free zone since 1959; South America and outer space have been so designated since 1967 and as of 1971 the ocean floors have been likewise proclaimed; and,

Whereas, A most basic human logic demands to include more vastly populated areas of our world as nuclear weapons free zones; and,

Whereas, Mankind's creation of nuclear weapons and ability for nuclear war is the most profound and powerful knowledge ever possessed by the human mind; and,

Whereas, This profundity demands the attention and concerns of every citizen of every country and every legislative body on every level of government on the planet Earth: therefore be it,

Resolved, That the Council of the City of New York, on behalf of the people of the City of New York, and with a most humble respect and deep concern for the people of the entire world, hereby prohibits the production, transport, storage, placement or deployment of nuclear weapons within the territorial limits of the City of New York, and proclaims and designates the City of New York a Nuclear Weapons Free Zone.

Adopted.

Res. No. 568

Resolution declaring that no ship be permitted to bring Nuclear Missiles into the Harbor of New York.

By Council Member Friedlander; also Council Members Messinger, Greitzer, Alter, Berman, Dryfoos, Katzman and Maloney.

Whereas, Responding to requests by New York elected officials, the United States Navy has proposed to establish a naval base on Staten Island for its seven-ship Surface Action Group, including the U.S.S. Iowa; and

Whereas, The U.S.S. Iowa carries a minimum of 32 "Tomahawk" cruise missiles equipped with nuclear warheads which are 16 times more powerful than the Hiroshima bomb; and

Whereas, The U.S. Department of Defense admits to over 30 nuclear weapons accidents between 1950 and 1980 and the presence of the cruise missiles provides a potential threat of such accidents and the release of radioactive material; and

Whereas, The U.S. Coast Guard Casualty Review Branch reported that (between 1976 and 1980) 609 large accidents occurred in New York Harbor, many involving freighters and tankers, creating a serious possibility of nuclear accidents; and

Whereas, A naval nuclear Surface Action Group in New York Harbor, which is surrounded by a dense population of over 20 million, could create a nuclear catastrophe by accident or by hostile military action; and

Whereas, The potential danger of nuclear warheads is supposedly justified by the exaggerated claims of \$500 million a year in economic benefits for the City (probably closer to \$90 million after construction is completed) and 9000 new jobs (probably closer to 1000 direct civilian jobs); and

Whereas, The financial costs to New Yorkers will be substantial, for example, Port Authority pledges \$15 million for pier reconstruction; NYC Housing Partnership has pledged to help steer federal housing grants to Staten Island for military housing; and out of state military personnel living at the base pay no city or state income taxes while receiving fire, police, sanitation and other services; and

Whereas, The danger of nuclear weapons aboard naval vessels in New York Harbor far outweighs any minimal economic benefits; and

Whereas, Precedent has been set by the U.S. Government's agreement with Japan not to bring any nuclear missiles on naval ships into their harbors; now, therefore, be it

Resolved, That the Council of the City of New York declares that no ship be permitted to bring nuclear missiles into the Harbor of New York.

Immediate consideration being objected to by Council Member O'Donovan this item was Referred to the Committee on Economic Development.

Res. No. 41

Resolution declaring that no ship be permitted to bring Nuclear Missiles into the Harbor of New York.

By Council Member Friedlander; also Council Members DiBrienza, Foster, Greitzer, Horwitz, Maloney, Messinger and Michels.

Whereas, Responding to requests by New York elected officials, the United States Navy has proposed to establish a naval base on Staten Island for its seven-ship Surface Action Group, including the U.S.S. Iowa; and

Whereas, The U.S.S. Iowa carries a minimum of 32 "Tomahawk" cruise missiles equipped with nuclear warheads which are 16 times more powerful than the Hiroshima bomb; and

Whereas, The U.S. Department of Defense admits to over 30 nuclear weapons accidents between 1950 and 1980 and the presence of the cruise missiles provides a potential threat of such accidents and the release of radioactive material; and

Whereas, The U.S. Coast Guard Casualty Review Branch reported that (between 1976 and 1980) 609 large accidents occurred in New York Harbor, many involving freighters and tankers, creating a serious possibility of nuclear accidents; and

Whereas, A naval nuclear Surface Action Group in New York Harbor, which is surrounded by a dense population of over 20 million, could create a nuclear catastrophe by accident or by hostile military action; and

Whereas, The potential danger of nuclear warheads is supposedly justified by the exaggerated claims of \$500 million a year in economic benefits for the City (probably closer to \$90 million after construction is completed) and 9000 new jobs (probably closer to 1000 direct civilian jobs); and

Whereas, The financial costs to New Yorkers will be substantial, for example, Port Authority pledges \$15 million for pier reconstruction; NYC Housing Partnership has pledged to help steer federal housing grants to Staten Island for military housing; and out of state military personnel living at the base pay no city or state income taxes while receiving fire, police, sanitation and other services; and

Whereas, The danger of nuclear weapons aboard naval vessels in New York Harbor far outweighs any minimal economic benefits; and

Whereas, Precedent has been set by the U.S. Government's agreement with Japan not to bring any nuclear missiles on naval ships into their harbors; now, therefore, be it

Resolved, That the Council of the City of New York declares that no ship be permitted to bring nuclear missiles into the Harbor of New York.

Referred to the Committee on Economic Development.

#258

March 3, 1986

RESOLUTION urging the President of the United States to negotiate with the Soviet Union to produce a nuclear test ban treaty.

by Council Member Greitzer, also by Council Members Foster, Friedlander, Horwitz, Maloney, McCaffrey, Messinger, Michels, and Pinkett

WHEREAS, a nuclear war would result in death, injury and disease on a scale unprecedented in human history; and

WHEREAS, spending for the arms race is contributing to record budget deficits that threaten our nation's economic security while programs providing essential assistance to communities throughout the country are being cut back; and

WHEREAS, a ban on nuclear testing would promote the security of the United States by constraining new developments in the U.S.-Soviet nuclear arms competition and by strengthening efforts to prevent the spread of nuclear weapons to non-nuclear countries; and

WHEREAS, a ban on nuclear testing would be a concrete and easily achievable first step towards a complete halt and deep reductions of ever expanding nuclear arsenals; and

WHEREAS, the Soviet Union has proposed a ban on nuclear tests and has unilaterally stopped testing since August, 1985; and

WHEREAS, a ban on nuclear testing can be verified with high confidence by a world-wide network of seismic monitors, satellites and other verification technology operated by the United States and other nations; now, therefore, be it

RESOLVED, that the Council of the City of New York calls upon the President to negotiate a mutual and verifiable suspension of testing as a first step towards freezing and reversing the arms race; and be it further

RESOLVED, that the Council urges the New York Congressional delegation to support legislation that would enact a moratorium on nuclear testing, to be continued as long as the Soviets do not test; and be it further

RESOLVED, that copies of this resolution be forwarded to the President and to the New York Congressional delegation.

Res. No. 1025

Resolution urging the President of the United States to immediately halt nuclear weapons testing as a first step toward reversing and ending the arms race.

By Council Member Katzman; also Council Members Alter, Castaneira Colon, Clark, Dryfoos, Foster, Friedlander, Greitzer, Harrison, Leffler, Maloney and Pinkett.

Whereas, A nuclear war would result in death, injury and disease on a scale unprecedented in human history; and

Whereas, Spending for the arms race is contributing to record budget deficits that threaten our nation's economic security while programs providing essential assistance to communities throughout the country are being cut back; and

Whereas, A ban on nuclear testing would promote the security of the United States by constraining new developments in the U.S./Soviet nuclear arms competition and by strengthening efforts to prevent the spread of nuclear weapons to non-nuclear countries; and

Whereas, A ban on nuclear testing would be a concrete and easily achievable first step toward a complete halt and deep reductions of ever-expanding nuclear arsenals; and

Whereas, A ban on nuclear testing can be verified with high confidence by a world-wide network of seismic monitors, satellites and other verification technology operated by the United States and other nations; now, therefore, be it

Resolved, By the Council of the City of New York that the Council urges the President of the United States to immediately join the Soviet Union in a mutual and verifiable suspension of testing as a first step toward reversing the arms race; and, be it further

Resolved, That the Council further urges the members of the New York State Congressional delegation to support legislation that would enact a moratorium on nuclear testing, to be continued as long as the Soviet Union does not test; and, be it further

Resolved, That the City Clerk and Clerk of the Council of the City of New York transmit copies of this resolution to the President of the United States and New York State Congressional Delegation.

Referred to the Committee on International Intergroup Relations and Special Events.

Res. No. 1056

Resolution urging the President of the United States to immediately halt nuclear weapons testing as a first step toward reversing and ending the arms race.

By Council Member Katzman; also Council Members Clark, DiBrienza, Dryfoos, Foster, Friedlander, Greitzer, Harrison, Leffler, Maloney, Messinger and Michels.

Whereas, A nuclear war would result in death, injury and disease on a scale unprecedented in human history; and

Whereas, Spending for the arms race is contributing to record budget deficits that threaten our nation's economic security while programs providing essential assistance to communities throughout the country are being cut back; and

Whereas, A ban on nuclear testing would promote the security of the United States by constraining new developments in the U.S./Soviet nuclear arms competition and by strengthening efforts to prevent the spread of nuclear weapons to non-nuclear countries; and

Whereas, A ban on nuclear testing would be a concrete and easily achievable first step toward a complete halt and deep reductions of ever-expanding nuclear arsenals; and

Whereas, A ban on nuclear testing can be verified with high confidence by a world-wide network of seismic monitors, satellites and other verification technology operated by the United States and other nations; now, therefore, be it

Resolved, By the Council of the City of New York that the Council urges the President of the United States to immediately join the Soviet Union in a mutual and verifiable suspension of testing as a first step toward reversing the arms race; and, be it further

Resolved, That the Council further urges the members of the New York State Congressional delegation to support legislation that would enact a moratorium on nuclear testing, to be continued as long as the Soviet Union does not test; and, be it further

Resolved, That the City Clerk and Clerk of the Council of the City of New York transmit copies of this resolution to the President of the United States and New York State Congressional Delegation.

Referred to the Committee on General Welfare.

Referred to the Committee on

Res. No. 137

Resolution calling upon the United States to negotiate a comprehensive test ban treaty with the Soviet Union.

By Council Member Katzman; also Council Members Dryfoos, Eldridge, Fields, Foster, Friedlander, Leffler and Michels.

Whereas, The United States has a budget deficit of billions of dollars; and

Whereas, Needs for child care, job education, employment, low cost housing, education and hunger are going unsatisfied because of this deficit; and

Whereas, Billions are desperately needed for Human Services; and

Whereas, This country is spending billions of dollars a year in testing, developing and production of new and unneeded nuclear weapons; and

Whereas, President George Bush has set forth among his goals, a kinder, gentler America; and

Whereas, A comprehensive test ban would actually make the United States more secure, because the stoppage of nuclear testing would be mutual and verifiable, with already agreed to tamperproof seismic stations on U.S. and Soviet soil that would instantly detect any cheating; and

Whereas, Such a treaty would help eliminate the dangers of the spread of nuclear weapons to non-nuclear countries, that is nuclear proliferation; now, therefore, be it

Resolved, That the Council of the City of New York calls upon the United States to negotiate a comprehensive test ban treaty with the Soviet Union with a view of offering to stop testing immediately in the same mutual and verifiable basis while negotiations for the treaty are going on.

Referred to the Committee on Intergroup Relations and Special Events.

agency main

Referred to the Committee on GOVERNMENT

Res. No. 136

Resolution urging the President of the United States to immediately halt nuclear weapon testing as a first step toward reversing and ending the arms race.

By Council Member Katzman; also Council Members Dryfoos, Eldridge, Foster, Friedlander, Maloney and Michels.

Whereas, A nuclear war would result in death, injury and disease on a scale unprecedented in human history; and

Whereas, Spending for the arms race is contributing to record budget deficits that threaten our nation's economic security while programs providing essential assistance to communities throughout the country are being cut back; and

Whereas, A ban on nuclear testing would promote the security of the United States by constraining new developments in the U.S./Soviet nuclear arms competition and by strengthening efforts to prevent the spread of nuclear weapons to non-nuclear countries; and

Whereas, A ban on nuclear testing would be a concrete and easily achievable first step toward a complete halt and deep reductions of ever-expanding nuclear arsenals; and

Whereas, A ban on nuclear testing can be verified with high confidence by a world-wide network of seismic monitors, satellites and other verification technology operated by the United States and other nations; now, therefore, be it

Resolved, By the Council of the City of New York that the Council urges the President of the United States to immediately join the Soviet Union in a mutual and verifiable suspension of testing as a first step toward reversing the arms race; and, be it further

Resolved, That the Council further urges the members of the New York State congressional delegation to support legislation that would enact a moratorium on nuclear testing, to be continued as long as the Soviet Union does not test; and, be it further

The Council

1999

Res. No. 878

Resolution declaring the City of New York a Nuclear Weapon Free Zone and support the further development of Nuclear Weapon Free Zones throughout the world.

By Council Members Foster and Eldridge

Whereas, Nuclear weapons pose a continuing threat to civilization, the human species, and the structure and stability of life itself; and

Whereas, Cities have been primary targets of nuclear weapons throughout the Nuclear Age and remain vulnerable to the massive destructive effects of nuclear weapons; and

Whereas, The development and maintenance of nuclear arsenals are extraordinarily costly, costing tens of billions of dollars per year, and such resources could be far better utilized for rebuilding the infrastructure of our cities, supporting the health and welfare of our citizens, and protecting and enhancing the quality of the environment; and

Whereas, The five declared nuclear weapons states (United States, Russia, United Kingdom, France and China) promised at the Non-Proliferation Treaty Review and Extension Conference in May 1995 to pursue "systematic and progressive efforts to reduce nuclear weapons globally, with the ultimate goal of eliminating these weapons"; and

Whereas, The International Court of Justice ruled unanimously in July 1996, "There exists an obligation to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament on all its aspects under strict and effective international control"; and

Whereas, Retired U.S. General Lee Butler, once responsible for all US strategic nuclear forces, has called nuclear weapons "inherently dangerous, hugely expensive, militarily inefficient and morally indefensible"; and

Whereas, The end of the Cold War has provided an unparalleled opportunity to end the nuclear weapons era, which would be a gift to children everywhere and to all future generations; now, therefore, be it

Resolved, That the Council of the City of New York calls for all nuclear weapons to be taken off alert status, for all nuclear warheads to be separated from their delivery vehicles, and for the nuclear weapon states to agree to unconditional no first use of these weapons; and, be it further

Resolved, The Council of the City of New York calls upon the governments of all nuclear weapons states to begin negotiations immediately on a Nuclear Weapons Convention to prohibit and eliminate all nuclear weapons early in the next century, and to complete these negotiations by the year 2000; and, be it further

Resolved, That the Council of the City of New York declares that the city be a Nuclear Weapon Free Zone and support the further development of Nuclear Weapon Free Zones throughout the world.

Testimony for January 28th NYC Council Public Hearing, Re: Res. 0976-2019 and INT. 1621-2019 - Donna Stein

Dear Esteemed New York City Council,

My name is Donna Stein, a member of the Board of Directors of Hudson River Sloop Clearwater, and President of NYC Friends of Clearwater both founded by Pete Seeger 50 years ago in response to the need to clean up the environmental disaster that was the Hudson River. There was much success yet to this day the River still needs our attention. I speak for myself in these NYC Council proceedings.

Clearwater has long opposed and exposed the risks of nuclear power. Focus has been on the dangers of nuclear plants and the use of nuclear energy, but make no mistake -- there is a direct connection between nuclear weapons and nuclear energy and its resultant nuclear waste. Nuclear is not just about the plant, the bomb... there are so many things up to that point. Uranium mining, milling and weapons testing impacts communities around this country and the world including First Nation communities in New Mexico, Texas, and Nevada with proposed waste storage on their lands.

Each nuclear facility is potentially a nuclear weapon. Attempts at reprocessing have failed, leaving highly radioactively-contaminated sites, one example is the West Valley Demonstration Project south of Buffalo, NY. Despite over 30 years of cleanup efforts and billions of dollars having been spent at the site, the West Valley Demonstration Project property has been described as "arguably Western New York's most toxic location."

Pete Seeger back in 1963 sang a song, Never Again The A Bomb <https://www.youtube.com/watch?v=AxH4FWjHdMM>. He said "we must forbid it... take care that the third atom bomb never falls." Sadly, testing continued up to 1992 and nuclear weapons arsenals in several countries remain deeply troubling.

There is a serious flaw in the Nuclear Non-Proliferation Treaty of a so called "inalienable right" of sovereign states to use nuclear energy for peaceful purposes. You can't have a nuclear bomb without a nuclear reactor to create its fuel. History demonstrates that nuclear plants were for +the main purpose to create material for nuclear bombs. There are much better, safer ways to boil water.

It is fact that nuclear power is now being replaced by renewables with storage, instead of the burning of fossil fuels, which exacerbates climate change.

Clearwater hasn't actively worked on issues related to nuclear weapons, however it does actively work in opposition to the use of nuclear energy and the related problems of nuclear waste and reactor closure, as well as promoting safe reactor decommissioning.

Bob Alpern, a long time anti-nuclear activist and fellow member of the Clearwater Board of Directors, often calls Indian Point nuclear power plant “a pre-positioned nuclear weapon”, so many things could go wrong. It sits so close to a high-pressure gas pipeline managed by a company who has had their share of pipeline accidents. It also sits on a seismic fault line, which was unknown to the builders when it was originally sited. There was a small earthquake upstate just recently. Terrorists have included Indian Point as a possible target.

Past commitments to nuclear disarmament and non-proliferation have not been heeded. It's time to reaffirm them and take concrete steps to abolish nuclear weapons, at the same time focus on the safest possible storage of the tons of radioactive waste all over this nation and the world.

Please put a halt to this madness and don't make public employees have to be a party to this horror. I urge you to divest from nuclear weapons, to reaffirm New York City as a Nuclear Weapons Free Zone and to support the Treaty on the Prohibition of Nuclear Weapons.

Make history, attend to your legacy, and pass this resolution...it's a start.

Thank you for your understanding of this important issue,

Donna Stein
162 W 54 St #10E
New York, NY 10019

Hudson River Sloop Clearwater Board of Directors
Chair of Development Committee
NYC Friends of Clearwater - President 2020
WBAI's Eco-Logic - Producer and Co-host

kayaknsail@gmail.com
646-420-0773

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

in favor in opposition

Date: _____

(PLEASE PRINT)

Name: Amal Khan Svanoff

Address: Box 1B 220 East 49th St

I represent: Global Security Institute

Address: same

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: 1/28/20

(PLEASE PRINT)

Name: Jacqueline Cabasso

Address: 1855-13th Street, Suite 20, Oakland CA 94612

I represent: Mayors for Peace

Address: Hiroshima Japan

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

in favor in opposition

Date: 1/28/20

(PLEASE PRINT)

Name: Heidi Hutter

Address: 10 Bay Drive West Huntington 11743

I represent: _____

Address: _____

Please complete this card and return to the Sergeant-at-Arms

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: 1/28/20

(PLEASE PRINT)

Name: _____

Address: _____

I represent: _____

Address: _____

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. 0976 Res. No. 0976

in favor in opposition

Date: Jan 28, 20 20

(PLEASE PRINT)

Name: Elaine Scarry

Address: 634 Green St Cambridge, MA

02139

I represent: _____

Address: _____

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. 976

in favor in opposition

Date: 1/28/2020

(PLEASE PRINT)

Name: Jamie Bauer

Address: 61 Jane Street #2B

I represent: Myself

Address: _____

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976
 in favor in opposition

Date: 01/28/20

(PLEASE PRINT)

Name: BLAISE DUPUY

Address: 270 21ST STREET BROOKLYN NY

I represent: _____

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976
 in favor in opposition

Date: 1/28/2020

(PLEASE PRINT)

Name: Sally Jones

Address: 110 Hamilton Ave, Staten Is, NY 10301

I represent: Peace Action New York State

Address: 64 Fulton St., NY, NY 10038

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 0976
 in favor in opposition

Date: 1/28/20

(PLEASE PRINT)

Name: Yuni Chang

Address: 1774A Pacific St #1, Brooklyn, NY ~~11233~~

I represent: War Resisters League

Address: 168 Canal St #600, New York, NY 10013

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: _____

(PLEASE PRINT)

Name: ANTHONY DONOVAN

Address: 120 EAST 4TH ST.

I represent: CATHOLIC WORKER

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: _____

(PLEASE PRINT)

Name: Alice Slater

Address: 476 E 86 ST NY NY 10034

I represent: World Beyond War

Address: same as above

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: Jan 28, 2020

(PLEASE PRINT)

Name: Bill Ofenloch

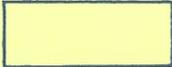
Address: 177 E 102 ST NY NY 10029

I represent: Kings Bay Plowshares

Address: New York, NY

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card



I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: Jan 28, 2020

(PLEASE PRINT)

Name: ALFRED MEYER

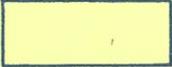
Address: 125 E 83rd St. Apt 6E NYC 10025

I represent: Physicians for Social Responsibility

Address: same

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card



I intend to appear and speak on Int. No. 1621 Res. No. 0976

in favor in opposition

Date: 1/28/20

(PLEASE PRINT)

Name: THOMAS S. DWYER JR.

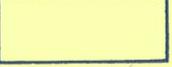
Address: 8 OBTUSE RD., NEWTOWN, CT 06470

I represent: MYSELF

Address: ---

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card



I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: 1/28/2020

(PLEASE PRINT)

Name: Mariem Kojima

Address: 446 W 164th St. #22

I represent: Lenape Center

Address: ---

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: 1/28/20

(PLEASE PRINT)

Name: Donna Stein

Address: 162 W 54 St #10E NY NY 10019

I represent: Clearwater

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 0998¹⁶²¹ Res. No. 976

in favor in opposition

Date: Jan 28, 2021

(PLEASE PRINT)

Name: Mitchie Takeuchi

Address: 16 West 16th St, #14EN

I represent: NYCAN

Address: New York, NY

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: 1-28-2020

(PLEASE PRINT)

Name: Rebecca Irbig

Address: 1 West End New York, NY 10023

I represent: PSAC Institute

Address: 777 UN Plaza, New York NY 10017

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976
 in favor in opposition

Date: 01/29/20

(PLEASE PRINT)

Name: Lilly Adams
Address: 4107 Evergreen Ave, Apt 2, Brooklyn, NY 11221
I represent: Union of Concerned Scientists
Address: 2 Brattle Square, Cambridge MA 02138

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976
 in favor in opposition

Date: Jan. 28, 2020

(PLEASE PRINT)

Name: Mari Inoue
Address: 3731 73rd St, 5F, JH, NY 11372
I represent: Manhattan Project for a Nuclear-Free World
Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. ~~1625~~ 1621 Res. No. ~~1621~~ 976
 in favor in opposition

Date: 1/28/20

(PLEASE PRINT)

Name: Molly McComby
Address: _____
I represent: International Physicians for the Prevention of Nuclear War
Address: 339 Pleasant St. Malden, MA

Please complete this card and return to the Sergeant-at-Arms

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976
 in favor in opposition

Date: 1/28/2020

(PLEASE PRINT)

Name: Emily Rubino

Address: 350 E 62nd Street, New York NY 10065

I represent: Peace Action New York State

Address: 64 Fulton Street #403, New York NY 10038

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____
 in favor in opposition

Date: _____

(PLEASE PRINT)

Name: BRENDAN FAY

Address: 22-22 28th St Astoria, 11105

I represent: ST PATS FOR ALL +

Address: NYC DIVEST CAMPAIGN

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976
 in favor in opposition

Date: 1/28/20

(PLEASE PRINT)

Name: BETTY A. REARDON

Address: 80 LA SALLE ST #17D

I represent: INTERNAT'L INSTITUTE ON PEACE ED

Address: EDUCATION

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976
 in favor in opposition

Date: _____

(PLEASE PRINT)

Name: RAY ACHESON

Address: 652 40TH STREET, BROOKLYN, NY 11237

I represent: WOMEN'S INTERNATIONAL LEAGUE FOR PEACE + FREEDOM

Address: 777 UN PLAZA, 6TH FLOOR, NEW YORK, NY 10017

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976
 in favor in opposition

Date: 1-28-20

(PLEASE PRINT)

Name: SETH SHELDEN

Address: 30 Greenwich Avenue, 10011

I represent: ICAN

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 975
 in favor in opposition

Date: January 28, 2020

(PLEASE PRINT)

Name: Sajila Kanwal

Address: 1105, Highland Circle, Blacksburg Virginia

I represent: Yasuaki Yamashita

Address: San Miguel de Allende, GTO, Mexico

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 0927

in favor in opposition

Date: 1/28/20

(PLEASE PRINT)

Name: LESLIE CAGAN

Address: 9205 WHITNEY AVE #B16, ELMHURST NY 11370

I represent: _____

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. 976

in favor in opposition

Date: _____

(PLEASE PRINT)

Name: William Hartung

Address: 949 West End #4B

I represent: _____

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: _____

(PLEASE PRINT)

Name: Charles K Johnson (Chuck)

Address: 95 Gainsborough St. #202, Boston, MA

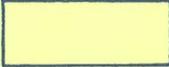
I represent: International Physicians for the Prevention of Nuclear War 02115

Address: 339 Pleasant Ave., Malden, MA

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card



I intend to appear and speak on Int. No. 1621 Res. No. 0976

in favor in opposition

Date: Jan 28, 2020

(PLEASE PRINT)

Name: Timmon Wallis

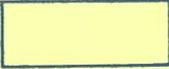
Address: 59 Gleason Rd, Northampton MA

I represent: Nuclear Ban US

Address: 59 Gleason Rd, Northampton MA

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card



I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: 1/28/20

(PLEASE PRINT)

Name: WICKI ELSON

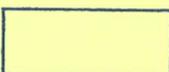
Address: 59 GLEASON RD. Northampton MA

I represent: Nuclear Ban. US / ICAN

Address: (same)

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card



I intend to appear and speak on Int. No. 1621 Res. No. 0976

in favor in opposition

Date: January 28, 2020

(PLEASE PRINT)

Name: John Burroughs

Address: 5815 Liebig Ave #2

I represent: Lawyers Committee on Nuclear Policy

Address: 220 E. 49th St #B New York NY 10017

Please complete this card and return to the Sergeant-at-Arms

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 0976

in favor in opposition

Date: 1/28/2020

(PLEASE PRINT)

Name: Amanda Daloisio

Address: 217 E 7th St Apt 4AB NYC 10009

I represent: The Catholic Worker

Address: 55 east 3rd st NYC 10003

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 0976

in favor in opposition

Date: 1/28/20

(PLEASE PRINT)

Name: MARY YELENICA

Address: 310 E 46th St

I represent: WEST BAY CHRISTIANITY

Address: 310th E 46th St NYC 10017

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 0976

in favor in opposition

Date: 29 JAN 2020

(PLEASE PRINT)

Name: ELIZABETH M. KUSTER

Address: 30 BROAD street

I represent: Kings BAY PLAINSHORES

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 0976

in favor in opposition

Date: 20 Jan 2020

(PLEASE PRINT)

Name: FRIDA BERKIN

Address: 246 W 116th Ave NL, Ct 06320

I represent: Aggs BAY planners

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 0976

in favor in opposition

Date: 1/28/2020

(PLEASE PRINT)

Name: Rosemarie Pace

Address: 61-24 (61-24) 82 Place, Middle Village, NY

I represent: Pax Christi Metro NY 11379

Address: 371- 6th Ave., NY, NY 10014

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: 1/28/20

(PLEASE PRINT)

Name: Christian N. Ciobanu

Address: 2 Tudor City Place Apt. 6LN NY, NY 10017

I represent: Nuclear Age Peace Foundation

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976
 in favor in opposition

Date: 1/28/20

(PLEASE PRINT)

Name: SUSAN SCHNALL

Address: 140 E 88th St.

I represent: NYC VETERANS FOR PEACE

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976
 in favor in opposition

Date: _____

(PLEASE PRINT)

Name: TARAK JAWFFER

Address: 182 E 7th St

I represent: VETERANS FOR PEACE

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976
 in favor in opposition

Date: 01/28/20

(PLEASE PRINT)

Name: ROBERT CRONQUIST

Address: 42 W 13th St #66, NY NY 10011

I represent: NYCAN, YOUTH ARTS NEW YORK

Address: PO BOX 363 OLD CHELSEA ST

NY NY 10013

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621-2019 Res. No. 0976-2019

in favor in opposition

Date: 01/08/2020

(PLEASE PRINT)

Name: Irina Conc

Address: 2012 North Lakeshore Drive 27514 Chapel Hill, NC

I represent: Linda Chapman

Address: 79 East 4th Street NY, NY 10003

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621-2019 Res. No. 1621

in favor in opposition

Date: January 28, 2020

(PLEASE PRINT)

Name: Paul Miller

Address: 14 Murray St NY NY 10007

I represent: Arts Organization

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 967

in favor in opposition

Date: _____

(PLEASE PRINT)

Name: Jasmine McKay on Behalf of Antonio

Address: 570 Wilson Avenue BK NY

I represent: Antonio Hegarty

Address: 250 Mercer Street NY NY

Please complete this card and return to the Sergeant-at-Arms

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. 1621-2019 Res. No. 0976-2019

in favor in opposition

Date: 1/28/2020

(PLEASE PRINT)

Name: JON LIPIKY
Address: PO Box 2492, Longmont, CO 80502
I represent: Rocky mt. PEACE & JUSTICE
Address: BERNHARD, CO

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 915

in favor in opposition

Date: Jan. 28, 2020

(PLEASE PRINT)

Name: OHIN WAI WONG
Address: 777 United Nations Plaza, New York City, NY
I represent: Shigeto Shigeto
Address: Los Angeles, California, USA

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

in favor in opposition

Date: _____

(PLEASE PRINT)

Name: Michele Peppers + June Tano
Address: (7 Diana Hill) 511 W 232nd St, Apt. W75
I represent: The Ribbon International Brooklyn NY 10463
Address: 7 Diana Hill, Huntington, NY 11743

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: 28-01-2020

(PLEASE PRINT)

Name: Leena Gurung

Address: 777 UN Plaza, NYC

I represent: Ms. Setsuko Thurlow

Address: _____

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 0976

in favor in opposition

Date: JAN 28 / 2020

(PLEASE PRINT)

Name: Enilie McGlane

Address: 360 8th St, Brooklyn, NY 11215

I represent: myself

Address: _____

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. 1021 Res. No. 976

in favor in opposition

Date: 1/28/2020

(PLEASE PRINT)

Name: Jan Zabarte

Address: 7 Crescent Dr LV, NV 89102

I represent: Western Bands of the Shoshone Nation of

Address: PO Box 46301, LAS Vegas NV ^{Indians}

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: 01/28/20

(PLEASE PRINT)
Name: Michael Korberchen

Address: One 74th St apt 6N Brooklyn NY
11209

I represent: _____

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: 1/28/2020

(PLEASE PRINT)
Name: RAYMOND BLACK

Address: 512 JANE ST, #4F, NY, NY
10014

I represent: RISE & RESIST

Address: ICAN

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. ✓ Res. No. ✓

in favor in opposition

Date: _____

(PLEASE PRINT)
Name: Molly Nolan

Address: 677 President Bklyn

I represent: Brooklyn for Peace

Address: 88 Atlantic Ave
Brooklyn

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: 1/28/20

(PLEASE PRINT)

Name: Michael Lent

Address: 17 State Street Suite 2450 New York, NY 10004

I represent: Venue Media Partners

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976

in favor in opposition

Date: _____

(PLEASE PRINT)

Name: TOM GOGAN

Address: 519 5th St Brooklyn, NY 11215

I represent: U.S. LABOR AGAINST THE WAR - NYC CHAPTER

Address: c/o 519 5th St #3-R Brooklyn NY 11215

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. 976

in favor in opposition

Date: 1/28/2020

(PLEASE PRINT)

Name: CHIEF DWAIN PERRY BY OWL

Address: 189 SLAB HILL ROAD, MAHWAH, NJ

I represent: RAMAPOUGH LENAPE NATION

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976
 in favor in opposition

Date: 1-28-20

(PLEASE PRINT)

Name: Dr. Kathleen Sullivan
Address: 270 21st St #3 BK, NY 11215
I represent: HIBAKUSHA STORIES
Address: NYC

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____
 in favor in opposition

Date: _____

(PLEASE PRINT)

Name: Denny Aberywarden
Address: _____
I represent: NYC Mayor's Office for IA
Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1621 Res. No. 976
 in favor in opposition

Date: 1/28/20

(PLEASE PRINT)

Name: Miyako Taguchi
Address: 35-24 78th St, Abb, Jackson Heights, NY 11372
I represent: Hibakusha Stories
Address: PO BOX 363 New York, NY, 10113
old Chelsea station.

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

in favor in opposition

Date: _____

(PLEASE PRINT)

Name: Maura Keaney

Address: _____

I represent: Amalgamated Bank

Address: _____

Please complete this card and return to the Sergeant-at-Arms

Group 2

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. _____ Res. No. _____

in favor in opposition

Date: 1-28-2020

(PLEASE PRINT)

Name: Ms Joanne Kinnedy

Address: 217 E. 54 St # 7, NY 10003

I represent: Martina Hennessey

Address: 55 E 3rd St NY 10003

Please complete this card and return to the Sergeant-at-Arms

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

[]

I intend to appear and speak on Int. No. _____ Res. No. _____

in favor in opposition

Date: 1/28/2020

(PLEASE PRINT)

Name: JOHN MARIGLIANO

Address: 350 WADSWORTH AVENUE #608

I represent: GLASS STORAGE MOVING/TRANSIT

Address: LOCAL 814

▶ Please complete this card and return to the Sergeant-at-Arms ◀

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

[]

I intend to appear and speak on Int. No. _____ Res. No. _____

in favor in opposition

Date: _____

(PLEASE PRINT)

Name: CYNTHIA MADANSKY

Address: _____

I represent: _____

Address: _____

▶ Please complete this card and return to the Sergeant-at-Arms ◀