

**TESTIMONY OF THE MAYOR'S OFFICE OF SUSTAINABILITY
BEFORE THE NEW YORK CITY COUNCIL
COMMITTEE ON ENVIRONMENTAL PROTECTION**

Tuesday, June 27, 2017

INTRODUCTION

Good morning, Chair Constantinides and members of the committee. I am John Lee, Deputy Director for Buildings and Energy Efficiency at the Mayor's Office of Sustainability (MOS) and I am a registered architect in the State of New York. I am joined today by Gina Bocra, Chief Sustainability Officer of the New York City Department of Buildings (DOB) and Anthony Fiore, Deputy Commissioner at the Department of Citywide Administrative Services (DCAS). Thank you for the opportunity to testify today on seven introduced bills:

- **Introduction 1629** in relation to adopting a more stringent energy code for new buildings;
- **Introduction 1630** in relation to making solar energy more available to city employees through bulk purchasing;
- **Introduction 1632** in relation to the disclosure of a building's energy performance at time of sale or lease;
- **Introduction 1637** in relation to establishing a New York City energy policy task force and the creation of a long-term energy plan;
- **Introduction 1639** in relation to bulk purchasing of on-site solar power by business improvement districts, and
- **Introduction 1644** in relation to the creation of a green project accelerator.

- **Introduction 1651** in relation to real-time monitoring of energy usage and heat loss in city buildings.

Climate change is perhaps the toughest challenge New York City will face in the coming decades. Rising sea levels, increasing temperatures and precipitation, and the likelihood of more frequent and intense storms threaten our neighborhoods and infrastructure while exacerbating many underlying social inequities. While President Trump continues to abdicate American leadership on climate change, cities across the country are taking up the moral imperative of pursuing action on climate change.

On June 2, 2017, Mayor de Blasio signed Executive Order Number 26 committing New York City to uphold the principles and goals of the Paris Climate Agreement. Through the executive order, the Mayor has directed city agencies to work with MOS, our national and global climate network partners, and other leading cities to develop further greenhouse gas (GHG) reduction plans and actions that are consistent with the Paris Agreement to limit global warming to 1.5 degrees Celsius.

The Mayor and MOS applaud Speaker Mark-Viverito, Council Members Constantinides, Cumbo, Garodnick, Johnson, Koo, Richards, and the City Council for their leadership on climate change and energy policy issues as demonstrated by the introduction of these bills. We are grateful for your partnership in our effort to reduce the city's GHG emissions.

THE INTRODUCTORY BILLS

68 percent of city-wide GHG emissions come from energy consumed in our buildings. The Administration is working to reach the dual goals of reducing emissions from buildings 30 percent by the year 2025 and reducing city-wide emissions 80 percent from 2005 levels by 2050. To reach these goals, in 2015 MOS convened a year-long Technical Working Group comprised of stakeholders from New York City's real estate industry, including building owners and managers, architects, engineers, unions, affordable housing interests, and environmental

advocates. The work of this group forms the basis for some of the bills before us today, building on the City's legacy of energy efficiency and green building policies. Therefore, the Administration is pleased to testify in general support of today's introductory bills. With the City Council's engagement on climate change policy, our City is in a strong position to address this challenge effectively. Please allow me now to discuss each of the bills in the order in which they were introduced. We have identified areas where we should work together to further strengthen these bills.

Introduction 1629 would require more stringent energy efficiency construction requirements in the New York City energy code than the New York State energy code and by 2025 establishes very-low energy use intensity design requirements for new and substantially reconstructed large buildings.

We strongly support the adoption of advanced energy efficiency construction standards as an incremental strategy to improve building energy efficiency and reduce GHG emissions to levels necessary to achieve the city's GHG reduction goals. The Mayor's Office, DOB, and key industry advisors are currently working with the New York State Energy Research & Development Authority (NYSERDA) on the development of the 2018 New York State Stretch Code, an alternative energy code based on the New York State Energy Conservation Construction Code that will realize at least 20 percent reduction in projected energy consumption. Future editions of the New York Stretch Code will be designed to achieve additional improvements over the base New York State energy code, and those will be evaluated for potential adoption by DOB's code revision committee.

The Administration agrees with the City Council that the real estate, architecture, engineering, and construction industries must be subjected to energy performance design target requirements for new building projects and substantial renovations for covered buildings (those 25,000 square feet and larger) as part of an overall market transformation of services and industries able to deliver very-low energy consuming buildings. The buildings that are

constructed today will continue to exist throughout this century, and the GHG impacts are most economically mitigated at the time of first construction. Regulations do drive the industry towards better performance levels, and very-low energy performance from buildings that will be built in the future is a critical component of the City's GHG reduction objectives. The bill establishes a specific design performance targets with a ramp of eight years for the industry to transition to new standards. That said, the City is supportive of a quicker transition to low energy design targets, which will require a close partnership with the Council and industry.

However, there are a few technical issues with the bill as introduced that we have identified and trust that Council is open to working together to address those issues. Furthermore, the bill as introduced authorizes the Mayor's Office to propose amendments to the Energy Code directly to the City Council if the State Authority fails to develop a model stretch code; however such authority is within the purview of the commissioner of the Department of Buildings. We do not believe it is the intent of the City Council to remove such authority from the commissioner, and we will work together to ensure that the language accurately reflects the already legislated protocols for Energy Code revisions.

Introduction 1632 would require an owner of any building, when selling or leasing the building, to disclose an energy asset score and for the owner of a large building to publicly display an energy efficiency grade. Awareness of energy utilization should be a critical factor in the transactional choices made in businesses every day, and we strongly support the intent of this bill. An energy asset score disclosed at the time of sale or lease and a publicly disclosed energy efficiency grading scheme have the power to convey meaningful information on a complex topic in a simple and accessible way. However, we have concerns over the structure of the publicly disclosed energy efficiency grade and the timing of the energy asset score disclosures. First, with respect to the structure of the energy efficiency grade, the bill as introduced indexes the grade against the reported source energy use intensity, or EUI, of the building. This is a measure of all fuel consumption in a building (electricity, natural gas, fuel oil, and district steam) over an entire

calendar year, on a per square foot of floor area basis. We must point out that EUI is not an indicator of efficiency of a building. For example, a building that remains empty for an entire year would have a very low EUI and score an “A” under the proposed scheme, whereas a densely occupied building that operates 24 hours a day, while perhaps very efficient, would exhibit a very high EUI and potentially a very poor grade. We look forward to working with the Council to determine a grading scheme appropriate for New York City buildings. Second, with respect to the timing of the requirement for the energy asset score, the deadline of July 1, 2018 does not afford sufficient time for the professionals who would be providing the energy asset score services to evaluate every building covered by the bill. We propose the Council consider a later compliance date to provide the industry with enough time to meet the bill requirements. We look forward to working with the City Council on this vital legislation.

Introductions 1630 and 1639 would require the city to submit plans for encouraging city employees and Business Improvement Districts (BIDs) to aggregate demand for solar energy systems in order to reduce the purchase price of these systems and increase citywide adoption of solar energy. While we applaud the Council’s intent to expand solar electricity generation and utilization in the city to the greatest extent possible, the requirements of the bills may not be necessary to legislate. The City presently offers Solarize NYC, a core component of our strategy to expand access to reliable and affordable solar power for all New Yorkers. Through the program, the City provides up to \$20,000 in funding to as many as eight New York City communities each year, to reduce market barriers for solar energy, attracting more solar energy companies to conduct business in the city, and increasing installed solar capacity throughout New York City. Solarize NYC stimulates demand for the services of local solar installers and reduces customer acquisition costs—and therefore the total purchase price—by aggregating customers. This program is already available to assist communities and networks of New Yorkers, which could potentially include city employees living in the five boroughs and members of BIDs, so that they may benefit from reduced prices from collective purchasing and implementation of solar

energy. As such, legislation to extend the benefits of bulk purchasing and reduced prices to City employees and members of BIDs would be unnecessary. We look forward to working with the City Council to work within the existing Solarize NYC program and framework to bring solar energy to more New Yorkers.

Introduction 1637 would establish a New York City energy policy task force and create by 2019 a long-term energy plan for the city and require that plan to be updated every four years thereafter. This requirements is duplicative of the existing obligations of the Mayor's Office, as stipulated in Chapter 1 Section 20 of the City Charter, to convene a sustainability advisory board (SAB) and deliver to the City Council every four years a long-term sustainability plan that includes energy policy as a component of OneNYC.

Introduction 1644 would establish a green project accelerator program within the Department of Buildings. While we certainly agree with the intent of this bill to remove administrative barriers to renewable electricity, DOB continues to make improvements to permit processes and investments into personnel and information technology that advance the City's clean energy goals. The requirements of Introduction 1644, while laudable, are already being implemented at DOB and thus unnecessary to legislate. Most permit applications for jobs that would qualify as "green projects" as contemplated by this bill would be submitted to DOB under the permit classification of "Alteration Type 2" (Alt-2). An Alt-2 permit can be obtained from the Department in a single day, including an Alt-2 permit to install a solar photovoltaic electric generating system on a rooftop. As of April of this year, 110 megawatts of solar capacity have been installed, an 81 percent increase since just 2015. This pace is a result of market demand, government incentive, and notably, the streamlining of procedures within the DOB.

Introduction 1651 would require real-time monitoring of energy use and heat loss in city buildings, with weekly public reporting of some data in addition to annual reports by DCAS for three years. The City is a strong supporter of, and has an active program for, real-time electricity monitoring. Technologies for monitoring heat loss on a broad scale in real time, on the other

hand, are undefined, and the standards, the benefits and the utility of such monitoring have not been established in the industry. Today, more than 250 city facilities currently have real-time electricity monitoring capability, representing about 30% of total city government demand. While we support the intent of this legislation, we do not believe that this bill is needed for the program to continue and to grow. Furthermore, weekly public reporting requirements will take resources and time away from working directly with the city agencies that use the information in facility management and will not be particularly useful to the general public. We understand the need to share this data and maintain transparency in government operations. We welcome a conversation with the City Council about how to make this information available to the public in a meaningful and useful manner.

CONCLUSION

Please allow me to reiterate the Administration's support of the City Council's bold efforts to reduce New York City GHG emissions through these introductions. Working together, we are confident that we can strengthen these bills to help us achieve our goals of cutting emissions 80 percent by 2050 and upholding our part to limit global temperature rise to 1.5 degrees Celsius. Thank you for the opportunity to testify. I am happy to answer any questions that you may have at this time.



**Statement of Adriana Espinoza
Manager, New York City Program
New York League of Conservation Voters**

**City Council Committee on Environmental Protection
June 27th, 2017**

Good morning. My name is Adriana Espinoza, and I'm the Manager of the New York City Program at the New York League of Conservation Voters (NYLCV). NYLCV represents over 28,000 members in New York City, and we are committed to advancing a sustainability agenda that will make our people, neighborhoods, and economy healthier and more resilient. I would like to thank Chair Constantinides and all members of the Committee on Environmental Protection for the opportunity to testify.

New York City has long demonstrated how municipalities can take the lead on climate change by implementing practical, measurable initiatives that keep us on the path to long-term stretch goals. Mayor de Blasio's OneNYC plan, which includes ambitious targets such as reducing greenhouse gas emissions 80 percent by 2050, has taken on even more importance in recent weeks: it is our primary vehicle to make good on our commitment to continue to uphold the Paris Accord even as leaders in Washington abandon it. The bills before this committee today demonstrate that the City Council recognizes the severe threat posed by a rapidly changing climate and we commend the sponsors of each of these bills for furthering the conversation on how we can get NYC to 80 x 50.

We cannot, however, underestimate the complexity of these issues, and must recognize that smart planning and innovation are needed to develop sustainability policies that create both environmental and economic sustainability. For that reason, we must ensure the goals laid out in these bills are reinforced by meaningful input from all stakeholders, robust investment, and a clear implementation plan.

In times like these, we need decisive action. The New York City Council has answered that call. Through our testimony today, we hope to highlight areas where we can work together to strengthen and improve these ambitious measures that intend to keep us on the path to a greener, healthier and more equitable tomorrow.

Intro 1629

The League is in favor of adopting a more stringent energy code than federal and state model codes. The New York State Energy Research and Development Authority (NYSERDA) already produces a voluntary stretch energy code, which allows for a 10% boost to energy savings. Intro 1629 takes that code even further. While NYLCV supports the bill's intent, we recommend refining the energy targets and building requirements laid out in the legislation based on stakeholder input.



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Intros 1630 and 1639

As the field of renewable energy is still rapidly evolving, we must remain open to emerging technologies to best reach our 80 x 50 goals. We should not promote one form of renewable energy over another. Introductions 1630 and 1639 seek to green energy generation, but NYLCV believes we may limit ourselves by choosing only to promote bulk purchasing of solar energy over other options available now or in the future.

Intro 1632

Not only are the technologies themselves still evolving, but so are the metrics used to measure their impact. Although NYLCV supports disclosure of a building's energy performance at point of sale (or lease), there is not a consensus among stakeholders on the best metric to use. While Energy Use Intensity (EUI) been used for 8 years through LL84 benchmarking, it has been criticized for not taking into account building density. Conversely, Energy Asset Score does take into account these factors, but it has not been adequately tested in the NYC market and its appropriateness is still uncertain.

NYLCV supports the goals of Intro 1632 and we believe there needs to be more transparency with benchmarking data. Disclosure at point of sale could help spur market demand for energy efficient buildings. We should, however, study and carefully deliberate the best metrics to use, and the best processes for disclosing them before making a blanket mandate.

Intro 1644

NYLCV is strongly in favor of a Green Project Accelerator. We recognize the significant economic benefits to streamlining the permitting process for green projects. As currently written, however, Intro 1644 is limited in the types of eligible green projects, focusing mainly on on-site generation. Under its current definition, Passive House projects would not be eligible. The Green Project Accelerator should be open to a much wider range of green strategies, including: energy efficiency, water efficiency, and resilience projects. While we support the intent of this bill, we strongly urge the Committee on Environmental Protection to revisit the definition of "green project" and expand it to maximize the emissions reductions that can be achieved through the Green Project Accelerator.

Intro 1651

This bill lays the groundwork for tracking real-time energy use and heat loss in city buildings but leaves us with many unanswered questions. What will the data be used for? Who will be responsible for the real-time monitoring and producing weekly reports? Who will be looking at and using the weekly reports? How is this sophisticated real-time data collection going to help reduce emissions?



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And what is the capacity for Department of Citywide Administrative Services (DCAS) to take on this new workload? We strongly believe in the power of data to drive changes in both policies and behavior yet, similarly to our comments on Intro 1632, we want to ensure that we are collecting the right data and utilizing it effectively.

What is clear to everyone here is that action is needed on climate change and the bills being heard today represent ambitious strategies. We look forward to working with all stakeholders to refine the details and clarify feasibility so that these proposals become successful laws that other cities around the country and the world can model. I'd like to thank Chair Constantinides and the entire Committee on Environmental Protection for their leadership on sustainability over the years, and look forward to working with you all closely on these bills moving forward.

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Testimony of Dan Miner - Comment on Intro 1639
Member, 350NYC.org Steering Committee
NYC Council Environmental Committee Hearing, June 27, 2017
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These are my personal opinions and not that of 350NYC.

Intro 1639 aims to promote the bulk purchasing of solar energy systems by Business Improvement Districts (BIDs). The administering agency is to develop a plan to encourage BIDs to increase use of solar energy within the district, to conduct a solar capacity survey of buildings within the district, and facilitate bulk purchase of solar energy systems within the district.

I know about BIDs. I worked at Long Island City Partnership, which runs the Long Island City BID, for over twelve years. I was permitted to spend a lot of time on my green interests. I successfully promoted Con Ed's small business energy efficiency program, which offers free surveys and deeply discounted lighting products, the NYC program to paint roofs white, and rooftop solar, documented at www.beyondoilnyc.org. However, my environmental interests were an anomaly in the BID world.

I also worked as District Manager at Manhattan Community Board Six, and then did community outreach in the Bronx for NYSERDA's Green Jobs Green NY program, which provides free home energy assessments for 1-4 family homes. (Incidentally, the GJGNY program is known to have remarkably low participation and results, throughout NY State, partly due to insufficient perceived financial value and incentives) I now do sales for a company that carries out LED lighting retrofits for buildings.

I can state with certainty that staff and boards of the City's BIDs, as well as its Community Boards and local civic organizations, generally lack a strong interest in environmental issues, including energy efficiency, renewable energy and local resilience to extreme weather events. Where members do have strong interests in these areas it is a rarity.

BIDs carry out the tasks set out in their performance contracts with NYC Dept. of Small Business Services, and sometimes with NYC Economic Development Corporation, as required for their funding.

Unless Intro 1639 very specifically mandates and requires that BIDs successfully complete specific solar projects as part of their required performance, I can assure you that BIDs will not make any significant effort on behalf of this program. They may put information about it in their newsletters or host a solar presentation, which will yield

nothing unless BID leadership and staff are fully committed to these new projects. I recommend also offering performance bonuses for exceeding milestones.

Intro 1639 must mandate and require that BIDs achieve solar project outcome targets, or the bill and the project will fail.

While Intro 1630 has the valuable goal of getting City employees to make solar energy buying decisions, because it is voluntary, and the average City employee is not an environmental activist any more than the average BID manager is, the plan must offer attractive incentives for the effort to succeed.

Finally, we must remember that climate change is accelerating while the Federal government, captured by the fossil fuel industry, is racing backwards.

It's up to NYC and other climate-conscious US cities and states to lead the nation and develop aggressive, effective responses. The bills introduced today by the Environmental Committee are worthy and good, yet we need to do even more.

Please consider re-introducing Intro. 967 of 2009.

The bill required not only that buildings undertake retro-commissioning measures identified in energy audits, the minor repairs to bring buildings up to their original energy performance levels, but that buildings were also required to perform energy efficiency retrofit measures that would have a payback of seven years or less.

The real estate industry must do their share to lessen NYC's contribution to climate change. Extreme weather events and rising sea levels will eventually impact their properties and tenants. It is wrong and shortsighted of real estate developers to resist serious climate change response for short term windfall profits – for which we will all pay a heavy price.

FOR THE RECORD



EIG Testimony in Support of Int. 1629

NEW YORK CITY COUNCIL

Committee on Environmental Protection

Tuesday, June 27, 2017

Good Morning, my name is L. Charlie Oliver. I am Chair of the Equitable Infrastructure Group (EIG) and CEO of Green Building Worldwide (GBW). Both organizations wish to be recorded in strong support of Int No. 1629-2017 - with concerns, observations and recommendations.

The Equitable Infrastructure Group, a private entity formed for the public good, serves to advance earnest dialogue and the action required to deliver equitable and resilient infrastructure. EIG is fully committed to working with partners who seek progress in addressing our shared challenges, and solidly engaging those entities who have historically insular structures but directly impact our mission.

I want to thank Chairman Constantinides, and committee members Donovan J.

Richards, Eric A., Ulrich, Rory I. Lancman, and Stephen T. Levin for the opportunity to submit testimony regarding same.

The language of Int 1629-2017 ties directly to the intent established by the Greener, Greater Building Plan, and subsequent Local Law 86 (Int 0701-2015) wherein the City of New York first stepped forward with setting low intensity guidelines for certain municipal and incentivized buildings based on scope - a clear Passive Haus leaning.

ElG Testimony in Support of Int. 1629

NEW YORK CITY COUNCIL

Committee on Environmental Protection

Tuesday, June 27, 2017

Why should Int 1629-2017 be adopted?

- Base codes are not keeping up with technological developments and advances in design practices. Stretch codes are better alternatives because they allow opportunities to align key sectors, cause a much needed paradigm shift that will afford us a window to break status quo and foster innovation and greater inclusion.
- By energy efficiency standards, in other Cities the adoption of Stretch Codes such as Boston Massachusetts, have realized a roughly 20% increase in energy efficiency above that of the then established base code over communities that have not adopted the stretch energy code.
- Int 1629 affords more credibility to the performance pathway to compliance options existing in the currently amended New York City energy conservation code
- Stretch codes would increase market receptivity of a more demanding energy code in the future
- Clearly, we would require a stretch code to meet 80 by 50 targets

While both organizations are in support, we present the following concerns,

observations, and recommendations:

EIG Testimony in Support of Int. 1629

NEW YORK CITY COUNCIL

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The Concerns/Observations:

1. The existing Task Force, as structured, is by and large made up of organizations which either go on to leverage the information developed in the task force competitively and/or for their members only. None overtly are charged with equity in communication or access to information. The Task Force should be broadened to include MWBEs and other groups which are not typically reflected on environmental policy task forces, their respective boards, staff, or audience. Clearly without equity in planning, there will not be equity in delivery.
2. Like Massachusetts, New York City should require that its Departmental Officials and Teams charged with oversight are trained on both the NYC Energy Conservation Code and the Stretch Code. They should also be made available to speak to sectors which have historically been excluded from the conversation.

The Recommendations:

1. The task force should be broadened to include groups who are not insular and those with outreach beyond a limited portion of the professional community
2. The related NYC Departments should be trained on the existing code and the stretch code

EIG Testimony in Support of Int. 1629

NEW YORK CITY COUNCIL

Committee on Environmental Protection

Tuesday, June 27, 2017

NYC is following Boston's lead by providing a more energy efficient code alternative. States that have stretch energy codes implemented include: California, Oregon, Massachusetts, Vermont, New York, and Rhode Island.

EIG urges the Environmental Protection Committee to support Int. 1629-2017 and to advance the Int. out of committee favorably.

Thank you for your review and consideration of the contents herein.

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Appraised Value and Energy Efficiency: Getting it Right

While location, design and price are a home buyer's main considerations, surveys show that buyers rank energy saving features and equipment (e.g., air and duct sealing, insulation, and high-efficiency heating, ventilation, and air conditioning equipment) as desirable features for which buyers are willing to pay more. The home may also have an addition built to the 2012 or 2015 International Energy Conservation Code (2012 IECC or 2015 IECC), which would make the addition between 15 and 16 percent more efficient than if built to previous codes.

However, energy efficiency may be overlooked in the appraisal process for a variety of reasons, including a lack of access to quality data, underwriting impediments, and appraiser qualifications. **Many appraisers may not be aware of the unique features of an energy efficient home.**



To ensure that a home's green and/or energy efficient features and equipment are taken into account during an appraisal, it is important to document the home's energy efficiency features in a standard format. This documentation may be completed as part of an energy upgrade through a program such as the

Department of Energy's Home Performance with ENERGY STAR® program or as part of the generation of a recognized energy performance score, such as a Home Energy Score ("HEScore"), a Home Energy Rating System ("HERS") index, or other metric. It is also important for homeowners to choose an appraiser that is qualified to value the green and/or energy efficiency features of a high performing, energy efficient home in the local real estate market.

A Ready-Made Solution Exists

Fannie Mae, Freddie Mac and Federal Housing Administration require appraisers to consider the energy efficient features of the home. There are many specially-trained appraisers who are qualified to assess the value of these features that are often hidden behind the drywall.

What Can Contractors Do?

Contractors can help clients ensure that a qualified appraiser is selected by doing the following things:

1. Complete and provide homeowners with the *Residential Green and Energy Efficient Addendum*, available at <http://www.appraisalinstitute.org/assets/1/7/Interactive820.04-ResidentialGreenandEnergyEfficientAddendum.pdf>.
2. Provide homeowners with a copy of a completed third-party-certified inventory of home's energy efficiency features in a standard format, such as a certificate that conforms to the *Building Performance Institute's 2101-S-2013 Standard Requirements for a Certificate of Completion for Residential Energy Efficiency Upgrades*, available at <http://www.hpxmlonline.com/wp-content/uploads/2017/02/BPI-2101-S-2013-Standard-Requirements-for-a-Certificate-of-Completion-for-Residential-Energy-Upgrades-2013-09-03.pdf>, and/or a copy of a completed report with a HERS rating, HEScore, or other recognized energy performance score (if available).
3. Prepare the homeowner to notify the lender that they require an appraiser that is qualified to value energy efficient, high performing homes. Add your logo, the property address, and contact information to the letter for Lenders. Direct your client to give the letter (along with information outlined in the bullets above) to their lender.

For Buyers

ENSURING A QUALIFIED APPRAISER FOR YOUR HOME

Your home has higher energy efficiency or green standards than many others on the market because you or a previous owner implemented a whole-house energy upgrade, or installed green or high-efficiency equipment and features. Homes like yours typically perform better than homes built during the same period or earlier. Your home may be more healthy and comfortable to live in, and will likely have lower monthly energy bills than comparable homes without these features. Some of your home features may include:

- More wall and ceiling insulation to keep conditioned air inside your home
- Windows that keep the heat out in the summer months to improve comfort
- Fewer drafts and air leaks, which improve indoor comfort and reduce energy costs
- High-efficiency heating, ventilation, and air conditioning (“HVAC”) equipment and sealed ducts, which reduce energy consumption and increase comfort by distributing heated and cooled air evenly through the home

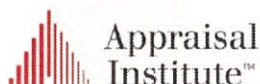
What You Need To Know Regarding the Loan/Appraisal Process

Some lenders randomly assign an appraiser to estimate the value of a home. However, yours is not a typical home because it is a higher-performing building or one with unique green or high-performance features. Fannie Mae, Freddie Mac and Federal Housing Administration require appraisers to be qualified to appraise the specific property in the assignment. To ensure that the appraiser takes your home’s unique features into account, you should clearly identify the property as a special property type, which requires an appraiser qualified in the valuation of energy efficient, high-performing homes.

What You Need to Do

Provide your lender with one or more of the following information provided to you by the builder, retrofit contractor, homeowner, energy rater, green certification, or Home Energy Rating System (“HERS”) report:

- The lender letter regarding this special property type and the need for an appraiser qualified to value energy efficient, high-performing homes.
- A third-party-certified inventory of the home’s energy efficiency features in a standard format, such as a certificate that conforms to the *Building Performance Institute’s 2101-S-2013 Standard Requirements for a Certificate of Completion for Residential Energy Efficiency Upgrades*, available at <http://www.hpxmlonline.com/wp-content/uploads/2017/02/BPI-2101-S-2013-Standard-Requirements-for-a-Certificate-of-Completion-for-Residential-Energy-Upgrades-2013-09-03.pdf>.
- A recognized energy performance score, such as a Home Energy Score, a HERS rating, or other metric such as those listed on the Lawrence Berkeley National Laboratory’s *Information Atlas for Appraising Green and High-Performing Buildings*, located at: <https://sites.google.com/site/appraisinghpbbuildings/key-topics/rating-systems>.



FOR THE RECORD



Testimony for June 27, 2017 on Several Energy Efficiency Bills

The Building Owners and Managers Association of Greater New York (“BOMA/NY”) represents more than 750 owners, property managers, and building professionals who either own or manage 400 million square feet of commercial space in NYC, and it is an association within BOMA International, a federation of 90 US associations and 19 international affiliates that own and operate approximately 10.5 billion square feet of office space in the United States.

BOMA/NY and its members have a long history of working to make New York City’s buildings cleaner and more efficient. Most recently, we served on the Mayor’s Working Group for 80 x 50 and worked with REBNY, the City, Urban Green, and others on a program to train building staff in best energy efficiency practices. Our Energy and Sustainability Committee meets monthly to discuss timely events and initiatives, as does our Codes and Regulations Committee. We recognize the significant role buildings play in emissions reductions and look forward to working with the Council and the Mayor’s Office moving forward on fair, effective, and reasonable approaches to greening buildings.

Int. No. 1632: A Local Law to amend the administrative code of the city of New York, in relation to requiring that property owners disclose information about a building’s energy efficiency when selling or leasing such building or space within such building.

This bill fundamentally misunderstands energy use in buildings and would therefore produce results that are inaccurate and/or without meaning. Energy use in buildings is determined by the building’s base energy systems AND by tenant use of those systems and their plug loads. Building owners have little or no control over tenant energy use, which is by far the predominant driver of total energy used in the building. Tenants with heavy data needs, longer air conditioning hours, and other high energy needs will mean high energy use, regardless of the building’s systems. In almost all cases where tenants have high energy needs, the profit they make from that energy use far exceeds energy costs, which are a relatively small item in their overall budgets, so cutting energy use is not a priority or even desirable to them. This means:

1. Metrics that use energy use/square foot are primarily measuring the tenant energy use, and so do not reflect the building’s energy efficiency efforts.
2. Comparing “similar” large commercial buildings is largely meaningless, as they will likely have significantly different tenants. The data needed to compare similar tenants is not available, which is why the federal Tenant Star program is nowhere near up and running.
3. Even the building’s skin is largely based on tenant needs, as buildings are designed and built to appeal to potential tenants, who often desire lots of glass to enhance views.
4. For the energy asset score, it is unlikely that data exists to “normalize” energy used based on “operational and occupancy variables.”

In addition, in many commercial buildings, especially Class B and C ones, the owner has little or no control over base energy systems as well. For example, tenants may own and control air conditioning systems that operate on their floor. Building owners may only control the boiler and some of the building's lighting. Therefore, again, metrics for the building will reflect tenant choices and uses.

Many buildings with historical designations are prevented from employing energy efficiency strategies and should be excluded.

For these reasons, BOMA/NY opposes this legislation as currently drafted. In essence, the bill tries, for understandable reasons, to reduce building energy use down to a few simple metrics. Unfortunately, the reality of energy use in buildings is that it is significantly more complex than that, and such simple metrics will misinform and mislead instead of clarify these issues.

Int. No. 1629: A Local Law to amend the administrative code of the city of New York, in relation to requiring periodic recommendations on adoption of a more stringent energy efficiency requirements for buildings and energy use intensity requirements for new and substantially reconstructed buildings

This bill sets interim approaches to develop energy efficiency requirements for the next several code cycles and mandates that new and substantially reconstructed buildings are "low energy intensity buildings" starting in 2025, among other things.

This bill is overly ambitious in its energy efficiency mandates and overly simple in its overall approach. For example, the bill proposes one potential standard for post-2025 buildings as meeting a source energy use intensity for new buildings of 38 kBtu per year per square foot of floor area. First, many current buildings have a source EUIs that are many times higher than this standard, and it is doubtful that it can be reasonably met, or even met at all. For example, according to the EPA (see <https://portfoliomanager.energystar.gov/pdf/reference/US%20National%20Median%20Table.pdf>), "financial offices" on average have a Source EUI of 148, and so would require a 289% decrease from the average to meet the standard.

Second, different building types have drastically different average source energy use intensities, so setting a single mandate for almost all building types is too simplistic. A "college/university scores on average 262.6, a convention center about 69, and so on. One size fits all will not work here.

It also appears that Source EUI, as a calculation based on energy use over a year, would capture the same tenant issues as discussed above about Int. No. 1632. If so, it would make this metric ineffective as a measure of building energy efficiency. It also takes into consideration energy production and transport (including losses), which a building owner would have little to no control over.

It is difficult to determine the feasibility and costs associated with meeting other mandates in the legislation, and it is not clear how they were arrived at. Careful analysis needs to be undertaken to ensure that objectives are reasonable and fair. In addition, an incentive-based approach probably makes more sense when trying to reach hard-to-achieve energy efficiency goals.

Due to these and other issues, BOMA/NY opposes this bill as written.

Int. No. 1637: A Local Law to amend the administrative code of the city of New York, in relation to establishing a New York city energy policy task force and creating a long-term energy plan for the city.

BOMA/NY fully supports the creation of an energy policy task force, and would be honored to serve on such a task force. It would probably be worthwhile to have further discussions about the scope and focus of this task force, as some of the bill's mandates are probably covered by other entities, but an ongoing, city-based policy discussion about energy would be helpful in meeting the city's emissions reduction and other energy-related goals. Given the complexity of the issues addressed above, and the issues with the other bills discussed above, this task force, along with supplemental efforts, is needed to analyze and implement any emissions reduction efforts moving forward.



SUBMITTED TESTIMONY OF THE NEW YORK BUILDING CONGRESS

BEFORE THE ENVIRONMENTAL PROTECTION COMMITTEE

REGARDING INTROS. 1629, 1632 AND 1637

June 28, 2017

The New York Building Congress is a membership coalition representing more than 500 constituent organizations and 250,000 tradespeople and professionals, including contractors, architects, engineers, unions, real estate managers, developers and owners, who comprise the New York building industry.

The Building Congress is concerned about the impacts of Intros. 1629 and 1632. Both Intros apply Energy Use Intensity (EUI) as the key metric to monitor and enforce rigorous new energy efficiency standards for new and renovated buildings, and could discourage improvement and construction of dense, high-rise developments, the very building type critical to supporting the city's growing population.

The EUI metric fails to consider the unique characteristics of New York City's built environment. Specifically, EUI does not account for how many people occupy a given floor, how many hours the floor is occupied and the economic value of the work produced by the floor's occupants. As the city's building stock largely consists of developments in which such oversights apply, the Building Congress questions the use of EUI to impose a significant new mandate on the building industry.

Consistent with its mission, the Building Congress remains devoted to ensuring our city grows in a sustainable manner which encourages energy efficiency and limiting carbon emissions.

However, the proposed methods of achieving such growth, as they have been proposed, would adversely affect the city and the general welfare of its residents by hindering the competitiveness of the New York City economy.



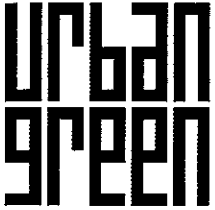
The Building Congress urges close collaboration with affected industries to ensure city-wide energy efficiency requirements that account for the unique characteristics of New York City's building stock.

In this vein, the Building Congress supports Intro. 1637, which convenes a New York City Energy Policy Task Force. The Task Force would be managed by the City and include representatives from across the building industry to work collaboratively and provide workable, innovative approaches to making New York City a continued leader in building energy efficiency. A key strength of the Task Force is that it would be permanent, allowing it to adapt over time to changes in global energy policy, technology and building standards and adjust City policy so that it is continually meeting rigorous standards.

We thank the Council for seeking to improve the City's energy profile and welcome the opportunity to serve as a resource as it seeks to reach the highest standards of energy efficiency. Should you have any questions, please do not hesitate to contact us.

Thank you for your time and continued support of our efforts to build a better New York.

Carlo A. Scissura, Esq.
President and CEO
New York Building Congress



**Testimony of Christopher Halfnight
Policy Manager, Urban Green Council
Before the New York City Council Committee on Environmental Protection**

Re: Int. Nos. 1629, 1630, 1632, 1637, 1639, 1644, and 1651

June 27, 2017

Good afternoon Chair Constantinides and members of the Committee. My name is Christopher Halfnight and I am Policy Manager at Urban Green Council, a nonprofit whose mission is to transform NYC buildings for a sustainable future.

Thank you for the opportunity to comment on these bills. Urban Green strongly supports the intent of these bills and City Council's efforts to advance energy efficiency and green power citywide. At the same time, we feel that these proposals need significantly more stakeholder input and refinement. We look forward to working toward that end.

We also offer the following specific comments:

Int. 1629 (regarding a more-stringent energy code)

Urban Green agrees that the City's energy code should be more stringent than the national model codes, but we feel that the requirements should:

1. Be based on a consistent, existing reference code or codes;
2. Include a prescriptive path, as well as a performance path, to accommodate the many buildings that do not use energy modeling; and
3. Address all types of buildings – large and small, residential and commercial.

We would like to work with the City and industry representatives to refine these requirements and set targets that are ambitious yet achievable.

Int. 1632 (regarding energy disclosure)

Urban Green supports expanded transparency for energy efficiency data from Local Law 84 benchmarking. With eight years' experience, building owners are familiar with the data and the track record is clear: an average of 6% energy savings in the thousands of NYC buildings that benchmarked 3 years in a row after their baseline year. We would like to work with the City and industry to find the most effective way to expand transparency for benchmarking scores.

In concept, we also support an asset rating based on building characteristics, which factors out issues like tenant energy use. But we feel that the current proposal moves too far, too fast: asset ratings have not been adequately tested in the New York City market. To lay groundwork for this step, we suggest that Local Law 87 audit data be used to create an Asset Score through the Department of Energy's free online tool. That score should then be sent privately to building owners and the City, with a study of the metric to follow after two years.

Lastly, we also feel that the city should require some form of energy rating and transparency for smaller buildings below the threshold in this bill.

Int. 1637 (energy policy task force)

Given the complexity and importance of energy supply and demand in New York, we agree that the City should develop a long-term plan every four years, informed by a stakeholder task force. We suggest adding three critical points to the task force's ambit:

1. How to improve alignment between the state and City;
2. Assessing progress toward the City's 80 x 50 goals; and
3. The impact of demand-side measures like efficiency, electrification, and storage on the electric and gas grids.

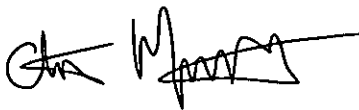
Int. 1644 (green project accelerator)

Urban Green supports the concept of a green project accelerator, but its scope should extend beyond onsite generation to include such green strategies as energy efficiency, water efficiency, resource conservation, and resilience, particularly because the Department of Buildings already has a solar ombudsman. We also feel that to be effective the accelerator needs specific and ambitious criteria for green projects, such as Passive House, LEED Gold, Net Zero, or extensive green power that supplies a high percentage of a building's electricity.

Int. 1651 (real-time energy monitoring)

We feel that real-time energy management is a promising technique that may yield significant cost and energy-use benefits for the City. We suggest, however, that as an initial step the City should pilot several different systems on a range of building types, study the results, and then make recommendations for further requirements.

Thank you for the opportunity to testify before this committee, and we are available to answer any questions you might have.



Christopher Halfnight



June 27, 2017

New York City Council

Re: Int. No.s 1629, 1632, 1637, 1639, 1644

Chair Constantinides and Honorable Councilmembers,

Good Afternoon. My name is Abbey Brown, and I am the Clean Energy Project Manager for Environmental Defense Fund's New York Clean Energy Program. I respectfully submit the following testimony in support of Intro. No.s 1629, 1632, 1637, 1639, 1644, and 1651.

Environmental Defense Fund (EDF), is a not-for-profit, non-partisan, international environmental organization with headquarters in New York City. With two million members, more than 35,000 of which are New York City residents, we work to advance market-based policy to address the world's greatest environmental challenges.

To meet Mayor de Blasio's aggressive goal of reducing citywide carbon emissions by 80 percent below 2005 levels by 2050, we must not only act quickly, but carefully. These actions are even more crucial now that the United States has withdrawn from the Paris Agreement. New York City has committed to meeting the Paris Agreement goals, joining 24 states and over 300 cities across the country that are doing the same. This is commendable. And now the City Council has the opportunity to do even more to tackle climate change to not only improve the lives of New Yorkers, but also to contribute to the greater good of the country.

As they stand, these bills cover many of the challenges the City faces, all of which need to be addressed. However, they could go farther. *We can go farther.*

There is a fine line between creating legislation as quickly as we need it and rushing into policies that will lock us into ineffective action. As of last Friday afternoon, June 23rd, there were bills still being added to the agenda for this hearing, leaving less time than normal for thorough analysis. We respectfully urge the Council to take more time to consider a cohesive package of bills that include energy efficiency and more renewable energies than just solar.

In several of the bills, which I will discuss in a moment, it is somewhat unclear what additional benefit they provide to the plans and processes already in place. At this point, it may be most effective to increase the efficiency of existing procedures rather than create additional ones.

EDF supports the efforts made by the Council, and the following critique is intended to make these bills the best they can be. Let me discuss, in brief, a few specific bills that hold the most potential.

Both **No.s 1629 and 1627** seem to duplicate procedures already in existence: 1629 within the energy codes, which are already reviewed every three years and made more stringent, and 1637 in regards to the City's planning and reporting process. The City already reports on their progress according to the Greenhouse Gas Inventory and OneNYC, and while energy code improvements are necessary for meeting our energy goals, there may be more efficient ways of regulating this.

Instead of creating new codes, we should find synergies within existing processes to improve the work already being done. A multi-stakeholder taskforce devoted to long-term energy planning is valuable and we support the codification of such a requirement into city law. Opportunities to find common ground between this requirement and existing efforts would be beneficial to all.

Intro. No. 1639 would require the city to create a plan to encourage business improvement districts (BIDs) to increase solar energy use. The city should certainly motivate businesses to use solar energy, but why stop there? Why not encourage other types of renewable energy such as wind or geothermal, as well as energy efficiency? The BIDs can be a useful mechanism for incentivizing broader use of renewable energy, and they can and should go farther than what is required in this bill.

Intro. No. 1644, which creates a 'Green Project Accelerator', contains a very concerning omission. While the initiative would cover renewable energy projects and distributed energy resource projects, which is admirable, by the definition given in the bill it would *not* cover energy efficiency projects. This is troubling, as energy efficiency is critical in reaching the city's 80x50 goal.

Buildings account for roughly 70 percent of citywide carbon emissions, of which the majority comes from heating and cooling systems. In the city's own 'Roadmap to 80x50' report, energy efficiency is listed as one of the most significant reasons why carbon emissions have been reduced thus far, and one of the key measures for continued carbon reduction. Leaving energy efficiency out of this bill is both confusing and worrisome.

We should not only focus on making sure buildings use cleaner energy, but also make sure they use *less* energy to begin with. Without those two efforts working in tandem, the 80x50 goal will be increasingly difficult to reach.

In addition, it is somewhat unclear where the program or office proposed in this bill would be housed – whether it would be in the mayor's executive office, or within the Department of Buildings. Where would it stand within the organizational hierarchy, and what sort of authority would it have?

Intro. No. 1651 is a bill with exciting potential, one we are glad to see the Council is considering. However, we believe the bill might best be tested through a smaller pilot program in its initial stages. This would allow the City to gather data with which to judge its effectiveness.

EDF supports the efforts made by the Council to make our city greener and cleaner and these bills are meant to advance those necessary efforts. However, we think that the Council could benefit from taking more time to engage with the environmental community regarding this legislation, and to consider whether some of these bills duplicate already existing processes within city government. We submit our questions and concerns to ensure that this legislation will provide the strongest benefits once it passes, so City goals can be achieved effectively and sustainably.

This is a time when New York City can be a leader among cities across the country and the world, and serve as an example in the fight against climate change. Though it is necessary to move quickly given the challenges we face, we must carefully consider each step we take to ensure it is the best possible.

EDF welcomes the opportunity to work with the Council to accomplish these goals.

Thank you,

Abbey Brown
New York City, Clean Energy Project Manager
Environmental Defense Fund
(212) 616-1328
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American Council of Engineering Companies of New York

**Statement by the
American Council of Engineering Companies of New York
Committee on Environmental Protection, June 27, 2017**

The American Council of Engineering Companies of New York represents the professional engineering community. Our members are involved in all aspects of engineering: structural, mechanical, electrical, civil, environmental, plumbing, fire protection and technology systems.

ACEC New York is strongly committed to energy efficiency, sustainability and the City's 80x50 carbon reduction plan and supports the Council's efforts to advance those goals, but has serious concerns about two bills.

Intro. 1637 calls for the creation of a City energy policy task force, with participation of many specific categories of industry representatives but does not require the appointment of the people who actually design energy systems, professional engineers. Given the technical nature of the reporting which the bill requires, we request that this oversight be corrected.

With respect to Intro. 1629, we urge the Council to table this version and engage with our members and other stakeholders to arrive at an approach that addresses the following four criteria:

1. Is less speculative about future regulator and market events and forces that will inevitably change the impact of the requirements of this bill on New York City's building stock.
2. Carefully and clearly manages the transition from a predictive based regulatory framework to one that is outcome based and utilizes a EUI metric that is not unit building area based, but rather normalizes energy use intensity for the dramatic variations in space type, space use, human occupancy density, hours of operation and process loads found in the New York City built environment. Ideally, a metric based on a unit of economic or societal output could be developed.
3. Is purposefully informed by analysis of potential economic impact (including green job creation) associated with the proposed ramp rate of required increased building energy efficiency performance relative to the 80x50 carbon reduction trajectory. The City's current plan does not require buildings to be designed to Passive House standards in order to meet the 80x50 goal.
4. Provides market certainty and reduced risk relative to the economic impact of designing, constructing and operating buildings under these changing regulations.

We urge the Committee to direct its staff to meet with us and other allied stakeholders in a collaborative process to re-frame this bill in detail before it moves forward, in the interest of our common goals of making New York a leader in the area of energy efficiency and carbon reduction.



**Statement of
Donna De Costanzo
Director, Northeast Energy and Sustainable Communities
Natural Resources Defense Council**

**Before the
New York City Council
June 27, 2017**

Good afternoon, my name is Donna De Costanzo, Director of Northeast Energy and Sustainable Communities, at the Natural Resources Defense Council (NRDC). Thank you for the opportunity to deliver testimony on the important package of legislation before you today. NRDC supports the passage of Int. Nos. 1629, 1630, 1632, 1637, 1639, 1644, and 1651.

NRDC has a long history of working in New York City on issues related to energy efficiency and renewable energy, including working extensively with the Council and the Administration on the landmark *Greener, Greater Buildings Plan*. In this era of complete abrogation of climate leadership at the federal level and an assault on the most fundamental clean energy and climate programs, New York City is an important leader among the local jurisdictions committing to filling the federal vacuum and charting the direction to a climate friendly future.

As you know, buildings in New York City account for two-thirds of total citywide carbon emissions. Therefore, to reach our 80 x '50 and interim greenhouse gas reduction goals, we will have to continue the great strides that have been made since the passage of *Greener, Greater*. The legislation before you today further expands and strengthens New York's first in the nation programs to reduce energy use in buildings, increase deployment of solar, and facilitate clean energy and green projects; in so doing the bills will not only play a critical role in achieving the City's 80 x '50 goal, but will result in significant job creation, lower energy costs for consumers, fewer emissions of harmful pollutants, and increased reliability of our electric grid.

Int. No. 1629: Adoption of a stretch code that requires the energy performance of New York City's buildings to reach beyond what is required by the base New York State Energy Code will ensure new

buildings and major renovations are significantly contributing to our low carbon goals. Low energy intensity requirements will also bring New York's mid-sized and large new buildings to the cutting edge of efficiency and create a built environment that is a sustainable model well into the future. We believe that all buildings, large and small, need to be part of the plan to achieve our carbon goals, and recommend that the City develop a framework to address buildings below 25,000 square feet, as well.

Int. No. 1632: We support increasing transparency regarding a building's energy performance, given the important information it provides to prospective purchasers and tenants, as well as its positive impact on encouraging building owners to implement energy upgrades and to move the market toward more efficient buildings. Energy usage information is already available for buildings required to be benchmarked through various websites and we support a move toward making such information more easily accessible and understandable. We also strongly support the development of asset scores for buildings, to provide a comprehensive picture of energy performance for building owners, including regarding a building's design and energy systems. We also believe that information regarding building energy usage should be accessible, regardless of building size.

Int. No. 1637: Institutionalizing the creation of an energy task force and long term energy plan with a broad range of stakeholder participation resurrects a previous critical New York City energy policy task force initiative and continues the City's efforts to do robust planning and annual reporting that underpins the implementation of the many initiatives that will get us to our 80 x '50 greenhouse gas reduction goals. In addition to the elements already specified in the bill, we recommend that the plan include steps the City should take to increase clean energy deployment at the state level, as well as ways in which the City will better integrate its clean energy planning efforts and initiatives with those of New York State.

Int. Nos. 1630 and 1639: Solarize campaigns for New York City employees and business improvement districts will reduce costs, streamline the solar process, and expand the deployment of solar power, helping the City to achieve its 1,000 MW citywide solar goal. The Council should consider expanding these bills to include electric vehicles and potentially energy efficiency, as well.

Int. No. 1644: Creating a "green project" accelerator will reduce soft costs and expedite important clean energy projects, building on the important efforts of the NYC Solar Partnership and other initiatives to facilitate increased clean energy deployment. The Council should ensure that the scope of the accelerator includes energy efficiency, in addition to renewables projects.

Thank you again for the opportunity to testify today. We look forward to continuing to work with the City, real estate industry and other key stakeholders to meet our 80 x '50 climate goals and to ensure these bills and other efforts are effective, ambitious and achievable and maintain New York City's important climate leadership role.

LISA DICAPRIO, CONSERVATION CHAIR, SIERRA CLUB NYC GROUP.

JUNE 27, 2017 STATEMENT IN SUPPORT OF INT. 1629-2017 which will require “periodic recommendations in adoption of a more stringent energy efficiency requirements for buildings and energy use intensity requirements for new and substantially reconstructed buildings.”

My name is Lisa DiCaprio. I am a professor of Social Sciences at NYU where I teach courses on sustainability. I am also the Conservation Chair of the Sierra Club NYC Group.

The Sierra Club supports City Council legislation to reduce our reliance on fossil fuels by switching to renewable forms of energy and increasing the efficiency of our buildings, which are responsible for over 70% of all greenhouse gas emissions in NYC.

While the Trump administration is denying the science of climate change, architects and engineers are applying the science of buildings to achieve increasingly ambitious energy efficiency standards. For example, Passive House can reduce by up to 90% the energy required to heat and cool conventional buildings. When it is completed this summer, the 26 story residential building on the Cornell-Technton campus, designed by Handel Architects, will be the largest and tallest high rise Passive House in the world.

I will focus my comments on Int. 1629-2017, introduced by Council Member Costa Constantinides, which requires large new and substantially retrofitted buildings to meet low energy intensity requirements. This bill complements Int. 0701-2015 A, introduced in 2015 by Council Speaker Melissa Mark-Viverito, which mandates that all new city-owned buildings must be designed and constructed as low energy intensity buildings. The bill was passed by the City Council and signed into law by Mayor de Blasio on March 28, 2016.

I would like to make these four recommendations concerning Int. 1629-2017:

1. The effective date should be 2020 instead of 2025. The technical expertise already exists for designing low energy intensity buildings. Moreover, the higher upfront costs of Passive House and low energy intensity buildings, typically 3 to 5%, will diminish as they are mainstreamed and constructed on a large scale. A five year delay in the implementation of this bill is a missed opportunity to reduce greenhouse gas emissions, especially given the current construction boom in NYC.

2. Incorporate the social cost of carbon in the text of the bill. This key, environmental concept assigns a monetary value to the social cost of climate change impacts caused by carbon pollution, which are now affecting all sectors of the global economy.

Precedents for incorporating the social cost of carbon in City Council legislation include Int. 1159-2016 on the installation of solar water heating and thermal energy systems on city-owned buildings and Int. 0609-2015 concerning the installation of geothermal

systems on city-owned buildings. The geothermal bill set the social cost of carbon at \$128. per metric ton of carbon dioxide equivalent with progressively increasing values that reach \$142. per metric ton by 2020.

To apply the social cost of carbon to a building, we would assign a specific value i.e. a dollar amount for each metric ton of carbon dioxide equivalent that the building does not emit because of its low carbon design. This dollar amount, which could be increased every five years, would be multiplied by the number of years projected for the life of the building. With such a calculation, we can highlight the financial benefits of Passive House and low energy intensity buildings from an environmental perspective.

3. In the future, extend the low-energy intensity requirement to all new buildings and substantial retrofits in NYC.

4. My fourth recommendation concerns how Council Members can inform their constituents about various ways to reduce greenhouse gas emissions. Last night, for example, Council Member Helen Rosenthal, who represents me in the City Council, held a Clean Energy Forum about how Upper West Side residents and businesses can switch to renewable forms of energy. The Sierra Club NYC Group co-sponsored this forum, which was attended by over 200 people. We encourage all of our Council members to organize forums on renewable energy and building efficiencies in their districts. In this way, we will increase public support, including within the real estate industry, for the initiatives required to ensure the future of our city.



AIA
New York

Intro 1651

AIANY supports the real-time monitoring of energy usage and heat loss in city buildings, particularly considering Local Laws 31 and 32, which strengthen sustainability requirements to make city-owned buildings among the most efficient in the country. Monitoring building performance is a necessary step in dramatically reducing energy use as mandated by the Council.

In New York City, where buildings produce over 70% of carbon emissions, AIANY and our members offer our continued commitment to work with the Council, this administration and relevant stakeholders to achieve the city's goal of 80% carbon reductions by 2050. We are excited that NYC is taking the lead on dramatically reducing energy use in buildings and thinking holistically about our next steps.

The American Institute of Architects

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Submitted on behalf of AIANY.

David Piscuskas, FAIA, LEED AP
2017 President

6_27_17

NYC City Council Hearing
Intro 1629

Buck Moorhead
New York Passive House (NYPH)
NYH2O
Damascus Citizens for Sustainability (DCS)

We applaud the City Council for its support of Intro 1629. As we know, roughly 75% of NYC's greenhouse gas emissions are related to its buildings. Legislation designed to substantially mitigate building emissions through the employment of Passive House strategies in buildings is essential.

The low energy targets proposed are being achieved in project of many types, all over the world, in many climates.

New York City, to its credit, has recognized this and has been developing its own pathway forward, one that acknowledges and respects the dynamics of our economies, our building industries and design professions, and all that makes New York the great city that it is.

We at New York Passive House are prepared to assist Council, in any manner that may be helpful, as the conversation moves forward regarding this legislation.

With respect to demonstrating the viability of the target with respect to this legislation, I have distributed three projects for your review.

I will not go into detail here.

The first project is the first primary school in the USA certified by Passive House Institute (PHI), located in Hollis, New Hampshire. Its Energy Use Intensity (EUI) is cited.

The second project is a primary school in Germany, also certified by PHI. It should be noted that this school was completed in 2004.

The third project is an office building in Frankfurt, Germany

Passive House, as is obvious, is about more than houses.

These projects are cited to help demonstrate what you have already heard today, and will continue to hear as we move forward.

Very low energy, near Passive House, and Passive House new buildings and substantial retrofits are being successfully completed both globally, and in this country and in this city.

We must be intelligent in the steps we take, provide training and incentives where appropriate. We should challenge our building community, its developers and builders, its architects and engineers to embrace this new paradigm. Passive House is absolutely that; it is as essential as making sure that the building's structure is adequate and that we keep the rain out.

New York City can lead our country in showing the way to this new paradigm. We cannot afford not to do so.

Buck Moorhead



HOLLIS MONTESSORI SCHOOL

As the first Certified Passive House Elementary School in the US, the Hollis Montessori School exemplifies the future of low carbon, zero energy possible institutional buildings.

TEAM: [Windy Hill Associates](#) (Architecture), [ZeroEnergy Design](#) (Passive House Consulting, Mechanical Design), [Eric Roth Photography](#) (Photography)

Goals. The project successfully balances multiple goals, including education, Montessori principles (such as independence, freedom, and respect), and the institutional goals of healthy indoor air, durability/longevity, cost effectiveness, and exceptional energy performance.

Solution. The solution for the school was a high performance building enclosure, very high efficiency systems, design to maximize daylighting, orientation for passive solar gain, and adherence to the Passive House Standard.

Enclosure. The super-insulated air tight building enclosure includes a double stud wall system that provides R-41 dense pack cellulose continuous insulation, an R-111 roof assembly that combines dense-packed cellulose in the roof trusses and continuous rigid insulation outbound of the roof sheathing, R-54 under the concrete floor slab, and building details to mitigate all thermal bridging. High performance U-0.15 triple pane windows/doors offer a SHGC-glass of 0.50 to capture the sun's energy. The exterior sheathing was taped and sealed to serve as the primary air barrier, yielding a final infiltration rate of only 0.25ACH50.

Systems. An air source heat pump system with one head per classroom provides space conditioning, offering heating, cooling, and dehumidification. Zehnder Comfoair 550 HRVs complete the package with highly efficient ventilation and heat recovery. The building's very limited need for hot water comes in demand spikes, justifying the electric tankless water heaters at each point of use.

Lighting. In addition to capturing passive solar gain, the south facing windows readily offer natural daylighting throughout the classrooms. Vacancy sensors and daylight sensors help to further reduce lighting use and minimize electrical loads.

Renewables. A roof mounted 55kW photovoltaic system is planned to offset all of the building's energy consumption; with abundant additional clean energy for use elsewhere on site and in the neighborhood.

Teaching. One classroom includes a ventilation supply fabric duct that inflates when active, offering a teaching opportunity about indoor fresh air. Conduit and the heating/cooling systems are selectively exposed to openly display the building's functionality. Energy monitoring systems are kid accessible to provide insight regarding operational energy usage.

Result. Preliminary monitoring results, even in the high heating environment of southern New Hampshire, project annual consumption of approximately 28,000kWh for all the building's energy requirements. Only a 25 kW photovoltaic system would offset all consumption, yielding net zero

energy, so with the planned 55kW system will make the building exceptionally net positive, generating more than twice the energy consumed annually.

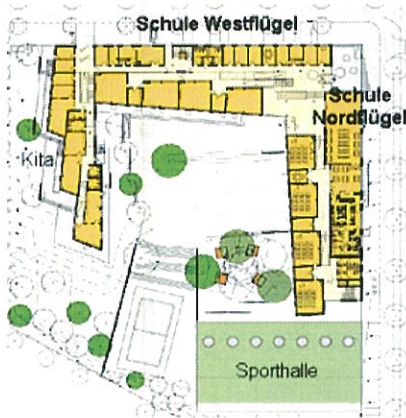
MECHANICAL	PERFORMANCE DATA	CONSTRUCTION
<p>Heating/Cooling Ductless and ducted air source heat pump (8.9HSPF, 15 SEER)</p> <p>Ventilation HRV (95% sensible, 0.53 W/cfm)</p> <p>Hot Water Electric On-demand</p>	<p>EUI: 10.8kBtu/sf/yr (before solar)</p> <p>Air Leakage: 0.26ACH50</p> <p>Better Than Code: 85%</p> <p>Heat Demand 2.93 kBTU/(ft2yr)</p> <p>Primary Energy 20.2 kBTU/(ft2yr)</p> <p>Cooling Demand 0.10 kBTU/(ft2yr)</p> <p>Heat Load 3.32 kBTU/(ft2)</p> <p>Cooling Load 1.25 kBTU/(ft2)</p>	<p>Walls/Roof/Foundation Double stud walls Truss roof Slab-on grade foundation</p> <p>Windows/Doors U Value 0.15</p> <p>Insulation Dense packed cellulose, EPS and polyisocyanurate R54 Slab R41 Above Grade Walls R111 Roof</p>



PASSIPEDIA

The Passive House Resource

Riedberg Passive House School, Frankfurt, Germany



← Riedberg Passive House school: Floor plan (design: Architekten 4a)

The Passive House concept has been undergoing a rapid expansion in the last few years, also in the non-residential sector. Administrative buildings, factory buildings, community centres and many other buildings have been realised. Some initial projects have also been realised in the area of **new school construction and school modernisation**. The systematically examined boundary conditions for the construction of schools were **published in 2006 within the framework of the Protocol Volume “Passive House Schools” in the “Research Group for Cost-efficient Passive Houses”** [Feist 2006]. Experiences with initial projects that have been realised were also incorporated into this.

With the Riedberg school and day nursery, the City of Frankfurt is now moving in the direction of the Passive House Standard. The resolutions of the City Council in the year 2002 already stated that “all future kindergartens and schools will be built in the Passive House construction method”. These decisions were repeated in the urban administration report of 2003 and in the coalition agreement of 2006. The emphasis here was on the improved quality of air with low CO₂ concentrations and the lower running costs with significantly improved climate protection.



Deutsche Bundesstiftung Umwelt

Amongst other things, the aim of the systematic study of this particular school that has been realised is to verify the success of the implementation of this decision. Additionally, the accompanying research had some other focal points like the inspection of a ventilation system, the energy-relevant effects of door opening processes in the entrance area and the examination of the effects of insulation aprons in large buildings. The results relate to important controversial issues. With this report, answers have been

made available for further projects. This research was made possible due to commissioning by the City of Frankfurt am Main and funding by the German Environmental Foundation (DBU).

The Riedberg Passive House School Riedberg



← Riedberg Passive House School: View of the school playground

The Passive House primary school and day nursery in Riedberg Frankfurt a.M. was opened in November 2004 after a construction period of only 14 months. The building with a dual-field sports hall was based on the designs created by the architects 4a from Stuttgart. **The extra costs for achieving the Passive House Standard were a moderate 5.3 %** in comparison with the currently valid EnEV (German energy saving regulations) standard. Besides the planning consultation and quality assurance during the implementation phase, accompanying research was also carried out on behalf of the City of Frankfurt by the Passive House Institute. Data acquisition was carried out over a period of about 30 months and supplemented by numerous special measurements.

Results of the measurements

Summertime comfort

There were high ratings for the thermal comfort in classrooms during the winter, **the indoor air and indoor surface temperatures** differ only slightly from each other. In the winter of 2005/2006, the temperatures were **between 19.5 and 20.6 °C** during usage periods (8:00 to 13:00 o'clock). The relative humidity of the air was low but still within an acceptable range.

During the summers of 2005 and 2006 that were studied, the hours of overheating in the classrooms on the ground floor were considerably less than the admissible limit values. Mostly, the temperature limit of 27 °C was not achieved, for 10 % of the usage period, it could even be exceeded. **In the warmer summer of 2006, the average summer temperature during the usage period was 22.9 °C.** On the whole, good summer comfort could be proven and thus also the effectiveness of the summer ventilation concept with two facade shutters for each classroom. Therefore, in correlation with the project planning, an air conditioning system was not necessary.

Air quality

An acceptable quality of indoor air with **16.4 m³/h/person** can be achieved during lessons if the ventilation systems are operated appropriately. The measured **concentrations of CO₂ were almost always below the limit value of 1500 ppm**. The actual air changes were measured using a tracer gas test. The designed value ranging between 15 and 20 m³/h/person at the most that was recommended in [AkkP 33] could thus be confirmed through the measurements in practice.

Ventilation system

The ventilation system produces a good result with a heat recovery rate of 84.2 % for the practical measurement during the winter period. The electrical efficiency criterion is thus maintained at 0.43 Wh/m³. Due to the length of the cold ventilation ducts through the building, **the effective heat recovery rate** unfortunately decreases to 74 %. This shows that cold ducts leading through the building should be as short as possible even if they are insulated.

Heating consumption

The **heating consumption** of the school and day nursery including that of the kitchen showed very low values of **25.4 kWh/m²** in the winter of 2005/2006, **with savings of around 90 % in comparison with other existing schools**. In the kitchen, energy was unnecessarily consumed by addition ventilation; the consumption was **22.0 kWh/(m²a)** if this is not taken into account. In the mild winter that followed, the consumption was only **14.5 kWh/(m²a)**. The reason for a previously existing excessive consumption in comparison with the planned value could not be fully explained, despite the taking into account of the lower occupancy rate, the thermal charge of the ground in the first years (insulation apron approach), the drying out of the building and the lack of some optimisations.

The **treated floor area** (TFA = 5541 m²) was used as a basis for the whole analysis. The area A_N with 9037 m², that is determined by the EnEV (German energy saving regulations) is greater by 63 %. This has not been used here.

As expected, the daily average **heating outputs** were low with a maximum of **12.2 W/m² for the school** and **15.1 W/m² for the day nursery**.

About the TFA and A_N areas, see the section: [See also](#).

Energy balance

The **annual electricity consumption** for the school/day centre/kitchen is **13.6 kWh/(m²a)** without the electricity for the ventilation, which amounts to **5.8 kWh/(m²a)** in the financial year.

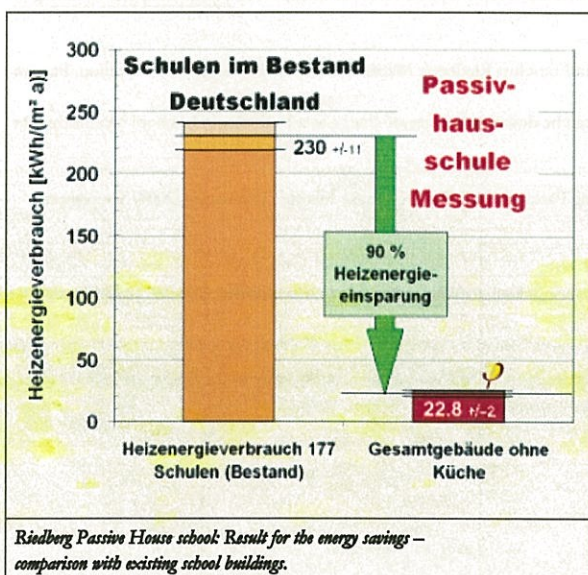
The energy balance results in:

- a **final energy value** of only **50.9 kWh/(m²a)** for all applications (heating, hot water, all electricity)
- and only **59.2 kWh/(m²a)** for **primary energy**, when the pellet-heating is taken into account.

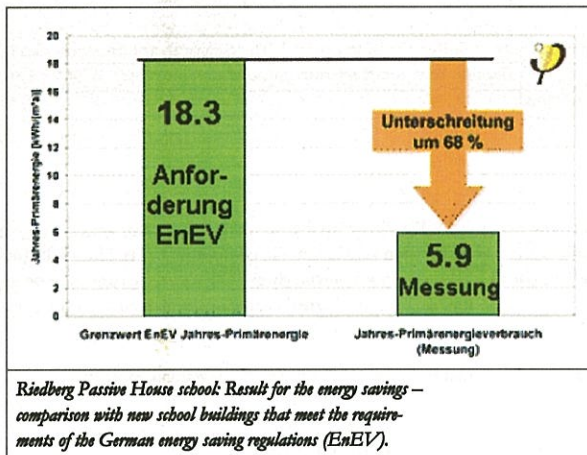
The requirements for the Passive House Standard are therefore more than fulfilled (maximum primary energy 120 kWh/(m²a)).

Evaluation

In statistics for 177 existing schools, the **heating consumption** was greatly scattered with an average value of more than **200 kWh/(m²a)**. In comparison with this, the measured heating energy consumption of the Passive House school on the Riedberg in Frankfurt was less than **23 kWh/(m²a)** – an enormous **saving of over 90 %** with regard to the energy consumption, heating costs and also environmental impact. In relation to the overall primary energy consumption, a large saving of more than 2/3 was also achieved – even when compared with new school buildings which meet the requirements of the German Energy Saving Ordinance (EnEV) (Peper 2007).



The admissible limit value for primary energy based on the building volume is **18.3 kWh/(m³a)** in accordance with the German Energy Savings Ordinance (EnEV). This value takes into account only the heating energy and the auxiliary electricity as well as the electricity for the ventilation. The corresponding measured value is given by 5.8 kWh/(m³a). The limit value based on EnEV 2004 is considerably less - by 68 %.



Summary

The accompanying research has shown that the objectives of the project were met. The results were a high level of comfort with energy savings of 90 % and a very good assessment of the primary energy. The quality of the indoor air - measured as the concentration of CO₂ - during the operation of the ventilation system was good all throughout. The results of the Passive House schools study [AkkP 33] have been confirmed by this evaluation.

See also

[Planning of Passive House schools](#)

[Treated Floor Area](#)

[Secondary School in Baesweiler, Germany](#)

Literature

[AkkP 33] Passive House Schools, Protocol Volume No. 33 of the Research Group for Cost-efficient Passive Houses Phase III, Passive House Institute, Darmstadt 2006.

[Bretzke 2005] Bretzke, A.: Planning and Construction of the Passive House Primary School in Kalbacher Höhe 15, Frankfurt am Main, 2005: [Technical article Riedberg \(in German\)](#)

[Peper 2007] Søren Peper, Oliver Kah, Rainer Pfluger, Jürgen Schnieders: Passive House School in Frankfurt Riedberg: Metrological study and analysis, 1st Edition, Passive House Institute, 2007.

The complete Final Report has been released by the City of Frankfurt (186 pages, 5.14 MB). It can be downloaded free of charge as a PDF file: PH-School Monitoring (in German) [http://www.passiv.de/04_pub/Literatur/Riedberg/PH-Schule_Monitoring.pdf]

[PHPP 2007] Feist, W.; Pfluger, R.; Kaufmann, B.; Schnieders, J.; Kah, O.: Passive House Planning Package 2007, Passive House Institute Darmstadt, 2007. See page on [Energy balances with the PHPP](#).

[examples/non-residential_buildings/passive_house_schools/central_europe/riedberg_passive_house_school_frankfurt_germany.txt](#) · Last modified: 2014/09/18 18:19 (external edit)

DE EN

Central Workshop and Administrative Building (ZVuW) – Frankfurt



The Central workshop and administrative building (ZVuW) is a new office building used by the Department for Road Construction and Development, the Department for Parks and the Head of Energy Policy of the City of Frankfurt. The building demonstrates the potential of sustainable building design, with an architectural style that is not only elegant but also intelligent. The result is a 90 percent reduced heating demand and perceptibly increased comfort due to high indoor air quality.

The building comprises offices on the floors 2-6, conference rooms and canteen on the 6th floor, workshops with offices and washrooms on the ground floor and 1st floor, and archives and underground parking in the basement. It provides space for ca. 500 employees and is accessed via three stairwells, each with two elevators. The building systems are accommodated on the roof and in the basement.

From an energy point of view, the building consists of two parts: the actual office area on the five upper floors has a heating demand of just 15 kWh/(m²a), while the thermally separate floors below (workshops and parking) have also a very low energy demand, because Passive House components were consistently used in its construction.

In terms of urban development, the building forms the end of the Mainzer Landstrasse district opposite the railway station premises. In structural terms, it provides a solution for the extremely stringent demands for noise protection.

Parties involved

Project developer and building owners

Groß & Partner Grundstücksentwicklungsgesellschaft mbH and Lang & Cie. Real Estate AG.

Architecture

schneider + schumacher GmbH

Building services

HLS: Merker AG - Beratende Ingenieure, Elektro: TP-Elektroplan GmbH

Building physics

Schall+Wärme: ITA Ingenieurgesellschaft für technische Akustik mbH, Passivhaus: Passivhaus Dienstleistung GmbH

Statics

Kannemacher + Dr. Sturm

ENERGY-RELATED DATA

Glazing

glazing is low-e triple-glazing with different sound protection requirements and shatter-proof safety glass, argon and krypton gas filling

Ug values: 0.49-0.54 W/(m²K)

g-values: 24-51%

Partly opaque, highly insulated panels

Ug value = 0.53 W/(m²K) g-value = 43 %

U g-value = 0.53 W/(m²K)

g -value = 43 %

Heating

District heat supply

Heat distribution primarily takes place via concrete core activation and supplemented with radiators for peak loads and comfort control.

Heat distribution in workshop area via recirculation units in ceilings.

Cooling

Concrete core activation and partially recirculation units in ceilings with cold air from free cooling (adiabatic if necessary), absorption cooling and compression cooling

Domestic hot water Hot water: decentral hot water generation via district heat for kitchen and showers, central direct electricity in remaining areas.

Domestic Hot Water

Hot water: decentral hot water generation via district heat for kitchen and showers, central direct electricity in remaining areas.

PHPP Values

Air tightness

n50 = 0.6/h

press test result

Annual Heating Demand

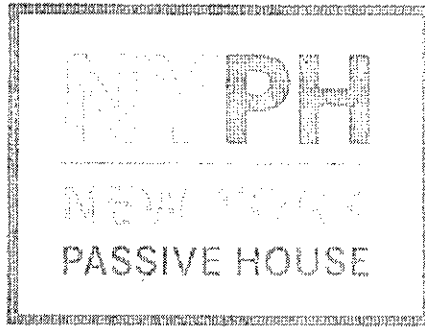
15 kWh/(m²a) calculated according to PHPP

Primary Energy Requirement

118 kWh/(m²a) on heating installation, domestic hot water, household electricity and auxiliary electricity calculated according to PHPP

CERTIFICATION

The building was awarded Passive House and DGNB Platinum certification.



June 21, 2017

Re: NYC Intro Bill No. 1629 Public Hearing Notice

To: All Building Efficiency, Passive House, Health, Affordability, Social Justice and Climate Protection Advocates.

From: The New York Passive House (NYPH) Board of Directors

Dear Advocates,

There will be a public hearing at 1pm, on Tuesday June 27th, 2017, in the Committee Room at City Hall, on NYC Council Intro Bill. No 1629-2017. The bill will require that large buildings newly constructed or substantially retrofitted meet very low energy/Passive House targets starting in 2025, with increasing intermediate efficiency requirements leading to 2025.

The board of directors of New York Passive House (NYPH) ask for your attendance at the hearing, and your testimony in support of this important bill.

There are many reasons why this bill should be vigorously supported:

1. **Climate protection:** Buildings make up over 70% of carbon emissions in New York City. To achieve the city's policy of 80% carbon reductions by 2050, drastic reductions in building energy use intensity are required. This bill helps deliver those needed reductions essential to maintaining a livable climate and stable coastlines.
2. **Resilience:** Very low energy and Passive House buildings significantly increase resilience capacity by allowing occupants to shelter in place for extend periods of time, without power, during extremes of cold and hot weather.

3. **Affordability:** Very low energy and Passive House buildings are being built affordably with increases in cost of only approximately 3-5%. And this construction results in heating and cooling energy use reductions of up to 90% from typical buildings. By substantially lowering operating expenses, the risk of rapidly rising and unaffordable energy costs are lowered too. This provides building owners and occupants greater financial security and a better standard of living.
4. **Health and Well Being:** With airtight construction and filtered fresh ventilation air, very low energy and Passive House buildings provide improved indoor air quality and acoustic comfort. This is particularly beneficial for at risk populations such as children and the elderly, and for those living in areas of the city that have greater concentrations of air pollution.
5. **Jobs:** Very low energy and Passive House buildings require increased attention to enclosure construction and the installation of insulation, airtightness and high quality windows. These are local jobs that cannot be outsourced. With a few days training our existing construction workforce can competently execute - at the higher level of quality needed - these buildings.
6. **Social Justice:** Very low energy and Passive House buildings supports greater social justice. New skilled construction jobs, healthier indoor environments, storm resilience and lower ongoing operational costs, all serve to protect and serve the most vulnerable populations of our city.
7. **Long term growth and sustainability:** With up-training workers for more skilled jobs, making buildings that are healthier and more comfortable, while eliminating wasted expenditures on energy - Passive House and very low energy buildings are a cornerstone to New York City's long term growth and sustainability.
8. **Support of fast growing professional community to implement:** With the increased attention on, and demand for, Passive House and very low energy buildings, there are ongoing and expanding local training opportunities for professionals such as architects, engineers and contractors. This growing, highly trained professional community is ready to meet the challenges of implementation.
9. **Will not be subject to unfeasible mandates:** As written, if for particular building types or occupancies, such low energy targets are determined to be unfeasible, there is a mechanism to adjust those targets - removing the threat of unmanageable requirements. In the interim years, we can collect the data on costs, occupant satisfaction and energy use, and move forward confidently.
10. **A step in the right direction:** While this bill only addresses part of New York City's building stock, it is a significant segment of buildings. We look forward to working with New York City to extend the benefits of very low energy and Passive House buildings to all New York City building sizes and types in the future.

Our brief outline of the bill is as follows (actual bill follows):

The bill sets out to put large private buildings on a trajectory toward Passive House levels of performance.

The bill applies to Covered Buildings:

As it appears in the records of the department of finance: (i) a building that exceeds 25,000 gross square feet, (ii) two or more buildings on the same tax lot that together exceed 100,000 gross square feet, (iii) two or more buildings held in the condominium form of ownership that are governed by the same board of managers and that together exceed 100,000 gross square feet, or (iv) a city building.

Exceptions: *The term "covered building" shall not include:*

- 1. Any building owned by the city that participates in the tenant interim lease apartment purchase program.*
- 2. Real property classified as class one pursuant to subdivision one of section 1802 of the real property tax law.*
- 3. Real property, not more than three stories, consisting of a series of attached, detached or semi-detached dwellings, for which ownership and the responsibility for maintenance of the HVAC systems and hot water heating systems is held by each individual dwelling unit owner, and with no HVAC system or hot water heating system in the series serving more than two dwelling units, as certified by a registered design professional to the department.*

The bill defines a LOW ENERGY INTENSITY TARGET:

The term "low energy intensity target" means:

1. For a building that is not classified in occupancy groups F or H, the less stringent of (i) 30 percent below the energy use intensity baseline or (ii) for new buildings, a source energy use intensity of 38 kBtu/yr per square foot of floor area and for substantial reconstructions of existing buildings, a source energy use intensity of 42 kBtu/yr per square foot of floor area;
2. For a building classified in occupancy groups F or H, energy usage of the base building systems, exclusive of process loads, which is at least 30 percent less than such energy usage would be if such building were designed and constructed according to ASHRAE 90.1-2013.

The bill defines a source energy use intensity (EUI) baseline of either the median EUI for buildings with similar uses per LL84 benchmarking for the prior year or the EUI that would be required by ASHRAE 90.1-2013.

The bill references 38 kBtu/yr and 42 kBtu/yr, which roughly conform with the Passive House Standard for new build and substantial retrofits respectively.

The bill establishes that starting January 1, 2025 new build and substantial retrofits would be required to be constructed as a Low Energy Intensity Building.

The bill, to enable this goal for 2025, sets out a series of Stretch Code updates to be submitted in 2019 and 2022 tightening efficiency requirements for covered buildings.

The bill provides an escape hatch: that in 2022 or after, the Head of the office of Long-term Planning and Sustainability can determine whether the updates, including the final Low Energy Intensity Building target, are practical and propose amendments to lessen the targets if required..

A Call to Action

Based on the intent of the bill, it is incumbent upon us to demonstrate in these next 5 years that the targets are practical. And if there are particular occupancy types where the targets are not 100% practical, then we must work in these coming years to establish a practical low intensity target number for those too. To successfully address our climate crisis we cannot leave any buildings behind.

We look forward to working with you to pass this important bill into law and hope to see and hear from you this coming Tuesday.

Sincerely,

The New York Passive House (NYPH) Board of Directors:

Andreas Benzing, President
Stas Zakrzewski, Treasurer
Todd Kimmel, Secretary
Ken Levenson, Vice President
Kevin Brennan, Vice President
Amy Schaeffer, Vice President
Buck Moorhead, Vice President
Ilana Judah, Vice President
Lois Arena
Greg Duncan
Philip Hayes
Jeremy Shannon

ATTACHMENT

Title: A Local Law to amend the administrative code of the city of New York, in relation to requiring periodic recommendations on adoption of a more stringent energy efficiency requirements for buildings and energy use intensity requirements for new and substantially

reconstructed buildings

Sponsors: Costa G. Constantinides, Donovan J. Richards, Corey D. Johnson, Mark Treyger, Stephen T. Levin, Helen K. Rosenthal, Margaret S. Chin

Summary: This bill would require the Administration to periodically submit recommendations to the Council regarding a more stringent energy code. The bill would also require that, beginning in 2025, larger buildings are newly built or that undergo substantial reconstruction would need to be designed and constructed as low energy intensity buildings.

Int. No. 1629

By Council Members Constantinides, Richards, Johnson, Treyger, Levin, Rosenthal, and Chin

A Local Law to amend the administrative code of the city of New York, in relation to requiring periodic recommendations on adoption of a more stringent energy efficiency requirements for buildings and energy use intensity requirements for new and substantially reconstructed buildings

Be it enacted by the Council as follows:

Section 1. Section 28-1001.1.1 of the administrative code of the city of New York is amended to read as follows:

§ 28-1001.1.1 [Definition] **Definitions.** As used in this [chapter, the] chapter:

ASHRAE 90.1-2013. The term “ASHRAE 90.1-2013” means the 2013 edition of the energy standard for buildings except low-rise residential buildings, standard reference number 90.1-2013, published by the American society of heating, refrigerating and air conditioning engineers (ASHRAE).

BASE BUILDING SYSTEMS. The term “base building systems” has the same

meaning as set forth in section 28-308.1 of this code.

COVERED BUILDING. The term “covered building” shall have the same definition as set forth in section 28-309.2 of this code.

DESIGN ENERGY USE INTENSITY. The term “design energy use intensity” means, for a building, the source energy use intensity projected for such building based on its design at the time of filing with the commissioner.

ENERGY USE INTENSITY BASELINE. The term “energy use intensity baseline” means, for a building either:

1. The median source energy use intensity for buildings designed and constructed for similar uses according to benchmarking data obtained under article 309 of title 28 of the administrative code within the year preceding the effective date of the local law that added this paragraph; or
2. The design energy use intensity of such building if designed and constructed according to the prescriptive and mandatory requirements of ASHRAE 90.1-2013.

LOW ENERGY INTENSITY BUILDING. The term “low energy intensity building” means:

1. A building that is not classified in occupancy groups F or H and that has been designed and constructed such that its design energy use intensity is equal to or less than (i) the low energy intensity target for such building or (ii) if an alternative low energy intensity target has been adopted pursuant to paragraph (3) of subdivision b of section 224.1 of the New York city charter and such target would apply to such building if such building were subject to such subdivision, such alternative target; or
2. A building that is classified in occupancy groups F or H and that has been designed and constructed such that:
 - 2.1. The energy usage of its base building systems, exclusive of process loads, is equal to or less than the low energy intensity target for such building, or, if an alternative low energy intensity target has been adopted pursuant to paragraph (3) of subdivision b of section 224.1 of the New York city charter and such target would apply to such building if such

building were subject to such section, such alternative target; or

2.2. The design energy use intensity of such building is at least 50 percent below the median source energy use intensity for buildings designed and constructed for similar uses according to benchmarking data obtained under article 309 of title 28 of the administrative code within the year preceding the effective date of the local law that added this paragraph.

LOW ENERGY INTENSITY TARGET. The term “low energy intensity target” means:

1. For a building that is not classified in occupancy groups F or H, the less stringent of (i) 30 percent below the energy use intensity baseline or (ii) for new buildings, a source energy use intensity of 38 kBtu/yr per square foot of floor area and for substantial reconstructions of existing buildings, a source energy use intensity of 42 kBtu/yr per square foot of floor area;
2. For a building classified in occupancy groups F or H, energy usage of the base building systems, exclusive of process loads, which is at least 30 percent less than such energy usage would be if such building were designed and constructed according to ASHRAE 90.1-2013.

NEW YORK STATE ENERGY CODE. The term “New York State Energy Code” means the New York State Energy Conservation Construction Code (the “New York State Energy Code”), constituting part 1240 of title 19 of the New York codes, rules and regulations (19 NYCRR Part 1240), and the publications incorporated by reference in such part, promulgated on September 21, 2016, by the State Fire Prevention and Building Code Council pursuant to Article 11 of the New York State Energy Law.

QUALIFIED ENERGY SOURCE. The term “qualified energy source” means a source of energy that is:

1. A qualified energy resource, as such term is defined in section 45 of title 26 of the United States code in effect on January 1, 2017;
2. A source that is determined to be renewable by the commissioner or the head of another agency or office designated by the mayor; or
3. A source that is determined by the commissioner or the head of

another agency or office designated by the mayor to have (i) a positive environmental impact or (ii) a substantially lower negative environmental impact than sources of energy other than those identified pursuant to paragraph 1 or 2 of this definition.

SOURCE ENERGY USE INTENSITY. The term “source energy use intensity” means, for a building, the amount obtained by dividing (i) total energy used by such building in a year, other than energy generated from qualified energy sources, including losses that take place during generation, transmission and distribution of such energy, expressed in thousand British thermal units per year (kBtu/yr) and weather-normalized in a manner that is establish by the commissioner or the head of another agency or office designated by the mayor and consistent with the United States environmental protection agency portfolio manager, by (ii) the building’s gross floor area.

SUBSTANTIAL RECONSTRUCTION. The term “substantial reconstruction” means any repair, reconstruction, addition or improvement of a building, if the cost of such work equals or exceeds 50 percent of the market value of such building before such work is started and such work involves substantial work on the building envelope.

§ 2. Chapter 10 of title 28 of the administrative code of the city of New York is amended by adding new sections 28-1001.3.3 and 28-1001.3.4 to read as follows:

§ 28-1001.3.3 Stretch energy code. When the commissioner submits proposed amendments to this code to the city council pursuant to section 28-1001.3.1, the head of the office of long-term planning and sustainability, in consultation with the commissioner and the New York city energy conservation code advisory committee established pursuant to section 28-1001.3.2, shall for the first proposed amendments submitted to the city council pursuant to section 28-1001.3.1 in or after 2019, and for the first proposed amendments submitted to the city council pursuant to such section in or after 2022:

1. Submit to the city council proposed amendments to this code, or to the proposed amendments submitted by the commissioner, to bring this code up to date with the most recent model stretch code published by the New York state energy research and development authority, provided that such model stretch code is more stringent than the New York State Energy Code in effect when such proposed amendments are submitted and provided further that such model stretch code was published on or after three years before such proposed amendments are

submitted:

2. If no such model stretch code exists at the time such amendments are to be submitted, such head, in consultation with the commissioner and such advisory committee, shall at such time submit to the city council proposed amendments to this code, or to the proposed amendments submitted by the commissioner, to ensure that the source energy use intensity of buildings designed and constructed in compliance with this code is at least 20 percent less than the source energy use intensity of buildings designed and constructed in compliance with the New York State Energy Code; or

3. If no such model stretch code exists and the head of the office of long-term planning and sustainability determines that proposed amendments to this code to achieve compliance with item 2 would render the design and construction of buildings impracticable or unduly burdensome, such head shall submit to the city council proposed amendments to ensure that the source energy use intensity of buildings designed and constructed in compliance with this code is, to the fullest extent practicable, less than the source energy use intensity of buildings designed and constructed in compliance with the New York State Energy Code, provided that such head shall submit together with such proposed amendments a report describing (i) why proposed amendments to achieve compliance with such item would render the design and construction of buildings impracticable or unduly burdensome and (ii) the estimated percentage by which the source energy use intensity of buildings designed and constructed in compliance with the amendments proposed by the commissioner would be less than the source energy use intensity of buildings designed and constructed in compliance with the New York State Energy Code.

§ 28-1001.3.4 Low energy intensity buildings. Beginning January 1, 2025, each (i) new building that would, upon completion, be a covered building and (ii) existing building undergoing substantial reconstruction that would, upon completion of such work, be a covered building, shall be designed and constructed as a low energy intensity building.

§ 3. This local law takes effect immediately.

MPC
LS #2513.1
6/2/17 2:59PM

NYC Intro Bill No. 1629 Public Hearing Notice

New York City is committing to reduce greenhouse gas emissions by 80 percent by 2050. Buildings are responsible for the overwhelming share of emissions and Low Energy Passive House building is the most effective solution to this challenge.

Climate change is a risk but it can be the opportunity of our generation. New York City, is one of the world's leaders in real estate, architectural and engineering firms, skilled labor, financial institutions, and research facilities. We are ready to develop the solutions of the future. New York City has extraordinary capabilities as an economic engine for sustainability to lead in the U.S. and the world.

The market for Low Energy Passive House buildings is growing fast with over 3 million square feet under construction. New construction projects are happening around the city such as the tallest Passive House in the world by Cornell-Tech, and large scale Passive House projects such as the Grand Concourse Development, Mott Haven, Bronx or the East 11th Street Development in Harlem.

Low Energy Passive House building is a reliable and economical approach to New York City's sustainable future and Passive House level metrics have been built and proven from as varied locations as China and the UK. Over the next eight years we can prove their feasibility right here in New York City. The Board of Directors of New York Passive House fully supports the goals of Bill 1629 and we look forward to working with you to pass this important bill into law.

Andreas Benzing

President, New York Passive House

NYC Intro Bill No. 1629 Public Hearing Notice

My name is Bob Schneck and I am a Member of Community Board 1. I am fully in support of Intro Bill 1629 with one major concern. As a resident of Battery Park City, I experience a sense of urgency with the slow pace of governmental change and public forgetfulness against the painful harm of hurricanes and heat.

We have all witnessed a remarkable building spree as a new generation of highly energy inefficient skyscrapers were built... and will continue to be built until 1629 begins to come into effect. We will live with the consequences of their inefficiencies for the next 75 years. We have tens of thousands of buildings to retrofit yet no smart grid to connect them to. It has been said that we have the equivalent of 'Saudi Arabian' wind reserves just off our Atlantic shore, but the Governor has only recently begun to dabble with that possibility.

Is it too much to demand that the Most Aggressive & Innovative City in the World be aggressively innovative?

Climate is an issue that needs to be addressed in the immediate present, well before we experience the next devastating storm surge or irreversible dog days of impossible heat and humidity.

Mayor Di Blasio called global climate change "the challenge of our generation," yet the public is barely responsive to this issue and certain groups are actively opposed. If energy windmills seem in the future, job economics are in the present. Bill 1629 is a call to action and a 5-year opportunity to prove that low energy targets are 100% practical for the developers, the owners and residents, for the builders and for the economy. Now is New York City's time to wake up the people and turn environmental challenge into public opportunity.



200 Rector Place

NYC 10280

212 786 0287

Thank you Council
My Name is Lindsay Klein

I am a member of the AIA and
registered to practice ^{Architecture} in NH, MA & CA.

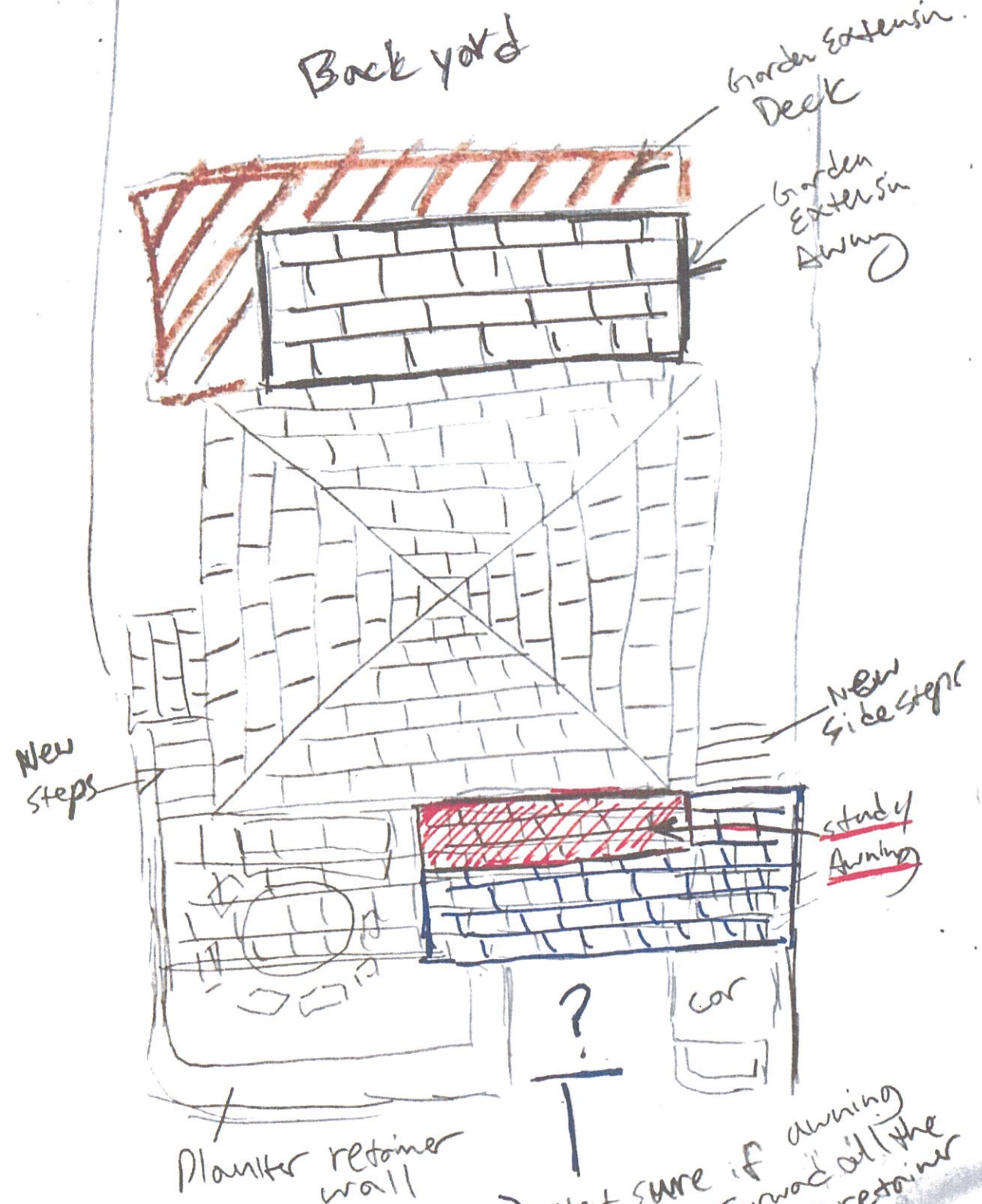
I am LEED and Passive House CERTIFIED.

I would like to point out that many individual
Architects & Engineers have invested a significant
amount of professional time
and financial resources to re-tool ourselves

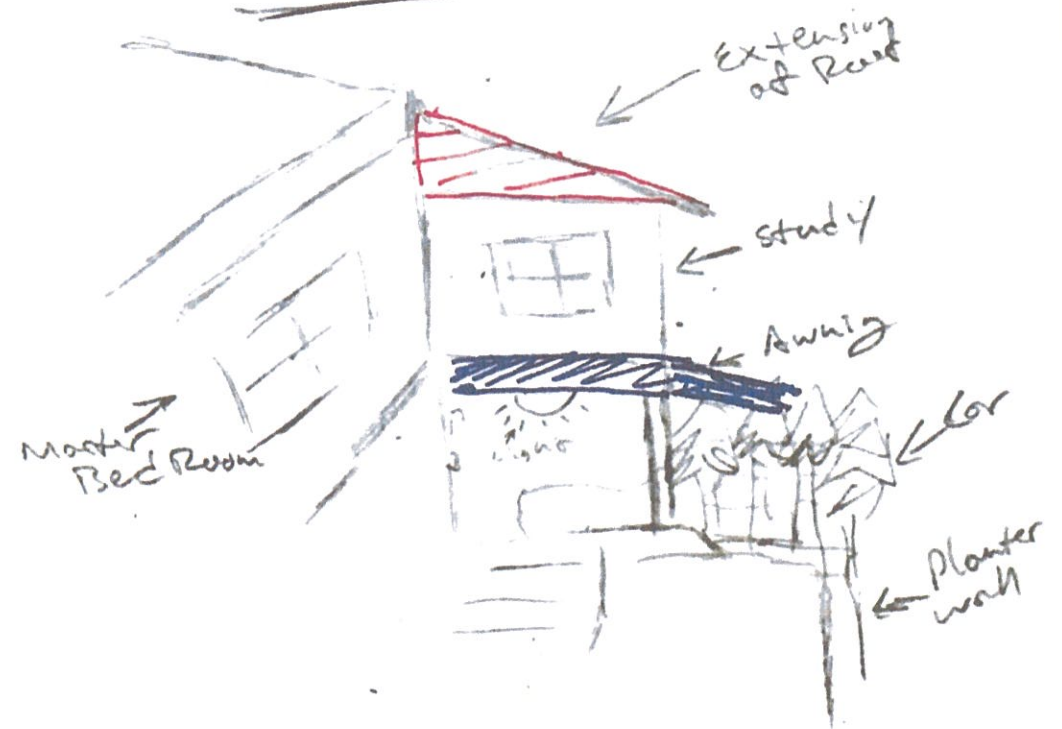
and I implore New York's

Real Estate Community to follow suit.

Top View



Side View



Front View



1) Not sure if awning should extend forward all the way to the planter retainer wall?
 2) Not sure if awning should extend across the entire front of the house?

From: Dan Margulies

ABO has concerns about Intros. 1629 and 1632.

Intro. 1629 proposes additional review and amendment of the NYS Energy Code. The Energy Code is already updated, reviewed and approved by the State, and then the City Council, at regular intervals. Furthermore, it is contrary to the very spirit and purpose of national codes to pursue extensive amendments. Wide divergence from IECC and ASHRAE standards is likely to add expense and confusion.

As to Intro. 1632, we fear that the diversity of buildings and information quality reported to the EPA benchmarking tool will make the information more than a little misleading. As I am sure the Committee is aware, one of the “greenest” buildings in New York City, One Bryant Park, is also a tremendous energy consumer due to the volume of the tenants’ computer use. Many 50-70 year-old apartment buildings have essentially one major energy system, a boiler, but significantly different energy consumption based mostly on construction type, i.e. brownstone or brick, that current owners do not control. Although Con Ed is supposed to have the ability to upload energy consumption data to the portfolio manager next year, it won’t change the fact that buildings with higher density—generally occupied by low income residents—will have higher electricity and water consumption...again regardless of the owner’s actions. More people use more energy, but buildings will be tarred with low energy grade.

LEGISLATIVE MEMORANDUM:
INTRO. NOS. 1629, 1632 AND 1637

INTRODUCTION

REBNY represents over 17,000 owners, developers, managers and brokers of real property in New York City. REBNY's Sustainability Committee represents owners and developers of over one hundred million square feet of commercial space and tens of thousands of residential units. The Committee members lead best practices in sustainability development and design, and have volunteered their time to help the City shape sustainability policy in efforts such as the Green Codes Task Force, Building Resiliency Task Force, 80x50 Technical Working Group, and NYC Carbon Challenge.

Based upon input from the Sustainability Committee, REBNY is deeply concerned over the use of Energy Use Intensity (EUI) in the bills mentioned below. EUI is a flawed metric because it does not take into account occupant density and space use. Rather, it is a simple ratio that divides a building's total annual energy consumption by its total gross floor area. Generally, a low EUI signifies good energy performance. Buildings with a low concentration of users – residents and/or workers - will tend to have lower EUI than buildings with a high concentration of users but are actually less efficient.¹ But New York City's building stock is much more diverse and complex than that. Buildings with open "bullpen" style floor plans to accommodate a concentration of traders with multiple computer screens have a relatively high EUI, even when the building itself is rated as Platinum LEED-certified. Tenants' energy use patterns are a primary driver in a building's total energy consumption and often outside of the building owner's control which the bills below specifically target.

Using EUI to guide sustainability policy runs counter to creating jobs and affordable housing which are sorely needed in New York City. Such policy would promote low EUI uses like self-storage buildings as opposed to attracting high EUI uses like tech company headquarters. A new metric needs to be developed that accounts for energy consumed, square footage of the space where said energy is consumed, number of full-time employees or residents using energy, number of hours worked by these employees, in addition to the economic value of the work performed.

¹ The imminent de-commissioning of the Indian Point Energy Center (IPEC) might also lead to higher EUI scores. Part of a building's total energy consumption considers the source of energy and the "losses" associated with generating and delivering the energy to the site. This site-to-source conversion factor will be affected because alternative energy sources to IPEC have not been identified yet.

REBNY embraces the goals of improving energy efficiency in our built environment and reducing our city's carbon footprint, and offers the comments below in hopes of furthering said goals.

INTRO NO: 1629

SUBJECT: A Local Law to amend the New York City Charter, in relation to requiring periodic recommendations on adoption of a more stringent energy efficiency requirements for buildings and energy use intensity requirements for new and substantially reconstructed buildings.

SPONSORS: Constantinides, Richards, Johnson, Treyger, Levin, Rosenthal, Chin, Salamanca, Jr., Cohen

Intro. No. 1629 requires periodic submissions to the Council to create a more stringent NYC Energy Conservation Code, and that new buildings and major alterations be designed and constructed as low energy intensity structures beginning in 2025. For office and residential buildings, low energy intensity buildings are defined as meeting: 1) 30% below the median source Energy Use Intensity (EUI) of buildings with similar uses or 30% below ASHRAE 90.1-2013; 2) a source EUI of 38 kBTU/year/square foot for new buildings, and a source EUI of 42 kBTU/year/square foot for major alterations; or 3) an alternative low energy intensity target adopted into the NYC Charter.

In addition to the inapplicability of EUI as a singular measure of building performance, there are several reasons why this bill is impractical. The first is that calculating median source EUI baselines would be based on prior benchmarking data that does not take into account recent code changes. For example, the data does not reflect the increased energy use associated with 2014 NYC Mechanical Code requirements for positive outside air ventilation or the increased minimum nighttime temperatures mandated by Local Law 86 of 2017.² Both are specifically aimed at multifamily residential buildings.

Second, the proposed low energy intensity targets can only be met with existing technology if the number of windows and other openings that could compromise the building seal are significantly decreased. And third, the bill's proposed implementation schedule does not provide enough time for

² As part of the 2014 NYC Construction Codes adoption, the NYC Mechanical Code was updated with the first requirement of its kind that multifamily buildings provide positive outside air ventilation to dwelling units to the extent that the exhaust exceeds 75 CFM per dwelling unit. Few, if any, buildings completed under this code had submitted benchmarking data prior to the 80x50 Technical Working Group study. Mechanical ventilation will increase energy consumption in multifamily buildings and the next NYC Mechanical Code may as much as double these ventilation requirements. Similarly, Local Law 86 of 2017 will increase energy consumption by multifamily residential buildings with its requirement to maintain nighttime temperatures at 62 degrees, a seven-degree increase from prior law.

industry-wide changes to be considered much less incorporated in the energy code submissions. For example, roughly 97% of New York City Energy Conservation Code compliance determinations required by the NYC Department of Buildings (DOB) use the U.S. Department of Energy software product groups known as COMcheck and REScheck. COMcheck and REScheck support International Energy Conservation Codes and ASHRAE standards primarily, and would need to be updated to support the bill's requirements. In the interim, it is unlikely that the number of NYC modeling professionals will grow fast enough to begin modeling energy code compliance on all new construction covered by the bill. Similarly, it is unlikely that the DOB will be able to deploy the new staff and resources necessary to review applications without COMcheck and REScheck to prevent deficient energy code modeling.

Finally, REBNY encourages the Committee on Environmental Protection to consult with the City of New York in how it is meeting similar low energy intensity targets in its capital projects as required by Local Law 31 of 2016. The City's experience will be instructive in developing appropriate targets.

REBNY opposes Int. No. 1629.

INTRO NO: 1632

SUBJECT: A Local Law to amend the New York City Charter, in relation to requiring that property owners disclose information about a building's energy efficiency when selling or leasing such building or space within such building.

SPONSORS: Garodnick, Johnson, Constantinides, Cohen, Rosenthal

Intro. No. 1632 requires property owners to conspicuously post energy efficiency grades and to disclose these grades along with yet-to-be-created energy asset scores at the time of sale or lease. These grades will be determined by yet-to-be-created energy efficiency scores or by a static source EUI threshold. Violators of any provision of this proposal would be subject to a civil penalty equal to \$5,000 plus one dollar for each square foot of gross floor area in the covered building or space.

The proposed energy efficiency scores underlying these grades are not adequately defined, and may be tied directly to EUI and water use intensity. The inclusion of "relative to similar buildings" in the score definition also means these scores will be arbitrary based upon how the City uses data to define "similar". The proposed static source EUI threshold for energy efficiency grades (42 kBTU/year/square foot) is also inappropriate for NYC because some of the most energy efficiency high-rise office buildings in the world have source EUIs of more than 50 kBTU/year/square foot. U.S. Environmental Protection Agency (EPA) shares that "financial offices" have an average source EUI of 148, or 3.5x the proposed standards.

The administering agency will need to be adequately resourced to create the proposed energy asset scoring tool before the July 1, 2018 due date. The large building database schema necessary will be an immensely complicated undertaking that requires specific statistical expertise. It took years for the US Department of Energy to create its Energy Asset Score and for the EPA's Energy Star score for multifamily buildings to launch which is now only in the early stages of application.

Letter grades based on EUI could discourage the densification needed to support the City's affordable housing and job creation goals. Some buildings may choose to discourage density and high intensity energy uses to improve their grades or to avoid the proposed six figure fines. An unintended consequence would be endorsing dark, uncomfortable, unproductive spaces, putting the City's sustainability efforts directly at odds with tenant expectations throughout the City.

REBNY opposes Intro No 1632.

INTRO NO: 1637

SUBJECT: A Local Law to amend the New York City Charter, in relation to establishing a New York City energy policy task force and creating a long-term energy plan for the city

SPONSORS: Johnson, Richards, Cohen, Constantinides, Rosenthal

Intro. No. 1637 requires the administering agency to convene an energy policy task force to create a long-term energy plan by 2019 and every fourth year thereafter. These plans would describe and analyze our current energy supply, citywide energy demand, factors affecting demand, the regulatory authorities affecting supply, the capacity of the green energy sources, as well as the impact of energy efficiency measures. The task force will make recommendations based upon this information to promote sustainability throughout the city and to encourage residents and other members of the public to participate in and benefit from energy efficiency improvements and green energy systems.

REBNY supports this bill to coordinate public and private resources towards shared sustainability goals. However, REBNY recommends that the task force 1) include professional engineers, and 2) determine citywide sustainability targets based upon metrics other than Energy Use Intensity (EUI).

With modification to address the two aforementioned requests, REBNY supports Int. No. 1637.

CONCLUSION

REBNY is committed to helping reduce overall greenhouse gas emissions and offers the following as additional or alternative pathways:

- Create a task force of technical experts to replace EUI as a metric and target in all of the City's sustainability goals;
- Require one-to-three family homes to deploy "self-programming" thermostats to control the heating and cooling equipment in residential homes;
- Create height and floor area incentives for sustainability and resiliency improvements, similar to Seattle's Living Building Pilot; and
- Create a design competition to incentivize and advertise new equipment and energy efficiency techniques.

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1629 Res. No. _____

in favor in opposition

Date: 6/27/17

(PLEASE PRINT)

Name: ALEX BERNSTEIN

Address: 133 E 15th St, NY 10003

I represent: BERNSTEIN REAL ESTATE

Address: 150 W 30th St NY 10001

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1629 Res. No. _____

in favor in opposition

Date: _____

(PLEASE PRINT)

Name: Andreas Kouziing

Address: _____

I represent: NY Passive House

Address: _____

**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: DANIEL KARPEN

Address: 3 Harbor Hill Drive

I represent: Huntington, N.Y. 11743

Address: Can a Professor and Engineer

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. 1639 Res. No. _____

in favor in opposition

Date: _____

(PLEASE PRINT)

Name: DAN WINER

Address: 6633 YELLOWSTONE BLD, FOREST HILLS

I represent: 350 NYC. ORG NY 11375

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. ¹⁶²⁹~~1632~~ Res. No. _____

in favor in opposition 1644, 1651

Date: 6/27/17

(PLEASE PRINT)

Name: Adriana ESPINOZA

Address: 30 Broad, 30th Fl.

I represent: NYLCV

Address: _____

**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: John Doe Broca

Address: DOB / Mayor's Office

I represent: _____

Address: _____

**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: Anthony Fiore

Address: DCAS / Mayor's Office

I represent: Brown Office

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

[]

I intend to appear and speak on Int. No. 1029/1037 Res. No. _____
 in favor in opposition

Date: 6/27/17

(PLEASE PRINT)

Name: Scott Frank

Address: _____

I represent: American Council of Engineering Companies

Address: 8 West 38th Street, Suite 901
New York, NY 10018

**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: John Lee

Address: MOS / Mayor's Office

I represent: _____

Address: _____

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. ^{1629, 1652, 1639} 1629/1644 Res. No. _____
 in favor in opposition

Date: 6/27/2017

(PLEASE PRINT)

Name: Abbey Brown

Address: _____

I represent: Environmental Defense Fund

Address: _____

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. ^{1629, 1630, 1632} 1637, 1639, 1644 Res. No. _____
 in favor in opposition ¹⁶⁵¹

Date: 6/27/2017

(PLEASE PRINT)

Name: Chris Halfnight

Address: 1799 Bedford Ave, Apt 3B

I represent: Urban Green Council

Address: 55 Broad St, 9th Floor

THE COUNCIL
THE CITY OF NEW YORK

Appearance Card

I intend to appear and speak on Int. No. ^{1639, 1650, 1632} 1637, 1639, 1644 Res. No. _____
 in favor in opposition ¹⁶⁵¹

Date: 6/27/17

(PLEASE PRINT)

Name: Amanda Gaboa

Address: ~~350.org~~ Brooklyn, NY 11201

I represent: 350.org and Citizens Climate Lobby

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1629 Res. No. _____

in favor in opposition

Date: _____

(PLEASE PRINT)

Name: LISA DiCaprio

Address: 325 West 93rd Street

I represent: SIERRA CLUB

Address: _____

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1629 Res. No. _____

in favor in opposition

Date: _____

(PLEASE PRINT)

Name: BUCK MOORHEADS

Address: 245 W 29 TH NY NY

I represent: NEW YORK PASSIVE HOUSE NY420/DCS

Address: BROAD ST NYC.

**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1629, 1637, 1644, 1651 Res. No. _____

in favor in opposition

Date: _____

(PLEASE PRINT)

Name: Justin Pascone

Address: 536 LaGuardia Place

I represent: American Institute of Architects

Address: _____

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**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. 1629 Res. No. _____

in favor in opposition

Date: 27 June 2017

(PLEASE PRINT)

Name: Linda Keom

Address: 320 Central Park West #14H 10025

I represent: Specialty Architectural Practice

Address: _____

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**THE COUNCIL
THE CITY OF NEW YORK**

Appearance Card

I intend to appear and speak on Int. No. All bills Res. No. _____

in favor in opposition

Date: _____

(PLEASE PRINT)

Name: Donna DeCostanzo

Address: 40 W. 20th St. NY NY

I represent: NRDC

Address: _____

Please complete this card and return to the Sergeant-at-Arms