

CITY COUNCIL  
CITY OF NEW YORK

----- X

TRANSCRIPT OF THE MINUTES

Of the

COMMITTEE ON CONTRACTS JOINTLY WITH THE  
COMMITTEE ON GOVERNMENTAL OPERATIONS

----- X

January 23, 2017  
Start: 1:06 p.m.  
Recess: 3:06 p.m.

HELD AT: 250 Broadway - Committee Rm.  
16<sup>th</sup> Fl

B E F O R E: HELEN K. ROSENTHAL  
Chairperson

BEN KALLOS  
Chairperson

COUNCIL MEMBERS: Peter A. Koo  
Ruben Wills  
Costa G. Constantinides  
Chaim M. Deutsch  
Corey D. Johnson  
I. Daneek Miller  
David G. Greenfield  
Mark Levine  
Carlos Menchaca  
Antonio Reynoso  
Ritchie J. Torres  
Joseph C. Borelli

## A P P E A R A N C E S (CONTINUED)

Anthony Fiore, Deputy Commissioner & Chief Energy  
Management Officer  
Department of Citywide Administrative Services, DCAS

Ellen Zielinski, Director  
Clean Energy Technologies  
Department of Citywide Administrative Services, DCAS

Benjamin Mandel, Renewable Energy Policy Advisor  
Mayor's Office of Sustainability

Annel Hernandez, Resiliency Planner  
NYC Environmental Justice Alliance

Anne Bovay, Nurse at Bellevue Hospital  
Climate Works for All

Luisia De Leon, Program Manager  
Green Jobs for New York

Nolita Molina, Resident  
Elmhurst, Queens

Alex Gleason, Policy Associate  
NYC Central Labor Council, AFL-CIO

Benjamin Moran, Business Representative  
Local Union No. 3  
International Brotherhood of Electrical Workers

Allison Bogus (sic)  
Electrician, Forman, Solar Installer  
Local Union No. 3  
International Brotherhood of Electrical Workers

Josh Kellerman  
ALIGN, Alliance for a Greater New York

Jean Bergman  
People's Climate Movement

Samantha Williams  
Natural Resources Defense Council

Anthony Pereira, Owner of AltPower  
Board Member & President, NY Solar Industry Assoc.

1

2

[sound check, pause, pause]

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

CHAIRPERSON ROSENTHAL: Hi everyone. I'm calling this hearing open. I don't even know how to say that. [gavel] This hearing is open. Good afternoon. I'm Council Member Helen Rosenthal. I'm Chair of the City Council's Committee on Contract, and I would first like to thank Council Member Ben Kallos, and the members of the Government Operations Committee for joining us for this very important hearing. As cities around the world continue to fight climate change, which by the way is real, New York City has committed itself to being a global leader in reducing greenhouse gas emission. A key element to achieving environment sustainability goals is addressing energy use in buildings as nearly two-thirds of the city's greenhouse gas emissions are attributed to this usage. To that end, the administration released On City Built to Last in September 2014. This ten-year strategy is designed to improve the energy efficiency of the city's buildings. A significant component to this expansion—a significant component to this is the expansion of solar power on roof—on the rooftop of public buildings across the five boroughs. The

1  
2 administration committed to installing 100 megawatts  
3 of solar capacity by 2025, which if projected would  
4 save the city \$8 million in annual energy costs and  
5 create 160 new jobs. I applaud this effort. The  
6 city currently has 53 installations that represent a  
7 total of 8.9 megawatts of solar. However, to get to  
8 the 100—the 100 megawatt goal, there is still  
9 significant—hang on one second. Really sorry. Oh,  
10 there's still significant work to be done. DCAS, the  
11 Department of Citywide Administrative Services took  
12 an important step when it released an RFP in 2015 for  
13 a largescale solar project that would place  
14 installations at 88 sites across the five boroughs  
15 with an estimated solar capacity of 15 megawatts.  
16 Indeed tripling the amount that we have now. The  
17 Administration opted to finance this via Power  
18 Purchase Agreement, PPA. This means that the  
19 contracted developer will provide electricity  
20 services to the city through design, installation,  
21 ownership and operation of these systems. The  
22 contractor will provide the generated electricity at  
23 each building as well as the necessary equipment and  
24 maintenance to ensure that sufficient electricity  
25 will be available over the 20-year term of the

1  
2 agreement. The city will be billed monthly by the  
3 contractor for the electricity generated at the  
4 sites. This contract was originally awarded to Sun  
5 Edison in March 2016. However, after the Sun Edison  
6 declared bankruptcy in April of 2016, the contract  
7 was awarded to Tangent Energy Solutions in July 2016  
8 for a total of \$70.85 million. As we move forward  
9 with this project, and with the city's overall solar  
10 strategy, I hope to touch on a number of issues that  
11 have been raised to me by advocates concerned that  
12 the city is not getting the best value from its solar  
13 agreements. I have major concerns about the  
14 Administration's approach to getting solar power, and  
15 I look forward to discussing these with the  
16 Administration today. First, I would like to examine  
17 the PPA model as it compares with directly funding  
18 these projects through city capital funds. One of  
19 the major arguments made in favor of the PPA model is  
20 that it saves the city millions in upfront capital  
21 costs. However, unlike the capital money-model, the  
22 city does not own the installations, and while PPA's—  
23 the agreement themselves typically last for a period  
24 of 20 years, a solar panel built today provides  
25 electricity for a period of 30 years. After the

1  
2 agreement is completed, the contractor, not the city,  
3 owns the panel for the remaining ten years that it  
4 would be effective. While there are certainly  
5 circumstances in which one can imagine PPA would be  
6 the better option, the capital projects already  
7 completed by the city seem to have in general been  
8 fiscally prudent. Of the 49 city capital-capitally  
9 funded solar projects already completed, 80% are  
10 projected to deliver energy cost savings greater than  
11 the initial investment within their 30-year life span  
12 including every single project completed since 2013,  
13 roughly 30 projects. The total investment the city  
14 put into those projects will be eclipsed by the total  
15 savings, just 21-1/2 years after installation. If we  
16 take out the ones that were installed prior to 2013,  
17 the city will begin reaping the rewards in 19-1/2  
18 years. What prompted the shift away from the  
19 apparently successful capital model of financing to  
20 the PPA model? When would it make sense from a cost  
21 efficiency standpoint for the city to own and operate  
22 the solar panels rather than pay a private developer  
23 with such an analysis conducted prior to the Tangent  
24 Agreement for the 88 sites. Second, I want to ensure  
25 that the solar program reflects principles of equity

1  
2 and environmental justice for all of the city's  
3 communities. Buildings are solar ready if they have  
4 a roof no more than 10 years old that is currently in  
5 good structural condition. The city currently uses  
6 the criteria of seven years to select sites, a factor  
7 that advocates have said will likely exclude many  
8 public buildings in low-income areas where such  
9 projects may be of enormous benefit. I would like  
10 hear from the Administration regarding the extent to  
11 which factors such as Administration such as income  
12 levels, asthma rates and other related criteria are  
13 considered and how communities are engaged when the  
14 city decides where to put these projects. The  
15 Administration reports that an assessment of all the  
16 city's solar ready rooftops indicates that it will  
17 only get us a little more than halfway to that goal  
18 of 100 megawatts of solar. What about the remaining  
19 rooftops? How will the city do its due diligence to  
20 get rooftops in low-income communities solar ready so  
21 they, too, can benefit from these projects? Finally,  
22 I'd like to discuss the labor impact of these  
23 agreements. Specifically, I'm interested in  
24 discussing how these projects can create good paying  
25 local jobs for New Yorkers particularly those in

1  
2 disadvantaged communities. We must think about this  
3 as an opportunity, and we must make sure that all  
4 renewable energy projects are subject to strong labor  
5 standards and maximize the participate-participation  
6 of public sector workers where possible. We also  
7 want to ensure that the city plans to integrate local  
8 hiring and workforce development required-  
9 requirements into this and future solar agreements.  
10 Will it seek to create access for low-income workers  
11 through comprehensive training and education  
12 programs? Are these projects an investment in a  
13 private company or in New York City's communities?  
14 The city's vision for a sustainable future is a noble  
15 one, but as the OneNYC Plan itself states, equity  
16 must continue to be an explicit guiding principle. I  
17 want to thank DCAS for being with us here today, and  
18 I want to thank my staff of the Committee on  
19 Contracts, Eric Bernstein, the General Counsel, Casey  
20 Addison, the Policy Analyst and Brendan Wacocalan  
21 (sp?) and John Russell, the Fiscal Analysts who are  
22 her today, and before we begin, I would like to turn  
23 it over to Council Member Kallos for his opening  
24 remarks.

25

1  
2                   CHAIRPERSON KALLOS: Good afternoon, and  
3 welcome to this joint hearing on the Committee on  
4 Contracts and the Committee on Governmental  
5 Operations. I'm Ben Kallos, Chair of the committee on  
6 Governmental Operations, and you can always Tweet,  
7 Instagram me at Ben Kallos, B-E-N K-A-L-L-O-S, and  
8 if you have specific questions whether from the  
9 public or the media please feel free to share with me  
10 and the world, and I'll do my best to ask them during  
11 this hearing. I want to especially thank my co-chair  
12 Helen Rosenthal for leading the conversation, and to  
13 this oversight hearing today on DCAS' Solar Power  
14 Purchase Agreement joint with us today. We are  
15 actually joined by Council Member Chaim Deutsch from  
16 the Contracts Committee and I'll acknowledge Gov Ops  
17 committee members as they come. The city has set an  
18 important goal of reaching 100 megawatts of solar  
19 capacity from public buildings by 2025, but the  
20 details of how we reach that goal maybe just as  
21 important. That's we're having this discussion today  
22 on an issue that is very much about the nuts and  
23 bolts of government. The power peer-purchase  
24 agreement model, as my co-chair discussed, is an  
25 interesting approach that saved the city millions of

1  
2 front and capital costs, but as she also discussed,  
3 it also raises significant concerns about how that  
4 savings is being achieved. We want to ensure that we  
5 are maximizing the potential benefits of our solar  
6 program to the city and its people. The growth of  
7 our local solar industry should also mean the growth  
8 of good paying local jobs for New York City  
9 residents. It should mean local hiring and workforce  
10 development requirements as vital parts of any  
11 approach, and it should mean that the areas of the  
12 city where the electrical grid is least able to  
13 handle the required load should be among the first  
14 places targeted for solar installations. I'm  
15 additional concerned that we should not privatize the  
16 most cost-effective solar ready roofs while leaving  
17 more expensive installations for our own capital  
18 outlays in the future. I want to take a moment to  
19 thank Brad Reed our Committee Counsel, our Committee  
20 Policy Analyst and our Committee Finance Analyst for  
21 all of his hard work, and again, I would like to  
22 thank our co-chair—my co-chair Helen Rosenthal and  
23 look forward to a positive discussion today.

24

25

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

CHAIRPERSON ROSENTHAL: Thank you very much. Welcome, Council Member Treyger who's chair of the Resiliency Committee, and you may begin.

LEGAL COUNSEL: Oh, we-we--

CHAIRPERSON ROSENTHAL: Hold one second. We need to swear you in. Brad.

LEGAL COUNSEL: Please raise your right hand. Do you affirm to tell the truth, the whole truth, and nothing but the truth in your testimony before these committees, and to respond honestly to Council Member questions?

DEPUTY COMMISSIONER FIORE: I do

ELLEN ZIELINSKI: I do.

LEGAL COUNSEL: Thank you. [coughs]  
Good afternoon, Chair Rosenthal and Chair Kallos and members of-of the Committees on Contracts and Governmental Operations. My name is Anthony Fiore, and I'm the Deputy Commissioner and Chief Energy Management Officer for the Department of Citywide Administrative Services known as DCAS. I'm accompanied this afternoon by Ms. Ellen Zielinski, Director of the Clean Energy and Innovative Technologies Program at DCAS and Benjamin Mandel Renewable Energy Policy Advisor for the Mayor's

1  
2 Office of Sustainability. Thank you for the  
3 opportunity to testify today regarding the Solar  
4 Power Purchase Agreement awarded to Tangent Energy  
5 Solutions hereinafter referred to as the Contract.  
6 We welcome the opportunity to outline the facts  
7 regarding the contract, and our overall vision to  
8 bring clean renewable energy to our municipal  
9 buildings through solar deployment, and how the City  
10 can lead the way to mitigating the very real and  
11 present danger resulting from anthropogenic climate  
12 change. As part of the One City Built to Last  
13 Climate Action Plan released in September 2014, the  
14 Mayor articulated a vision for reducing citywide  
15 greenhouse gas emissions or GHG emissions 80% by 2050  
16 over a 2005 baseline, known as 80 x 50. In addition,  
17 to the citywide 80 x 50 goal, city government has  
18 tasked itself with leading by example and reducing  
19 greenhouse gas emissions from muni-municipal  
20 buildings 35% by 2025. A key component to reach our  
21 greenhouse gas emission reduction goals is the  
22 installation of 100 megawatts or more of solar energy  
23 generation capacity on city-owned property by 2025,  
24 the 100 megawatt goal. I'm pleased to report that  
25 2016 was the most successful year to date for our

1  
2 solar program. We reached a new total of nearly nine  
3 megawatts of installed solar capacity across 53  
4 buildings as year-end, a greater than 80% increase in  
5 the number of installations over 2015. This results  
6 in the reduction of almost 3,200 metric tons of  
7 greenhouse gas emissions per year, the equivalent of  
8 not burning 1,700 tons of coal. We accomplished the  
9 despite year-over-year growth in statewide  
10 residential solar installations slowing—slowing from  
11 100% in 2015 to just 12% in 2016. More than 90% of  
12 the 53 solar projects completed to date were funded  
13 through our Capital Program. DCAS takes seriously  
14 its responsibility to lead by example, to help the  
15 city attain its 80 x 50 greenhouse gas reduction  
16 target particularly by demonstrating innovative  
17 technologies, procurement methods and financing  
18 structures. To that end, DCAS appreciates the  
19 partnership of the City Council encouraging us to  
20 reach our solar goals more quickly in order to reduce  
21 reliance on fossil fuels and their attendant global  
22 and local pollution consequences. At the Council  
23 hearing for Introduction 478 just over a year ago, we  
24 found common ground with the Council on the reality  
25 that in order to reach 80 x 50 while continuing to—to

1  
2 thrive economically, the city needs renewable  
3 objectives, goals and—and an implementation strategy  
4 to help increase the use of renewable energy and move  
5 away from the total dependency on fossil fuel. We  
6 worked with the City Council to create Local Law 24  
7 of 2016, which required a full assessment of the  
8 solar potential across our portfolio of over 2,000  
9 municipal buildings that are 10,000 square feet or  
10 larger. The results of this assessment are included  
11 in our recently released report, *Solar 100: New York*  
12 *City's Municipal Solar Strategy Getting to 100*  
13 *Megawatts and Beyond* or *Solar 100* for short, which  
14 details each of the 429 newly identified solar ready  
15 buildings. There are over 30 megawatts of potential  
16 solar capacity, and the corresponding 12,100 metric  
17 tons of annual greenhouse gas emissions reduction  
18 potential, the equivalent of avoiding more than 29  
19 million vehicle miles traveled. Solar readiness was  
20 determined based on roof age being 10 years or less,  
21 and the roof being in a state of good repair. Today,  
22 we have solar arrays installed across all five  
23 boroughs in a variety of facilities including  
24 schools, office buildings, police precincts, a  
25 wastewater treatment plant and City Hall. In

1  
2 addition, we have mapped the incidents of emergency  
3 room visits attributable to fine particulate matter  
4 and asthma by United Hospital Fund neighborhoods—  
5 regions, which illustrates a strong alignment between  
6 neighborhoods with the poorest respiratory health,  
7 and our existing solar installations as well as future  
8 solar installations covered under this contract. I  
9 have provided hard copies of our Solar 100 report  
10 today, the full report is also available on our  
11 website. While we have come a long way over the past  
12 year, we still have a long way to go. As we look  
13 forward to 2017, we continue to evaluate mechanisms  
14 and resources that will maximize pathways to solar  
15 project implementation. Existing contracts with the  
16 New York Power Authority and other city agencies have  
17 given us the ability to develop a robust Capital  
18 Program, and reduce energy expenditures. Out of the  
19 approximately nine megawatts installed to date, the  
20 city has installed 7 megawatts through capital  
21 contracts. We are planning to kick off an additional  
22 estimated 20 megawatts in 2017 through both the  
23 contract under discussion today, and the continued  
24 Capital Project Delivery program that includes our  
25 first solar parking lot can-canopies, stand-alone—

1  
2 stand-alone solar carports, and solar installations  
3 with battery backup for improved resiliency. It's  
4 important to note that while installing solar on a  
5 building helps to offset a portion of electricity  
6 consumption does not improve a building's overall  
7 energy efficiency. In accordance with the city's  
8 ground-breaking energy efficiency policies, DCAS is  
9 investing millions of dollars annually to upgrade our  
10 buildings, address critical HVAC lighting and other  
11 building systems so they are as efficient as  
12 possible. This reduces our electricity and fuel  
13 consumption while also increasing the proportion of  
14 energy offset by solar and other forms of clean  
15 distributed generation. Through DCAS programs such  
16 as the Accelerated Conservation and Efficiency  
17 Program known as ACE for short, one of the country's  
18 largest municipal energy efficiency programs, we  
19 invested over \$362 million in energy efficiency  
20 upgrades across 708 buildings. These projects will  
21 reduce the city's greenhouse gas emissions by 125,800  
22 metric tons of greenhouse gas emissions per year, the  
23 equivalent of taking more than 26,500 cars off of the  
24 road. While we continue to implement solar projects  
25 and other energy efficiency programs through our

1  
2 Capital Program, we are also looking to other  
3 delivery mechanisms including third-party ownership  
4 models primarily Power Purchase Agreements or PPAs,  
5 as one part of our overall strategy to advance more  
6 solar across the city's municipal rooftops. A PPA is  
7 an expense funded contract for the provision of  
8 electricity services provided by solar power project  
9 developers. Under a PPA, a developer will supply  
10 electricity services to the city through the design,  
11 installation, ownership, operation and maintenance  
12 and performance tracking of solar systems. While all  
13 the electricity generated by each PV system sold to  
14 the city over the cost-course of a long-term  
15 agreement generally took 20 years. This type of  
16 agreement allows the city to purchase low-cost solar  
17 energy as result of private entities leveraging  
18 federal solar tax incentives not available to  
19 municipalities and other public entities, and without  
20 incurring any upfront capital expenditures or long-  
21 term operation and maintenance costs. The New York  
22 State Energy Research and Development Authority has  
23 reported that PPA financing models are typically more  
24 cost-effective compared to a direct ownership capital  
25 finance approach even when accounting for low-cost

1  
2 capital municipalities may obtain through either  
3 bonding or other forms of lending. As the federal  
4 incentive is set to begin a five-year phase out  
5 starting in 2019, it's important that we take  
6 advantage of this opportunity while still available.  
7 PPAs have shown the benefits of solar financing  
8 mechanisms that avoid upfront capital investments for  
9 both public and private customers. PPAs are a widely  
10 accepted contemporary approach to financing solar for  
11 entities with large portfolios of assets particularly  
12 municipalities and other government agencies. As an  
13 example, major U.S. cities such as San Francisco and  
14 Washington, D.C. has signed solar PPAs and the  
15 Federal Department of Defense purchases—purchases  
16 over a gigawatt of solar power exclusively through  
17 PPAs. New York City's own Brooklyn Navy Yard  
18 recently announced completion of a 900 kilowatt solar  
19 system financed via a PPA. In 2012, DCAs  
20 successfully pilot—piloted the city's first PPA  
21 resulting New York City's largest municipal solar  
22 project to date at the Port Richmond Wastewater  
23 Treatment Plant. Despite the relatively high per  
24 unit cost for solar energy purchased through that PPA  
25 as compared to brown utility power at the time, an

1  
2 analysis illustrated that PPA saved the city \$9.5  
3 million on a net present value basis over a capital  
4 project delivery alternative. The contracting  
5 discussed today, will cost the city \$19.3 million  
6 less to implement on a net present value basis than a  
7 city capital project approach. These avoided costs  
8 allow the acceleration and implementation of the  
9 city's other crucial greenhouse gas emission  
10 reduction initiatives. Another key benefit of solar  
11 PPAs is risk reduction. As part of a PPA, the same  
12 developer who's responsible for the design,  
13 construction and installation is also responsible for  
14 all operations, monitoring, repair and maintenance  
15 for each solar array. This places all the risk on  
16 the contractor, avoids finger pointing, reduces  
17 potential litigation and optimizes system performance  
18 as the contractor gets paid for only the energy that  
19 is delivered. The city is anticipating saving \$3.6  
20 million in operations repair and maintenance costs  
21 over the life of the contract, plus improve system  
22 performance given the contractor's extensive  
23 monitoring and resources, maintenance experience and  
24 monetary state and optimum system performance. This  
25 aspect of the PPA model aligns with our objective to

1  
2 reduce the city's greenhouse gas emissions through  
3 effective operation of clean energy resources across  
4 our diverse portfolio of city facilities. DCAS  
5 coordinates closely with all city agencies in the  
6 site selection and implementation of solar projects.  
7 Many of our agency partners are supportive of having  
8 a solar program on their assets, but do not yet have  
9 the resources to ensure the successful long-term  
10 operation and maintenance of these systems.  
11 Recognizing this need, DCAS hired staff to develop a  
12 long-term operations and maintenance plan for solar  
13 including development of maintenance inspection and  
14 repair contracts. ONM training classes for city  
15 workers, standardized specifications for data  
16 monitoring systems, and other program guidelines and  
17 assistance. In addition, we are looking at what  
18 additional training we might be able to provide so  
19 that city employees can take part in additional  
20 aspects of solar development. While this will take  
21 some time to build out, it is critical to supporting  
22 our solar Capital Program. The Request for Proposals  
23 associated with this contract drafted in early 2015  
24 was created to help scale up the city's solar program  
25 to achieve the Mayor's 100 Megawatt by 2025

1  
2 commitment, and to help spur the nascent-ascent  
3 commercial solar market in New York City. Both the  
4 RFP and the contract includes-includes prevailing  
5 wage standards, adheres to all applicable New York  
6 State Labor Law requirements, and includes provisions  
7 to support Minority and Women Owned Businesses.  
8 Progress in meeting the MWBE participation goals will  
9 be monitored on an ongoing basis through a  
10 subcontractor utilization plan. The RFP selection  
11 criteria put a clear emphasis on firms with New York  
12 City experience. The RFP specified a preference for  
13 firms with relevant New York City experience, and the  
14 evaluation tool used to select the winning firm gave  
15 scores rated accordingly In addition, the contract  
16 requires the solar developer to enroll with the Hire  
17 New York City portal within 30 days after  
18 registration of the contract, provide information on  
19 all entry to mid-level job opportunities arising from  
20 the contract, interview qualified candidates and  
21 certify the outcome. The contract also follows all  
22 applicable energy building and fire codes as required  
23 by law to ensure safe installation and operation.  
24 The selected firm to execute this contract is Tangent  
25 Energy Solutions. Tangent and their installation

1  
2 partner Alt Power are solar industry veterans who  
3 have already installed many projects in New York City  
4 including our four pilot PPA sites and some of the  
5 city's earliest installations. As part of their  
6 Proposed Project Implementation Plan, Tangent  
7 detailed that they will utilize local union  
8 electrical firms as their installation  
9 subcontractors. For the duration of the contract's  
10 two-year installation phase, the electrical  
11 installation work will come from local firms  
12 employing union workers. In addition, Tangent has  
13 committed to providing materials and training for  
14 Local 3 at their Long Island City Training facility,  
15 and Local 3 expressed the commitment to working with  
16 Tangent as part of this PPA. While solar power is  
17 primarily about clean energy and combatting climate  
18 change, there's also opportunity for education and  
19 workforce development. Linking solar installations  
20 to broader career training and educational  
21 programming is critical to ensure a skilled workforce  
22 is in place to meet the growing demand for solar in  
23 New York City. DCAS currently implements several  
24 ambitious programs to train our current and future  
25 workforce in energy efficiency, and will soon offer

1  
2 solar training with a focus on repair and maintenance  
3 for city employees. The class will be piloted next  
4 month as part of the DCAS and City University of New  
5 York Energy Management Institute. DCAS is also  
6 partnering with the Department of Education and Solar  
7 One to advance solar education for students through  
8 solar curriculum, classroom supplies and professional  
9 development training for teachers. To date, 208  
10 teachers have been trained and 270 more are  
11 registered for training this year. A solar  
12 vocational program will be piloted at Thomas Edison  
13 High School where students in electrical programs  
14 will experience the latest and hands-on renewable  
15 energy course work. The vocational program will be  
16 refined and expanded to three additional schools next  
17 school year. We will continue to develop training  
18 programs and look for workforce development pathways  
19 with relevant partner agencies such as the Department  
20 of Youth and Community Development. And we've  
21 committed to continuing conversations with our  
22 partners in labor as we plan new RFPs. Furthermore,  
23 we will continue our ongoing collaboration with the  
24 New York City Solar Partnership comprised of  
25 sustainable CUNY, the New York City Economic

1  
2 Development Corporation and the Mayor's Office of  
3 Sustainability to exchange best practices and lessons  
4 learned in support of growing New York City's local  
5 solar market. The work of the solar partnership has  
6 been integral to the growth of the local solar  
7 market. DCAS has communicated lessons learned from  
8 our program that have contributed to faster  
9 permitting approvals through the Department of  
10 Buildings professional certification process.  
11 Moreover, this collaboration allows our solar track  
12 record to inform the design and implementation of  
13 other sizeable solar energy initiatives in both the  
14 public and private sectors including NYCHA's  
15 forthcoming renewable energy solicitation. These are  
16 some of the many ways our experience will support  
17 continued growth of solar in New York City and  
18 fulfill our mandate to lead by example in growing a  
19 more sustainable city. Through our strategic  
20 planning and as outline in Solar 100, we recognizing—  
21 we recognize that reaching our goals will not only  
22 require us to expand the type of solar insta—  
23 installations we pursue beyond rooftops, but also  
24 that we must use every project delivery mechanism  
25 available to us in order to achieve our city's carbon

1  
2 reduction mandate, and improve air quality and public  
3 health outcomes. DCAS will continue to for cost-  
4 effective ops-options to deliver on the city's solar  
5 and overall carbon reduction goal. We are  
6 coordinating with partners across our city agencies,  
7 the solar energy and labor to unlock new  
8 opportunities and facilitate process improvements and  
9 speed up the deployment of clean renewable energy  
10 generation. These efforts are already helping to  
11 over the challenges facing New York's emerging solar  
12 market, and since 2014, solar capacity in New York  
13 City has grown exponentially by more that 250%. On  
14 municipal properties alone, we have experienced an  
15 82% increase in solar capacity from just 2015 to  
16 2016. Thank you again for the opportunity to testify  
17 this after. We'd be happy to answer any question you  
18 may have.

19 CHAIRPERSON ROSENTHAL: Wow, that was  
20 great testimony. Thank you very much. I really  
21 appreciate that. I'm going to ask 4-1/2 questions  
22 and then I'm going to turn it over to my colleague  
23 Council Member Kallos. First, I'm interested in the  
24 point you raised on the top of what is my page 4  
25 about at the end the contracting discussed today will

1  
2 cost the city \$19.3 million less to implement on an  
3 MPV versus capital project approach. At the end of  
4 20 years how—how do we also take into account that at  
5 the end of the 20 years, we won't own the solar  
6 panels, and if we want to reap the rewards of the  
7 next ten years of its use—useful life span, we will  
8 have—how much would we have to pay to enter into  
9 another agreement or purchase the panels straight  
10 out?

11 DEPUTY COMMISSIONER FIORE: Yeah, so at  
12 the—at the end of the contract term, the City has  
13 three options available to it. We can discontinue  
14 the contract and have the solar developer remove the  
15 panels from the site, and restore the site. We can  
16 negotiate a new contract and contract it—

17 ELLEN ZIELINSKI: Or, we can purchase the  
18 system and own them.

19 DEPUTY COMMISSIONER FIORE: And that  
20 would be at the fair market value.

21 CHAIRPERSON ROSENTHAL: Uh-huh. I just  
22 wanted to point that. I mean I—it's just an  
23 important point as we consider the \$19 million  
24 dollars in savings--  
25

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

DEPUTY COMMISSIONER FIORE: [interposing]

Yes.

CHAIRPERSON ROSENTHAL: --but there is ten more years, you know, life span of these panels. As we understand them today. Look, a million things could change between now and 20 years from now. The other piece that I think I didn't fully understand is that the federal subsidy is only for non-municipalities? Oh, it's a very negative on negative statement. Municipalities are not able in any way, shape or form to get a tax benefit from this. Is that what you're saying?

DEPUTY COMMISSIONER FIORE: There--there's been--there's been some financing models where there's a hybrid system that you may be able to combine through a sale leaseback mechanism.

CHAIRPERSON ROSENTHAL: Uh-huh.

DEPUTY COMMISSIONER FIORE: The advantages of both a capital project works project through low-cost financing or bonding and those federal tax incentives. That's been done in New Jersey.

CHAIRPERSON ROSENTHAL: Uh-huh.

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

DEPUTY COMMISSIONER FIORE: It's not clear to us whether or not we could do that in New York State yet, but that is one of the things that we would be looking to understand if there's additional ways that we can take--

CHAIRPERSON ROSENTHAL: [interposing] Right.

DEPUTY COMMISSIONER FIORE: --advantage of those opportunities.

CHAIRPERSON ROSENTHAL: Right. That's important.

ELLEN ZIELINSKI: I would just also mention that for the projects that we completed to date we were not able to access those federal incentives. We do get state incentives both on municipal and private side. We both can access incentives through NYSEDA, but we did not get federal incentive dollars for the work that we completed to date through our Capital Program.

DEPUTY COMMISSIONER FIORE: Yeah and finally, I'd just like to add that there are both federal and state tax credit incentives in particular that are really oriented toward the private sector, and so I think that is largely what's given--

1

2 CHAIRPERSON ROSENTHAL: [interposing] I  
3 think that's the--

4 DEPUTY COMMISSIONER FIORE: --rise across  
5 the country to-to the emergence of third-party  
6 ownership model where a developer or some other  
7 third-party takes ownership of the assets and  
8 monetize those tax credits and reduce the effective  
9 price to the purchaser.

10 CHAIRPERSON ROSENTHAL: Yeah, it's a  
11 dangerous path, my friends. It's a dangerous path,  
12 and it's very--in my mind's eye, it's very Trumpian.  
13 So I would--

14 DEPUTY COMMISSIONER FIORE: [interposing]  
15 Yeah.

16 CHAIRPERSON ROSENTHAL: --I'm really  
17 concerned about it. I just want to welcome Council  
18 Member Koo, Council Member Miller and Council Member  
19 Menchaca to the hearing. So what is the current  
20 status of the DCAS proposed contract with Tangent,  
21 and when is the work on the project expected to  
22 commence?

23 DEPUTY COMMISSIONER FIORE: So the  
24 contract is with our Office of Management and Budget  
25 at the moment, and that's the last step before the

1  
2 contract will be sent to the Comptroller for  
3 registration.

4 CHAIRPERSON ROSENTHAL: Got it. Okay,  
5 are they raising any concerns?

6 DEPUTY COMMISSIONER FIORE: We've—we've  
7 not heard any concerns yet.

8 CHAIRPERSON ROSENTHAL: Great. Secondly  
9 what are the projected job creation numbers as a  
10 result of the city's plan to achieve the full 100  
11 megawatts of solar on public rooftops?

12 DEPUTY COMMISSIONER FIORE: [coughs]  
13 That's a—that's a great question.

14 CHAIRPERSON ROSENTHAL: Just look out 50  
15 years into the future--

16 DEPUTY COMMISSIONER FIORE: [interposing]  
17 Yeah.

18 CHAIRPERSON ROSENTHAL: --and it's a  
19 tough one I know.

20 DEPUTY COMMISSIONER FIORE: So, yeah, and  
21 you know, there's—there's a very large variability in  
22 estimates for job creation in—in these programs, and  
23 I'll just give you a little bit of data that we have  
24 from a report prepared or Navigant for the Solar  
25 Foundation, which showed that for—for large solar

1  
2 systems that 50 kilowatts or greater versus smaller  
3 systems less than 50 kilowatts. If you're just  
4 talking about construction jobs alone, for the large  
5 systems it was two jobs years per megawatt installed  
6 and for small systems nine job years per megawatt  
7 installed. If you look at total direct costs or more  
8 than just construction, but direct—it was eight job  
9 years per megawatt for the large systems and 20 job  
10 years per megawatt for the small systems, and then if  
11 you look at total indirect and direct, you're looking  
12 a 15 job years per megawatt for the large systems,  
13 and about 39 job years per megawatt for the small  
14 systems.

15 CHAIRPERSON ROSENTHAL: You know, it's  
16 so interesting looking at the capital projects that  
17 were installed prior to 2013, you know, not clear  
18 we're making money on those, but the technology just  
19 moves so quickly here. You know, for—for the deals  
20 that we've done—for the Capital Projects we've built  
21 since 2013, we're going to get our money back  
22 relatively quickly. You know, start seeing savings,  
23 and we're owning—we own the capital sites. That  
24 wasn't a question. I was going on with my-- The  
25 last two questions. What were the primary criteria

1  
2 utilized by DCAS in identifying the 88 sites at which  
3 solar installation will cover?

4 DEPUTY COMMISSIONER FIORE: So the  
5 primary driver for selecting those sites, as I  
6 mentioned in my testimony, is solar readiness of  
7 roofs that were 10,000 square feet or larger. So  
8 solar readiness being defined as less than 10 years  
9 old and in a good state of repair to support a solar  
10 panel.

11 ELLEN ZIELINSKI: I would just add for  
12 the Tangent sites we also ask for the largest roofs.  
13 So we completed this Local Law 24 assessment recently  
14 of all of our city roof—our municipal rooftops, but  
15 by—when we were working on the Tangent Contract we  
16 had not completed that yet. So, we distributed a  
17 survey based on the—asking for the largest roof and  
18 roofs that were lend to (sic) us as well. You know,

19 DEPUTY COMMISSIONER FIORE: [interposing]  
20 And—and

21 ELLEN ZIELINSKI: And age on condition  
22 were the primary factors.

23 DEPUTY COMMISSIONER FIORE: And, you  
24 know, I'd like to highlight what—a part that we've  
25 included in our Solar 100 Report where we then, you

1  
2 know, mapped the city based on United Hospital Fund  
3 neighborhoods, and looked at our existing solar  
4 deployment all of the deployments in queue including  
5 this contract, and it shows very bit alignment over  
6 areas that have the poorest health outcomes based on  
7 respiratory emergency room visits for--attributable to  
8 fine particulate matter and asthma.

9           BENJAMIN MANDEL: I mean I--I just want  
10 to add on top of what Anthony and Ellen have already  
11 mentioned that the DCAS Solar Portfolio is a  
12 critically important component of a broader and  
13 comprehensive vision for solar energy citywide that  
14 was laid out first in One City Built to Last in 2014,  
15 and continues through today. So back in September,  
16 the Mayor announced an expanded citywide solar target  
17 of one gigawatt. So that relies on the scale and  
18 process experience that we can gain through the  
19 city's own solar portfolio working in tandem with  
20 sister agencies, Department of Buildings, and the  
21 Fire Department as well as the utility Con Edison,  
22 and we really want to make sure that as we gain  
23 experience through the--the city's public solar  
24 portfolio, it's going to the benefit of our private  
25 sector projects as well. So to that end, I want to

1  
2 make an appeal to Council Members to also work with  
3 the Administration and our partners at CUNY and the  
4 Economic Development Corporation to make sure that  
5 through solarized campaigns and other programs, we're  
6 continuing to target solar group purchasing to areas  
7 that have historically lacked access to solar energy,  
8 and that being critically--use it the most due to some  
9 of the factors that DCAS has outlined. So I'd be  
10 happy to follow up anyone on that.

11 CHAIRPERSON ROSENTHAL: Oh, yeah, I  
12 think you've got nothing but support

13 BENJAMIN MANDEL: [interposing] Yes.

14 CHAIRPERSON ROSENTHAL: --on that and--and  
15 I'm just so interested. I've never heard--so a 100  
16 megawatt and--and we're moving to one gigawatt.

17 DEPUTY COMMISSIONER FIORE: So that's  
18 citywide right.

19 CHAIRPERSON ROSENTHAL: Why aren't we  
20 turning it into one--a lot of that? Sorry. Okay,  
21 Ben, it's on you. I just couldn't figure out how do  
22 fix that. Thank you, both.

23 CHAIRPERSON KALLOS: You got it. Thank  
24 you bringing levity to the hearing. I'd just like to  
25 ask--we've been joined by Council Member Costa

1

2 Constantinides, Chair of the Environmental Protection  
3 Committee who is also chairing a hearing at this very  
4 moment on the 14<sup>th</sup> Floor. So I'll try to do my four  
5 questions quickly, and then turn to him for some  
6 questions. So first, how-how many locations have we  
7 been able to install locations and have those  
8 locations been installed by people who have  
9 certifications or paid a prevailing wage, and have  
10 proper training and benefits?

11 DEPUTY COMMISSIONER FIORE: So I believe  
12 it's 53 sites—53 sites to date, and as I mentioned,  
13 more than 90% of that's been for our Capital Program,  
14 which requires prevailing wage and [coughs] a number  
15 of requirements, and then there were four sites done  
16 under a pilot PPA. It also required that.

17 CHAIRPERSON KALLOS: So—so no sites were  
18 done by folks who were getting less than the  
19 prevailing wage. No sites were done by people  
20 without training? No sites were done by people who  
21 didn't have benefits?

22 DEPUTY COMMISSIONER FIORE: No.

23 CHAIRPERSON KALLOS: And we intend to  
24 make sure that any site that does this regardless of  
25 who does it will have work done by people who have

1

2 the training, have the certificate and are getting  
3 paid prevailing wage with benefits?

4

DEPUTY COMMISSIONER FIORE: Absolute, and  
5 that, you know, as I mentioned earlier in my  
6 testimony, it's part of the reason that we are  
7 scaling up the—the training that we're doing for our  
8 own city workers to make sure that they have the  
9 skills and knowledge to operate and maintain the  
10 systems that we've installed through capital award  
11 projects safely and efficiently.

12

CHAIRPERSON KALLOS: So just thank you  
13 for putting together this book and if you could just  
14 share for folks where they can download it online so  
15 we can avoid printing more of these?

16

DEPUTY COMMISSIONER FIORE: Yes, if you  
17 go to the City's website [www.nyc.gov](http://www.nyc.gov)--I'm sorry  
18 .gov/dcas, you—you will find a link to that on that  
19 website.

20

CHAIRPERSON KALLOS: Okay. Perfect. So  
21 those watching you at—at home [www.nyc.gov/dcas](http://www.nyc.gov/dcas), and  
22 from there and it would Solar 100 New York City's  
23 Municipal Solar Strategy. And so in here most of it  
24 is actually detailing different sites throughout the  
25 city. However, one of the concerns is you've

1  
2 expressed a one gigabyte—I'm sorry gigawatt. It's  
3 different. I'm a computer nerd and not necessarily a  
4 solar nerd yet. So, gigawatt, but it seems like even  
5 with all the locations you've identified in this  
6 report, we still don't even get to half of 100  
7 megawatt goal. So how—how—how do we get there.

8 DEPUTY COMMISSIONER FIORE: So at the—at  
9 the end of the report we outline a five-point  
10 strategy for—for getting there and a large part of  
11 that means we have to think beyond just rooftops,  
12 right. We—the—and we are going to be going out with  
13 a Capital Program to get parking lots and standalone  
14 solar canopies, and looking at what other land we  
15 might have available that we can put ground mounted  
16 solar on. We also want to look at the roofs that are  
17 not solar ready, and looking at the largest of those,  
18 might be able to accelerate the replacement of—of any  
19 of those—to get at—at more of that.

20 CHAIRPERSON KALLOS: And I guess within  
21 that, you've looked at roofs, and some of them you've  
22 judged as solar ready if they're less than ten years,  
23 and that's cost-effective depending on size. What  
24 happens with the roofs that are older than ten years?  
25 What kind of structural improvements? What type of

1

2 capital cost? Is that going to be borne by a  
3 contract, by a third party, or is that going to be  
4 the third party gets—the—the company gets to save all  
5 the money, and gets all the easy locations while the  
6 low-hanging fruit and the taxpayers get stuck with  
7 all the hard locations where we have to do  
8 significant work to get the solar.

9 DEPUTY COMMISSIONER FIORE: I think that,  
10 as I mentioned, we want to—in order to attain the 100  
11 megawatt goal, we really need every project delivery  
12 mechanism that's available to us to do that. And as  
13 we go forward with the different project delivery  
14 mechanism whether it be a PPA or a capital program or  
15 in-house work, we're going to continue to collect  
16 data on both cost and quality so that we can adjust  
17 our procurement strategy as—as we move forward most  
18 appropriately. So I think it's a little too early to  
19 tell you that, but we're going to keep looking at the  
20 buildings that we have, and how we can most  
21 efficiently aggregate different types of buildings  
22 over the different delivery mechanisms to have the  
23 most efficient solar deployment program.

24 ELLEN ZIELINSKI: I would just add that  
25 we have a very close working relationship with the

1  
2 Department of Design of Construction and the School  
3 Construction Authority. These are the two entities  
4 that really do a lot of the city's capital  
5 construction work, and so we're working---working  
6 very closely with them--with them to try to integrate  
7 solar as part of our upcoming roof replacements or  
8 new construction. We do have projects coming up in  
9 the queue that we will be funding at incremental  
10 costs of adding solar. So that way it can become a  
11 more seamless process of including solar and other  
12 high efficiency measures in our new construction.

13 CHAIRPERSON KALLOS: And--and so I guess I  
14 just want to end off my first round of questioning  
15 before I go to our Environments Chair. In looking  
16 through the report--and I want to thank you for this  
17 exhaustive report, which you published in December of  
18 last year, and so less than a month later we have  
19 this hearing, and I again want to thank our co-chair  
20 Helen Rosenthal on this. But there's a number of  
21 sites that have been identified in my district, and I  
22 guess the question is multiple of these sites are  
23 locations that I've already put about \$3.6 million  
24 aside to do green roofs, because though I really want  
25 to do solar, the schools as part of participatory

1  
2 budgeting have won numerous elections to convert the  
3 spaces where we don't have play yards, where we don't  
4 have places for kids to have physical activity. We  
5 have Caffit-Caffit-Gymnatoriums and Geneteria-  
6 Gymnaterias and Gymnatoriums. We-we don't actually  
7 have gyms in my district. Kids can't play basketball  
8 there. So how do we balance the two, and make sure  
9 that you're not about to put solar in the place that  
10 children about to play and have a park and vice  
11 versa?

12 DEPUTY COMMISSIONER FIORE: You know,  
13 [coughs] it's a-it's a great point, and there are  
14 competing resources for-for roofs in the city in just  
15 our Sustainability Program and-and so you mentioned  
16 green roofs, and there's also blue roofs as well as  
17 for renewable energy.

18 ELLEN ZIELINSKI: [off mic] And-and  
19 that's-that's for--

20 CHAIRPERSON KALLOS: [interposing] So,  
21 but how-

22 DIRECTOR GLAZER: --for everyone

23 CHAIRPERSON KALLOS: --how do you intend  
24 to work with the 51 Council Members and the 24 or so  
25 who are doing PV, and the-the 1,400 or so school

1  
2 buildings that you're working with to make sure that  
3 your plans and their plans are in line because maybe  
4 some of my schools had—might not had several thousand  
5 people turn out to vote for a green roof would have  
6 just as happily voted for solar or just say if money  
7 just gets solar on the building.

8                   ELLEN ZIELINSKI: I can answer that.  
9 None of the projects that we have been in a vacuum.  
10 We work very closely with the Department of Education  
11 and their division or the Office of Sustainability.  
12 So we do a lot of coordinating. We're actually  
13 funding a solar project manager at the Department of  
14 Education, and that posting is up right now in case  
15 any of you want to get more involved in municipal  
16 solar work. But whenever a project is being planned,  
17 we do work with that school, and as part of—any time  
18 we had a kickoff or a project that's coming up, the  
19 list of sites is distributed because it's not just  
20 your project, it's also the School Construction  
21 Authority, and other entities, DOE themselves, who  
22 might be doing it and want to build a new level on  
23 their building. There are many possibilities where  
24 there could be a competing process or a competing  
25 project. So we do work closely with—with DOE and the

1

2 principals. So I hope the principal--I would assume  
3 that that principal of that school would be familiar  
4 with that project. And so through our communication  
5 process, we would work with them.

6 CHAIRPERSON KALLOS: Would you mind when  
7 you're working with schools, working with the Council  
8 Member in that district as well?

9 DEPUTY COMMISSIONER FIORE: We—we can do  
10 that.

11 ELLEN ZIELINSKI: Sure

12 CHAIRPERSON KALLOS: Chair  
13 Constantinides.

14 COUNCIL MEMBER CONSTANTINIDES: Thank  
15 you, Chair Kallos and Chari Rosenthal. This—as the  
16 author of—of Local Law 24 [laughs] you know, it's—  
17 [applause]. Thank you for that, but I think part of  
18 what we sought to accomplish here was to give the  
19 option for solar. We recognized that solar was a  
20 huge part of reaching the 80 x 50 goal, but we always  
21 wanted to leave that door open whether green roofs  
22 made sense, or there was another type of technology  
23 in the building. That's why we didn't require once  
24 we said a building was solar ready, that we required

25

1

2 putting a solar-solar panels to be placed there,  
3 correct?

4 DEPUTY COMMISSIONER FIORE: That's  
5 correct.

6 COUNCIL MEMBER CONSTANTINIDES: We left  
7 it deliberately vague in order to allow for these  
8 conversations to what's going to be the highest and  
9 best use for that rooftop space whether it's a green  
10 roof [coughing] whether it's solar, whether we're  
11 going to be geothermal in the building, whether we  
12 combine solar PV with geothermal, we really want to  
13 make sure that we came to a-a good resolution based  
14 on the community's needs, on the social cost of  
15 carbon and-and how we could best get the energy  
16 output that we needed for the city, correct?

17 DEPUTY COMMISSIONER FIORE: That's  
18 correct. Right.

19 COUNCIL MEMBER CONSTANTINIDES: And as  
20 we-as we move forward I think you've already answered  
21 this question because you talk about the-I think  
22 there's a shared goal here, right of making sure as-  
23 as the Council has funded our-our Green NYC  
24 Initiative, looking to make sure that we fund  
25 additional solar training programs, and make sure

1  
2 that communities are involved, that we're looking to  
3 create a paradigm for hire-local hiring and real  
4 green jobs here in New York City, and that's not-  
5 that's a shared goal between us, correct?

6 DEPUTY COMMISSIONER FIORE: That's  
7 correct.

8 COUNCIL MEMBER CONSTANTINIDES: And, you  
9 know, and that currently none of the jobs have been  
10 done by anyone that doesn't have the training or  
11 benefits, and-and they're getting paid a living wage,  
12 correct?

13 DEPUTY COMMISSIONER FIORE: That's  
14 correct.

15 COUNCIL MEMBER CONSTANTINIDES: So moving  
16 forward, I know how important this is. Can we do-if  
17 we don't hit the 100 megawatt goal, can we achieve 80  
18 x 50 in a meaningful way?

19 DEPUTY COMMISSIONER FIORE: We need to  
20 get beyond the 100 megawatt goal-

21 ELLEN ZIELINSKI: [interposing] We're  
22 going to hit that goal.

23 DEPUTY COMMISSIONER FIORE: --in order-in  
24 order to achieve 80 x 50 and, you know, this is-this  
25 is the goal we have in front of us. It's an

1

2 ambitious goal in a very short time frame, but we  
3 plan on achieving that goal and then seeing where we  
4 could go beyond that as the title of our report  
5 indicates.

6 COUNCIL MEMBER CONSTANTINIDES: As—as do  
7 I. [laughs] As do we here. So, I—I—I—I mean I  
8 recognize the importance of green should be all the  
9 way around as we, as we go to 80 x 50 and make our—  
10 our communities greener and more sustainable. We're  
11 also making sure that they're sustainable and—and  
12 when it comes to jobs and green, and I think—I know  
13 that's a shared goal, and looking forward to  
14 continuing to work with you and my co-chairs here  
15 today and my colleagues to making that happen. So  
16 thank you.

17 DEPUTY COMMISSIONER FIORE: Thank—thank  
18 you.

19 CHAIRPERSON ROSENTHAL: Thank you,  
20 Council Member Constantinides. Council Member  
21 Treyger.

22 COUNCIL MEMBER TREYGER: Thank you.  
23 Thank you to the—to the co-chairs of this very  
24 important hearing. I just have a couple of

25

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

questions. Number one, who makes these solar panels that we're purchasing?

DEPUTY COMMISSIONER FIORE: I don't have that answer for you here. They are made by a variety of companies, but we can get back to you on that.

COUNCIL MEMBER TREYGER: Do you know if the companies are—are based in New York?

DEPUTY COMMISSIONER FIORE: No, I don't know of any solar manufacturing based in New York today or other--

COUNCIL MEMBER TREYGER: Are they based in—are they based in the country?

DEPUTY COMMISSIONER FIORE: There—there are some solar manufacturers based in the country and there are also international solar manufacturing companies.

COUNCIL MEMBER TREYGER: Is it—is it accurate to say that we're spending already quite a bit of money on solar panels, and we'll be spending more money in the future on solar panels? Is that—is that correct to say? Can you give us an estimate of—of—of how much money the cost of actualizing the vision of the—the 2050 goal?

1

2

DEPUTY COMMISSIONER FIORE: So, for the  
Tangent contract, which would be about 15 megawatts  
installed, we're looking at about \$70 million for-for  
that contract if that gives an order of what it is.

6

COUNCIL MEMBER TREYGER: That's just one  
contract, right?

8

DEPUTY COMMISSIONER FIORE: It's one  
contract for 15 megawatts. So, you know, on a-on a  
dollar per megawatt basis if you divide the 70 by 15  
that will give you an order of magnitude.

12

COUNCIL MEMBER TREYGER: Yeah, I-I just  
think that if-if we are making such an investment in-  
in both time and resources and energy I think there's  
an opportunity here to, you know, expand a horizontal  
economy as well to say that why are we going to be  
giving these precious dollars and resources to other  
countries or to other parts of the world when we can  
really develop these things right here at home? I-I  
would love to see the day where our public school  
high school kids are building solar panels right here  
in a New York City school, which are being used then  
to put on top of a rooftop. Do you agree?

24

25

DEPUTY COMMISSIONER FIORE: That's a  
great vision.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

COUNCIL MEMBER TREYGER: And—and I—but you see, one of my criticisms of the One NYC plan was that I didn't see actual dollars committed to retrofitting our public schools, to—to build up a capacity to build these solar panels.

DEPUTY COMMISSIONER FIORE: I'll let Ms. Zielinski talk a little about the money that we're investing in—in schools in terms of both training students, and just from an awareness perspective but also from a technical perspective, manufacturing is a little bit different. But take your criticism and consideration and we'll look to see if there's opportunities for that.

ELLEN ZIELINSKI: So in regards to the partnership that we have with the Department of Education, we are rolling out a number of professional development trainings across city schools. So far we've actually trained 208 teachers. This is professional development training so they can actually go into their classrooms and teach renewable energy and sustainability related curriculum. So 208 teachers have—have been trained to date, and we opened our registration period for the next remainder of the school year. 280 teachers have already signed

1  
2 up, and we have waitlist in every borough so far of  
3 129 people. But it really is very popular, and we're  
4 excited about that. We're also working with the STEM  
5 programming to try to actually incorporate this into  
6 the curriculum more broadly across schools, but in  
7 addition to just the educational piece, we were  
8 trying to get to what you were saying in terms of  
9 workforce development and how do we actually develop  
10 a more vocational training program? So there are  
11 career and technical education schools, and we  
12 started having conversations with the heads of the  
13 tech—the CTE programs, and they said there was a lot  
14 of interest in actually incorporating solar  
15 components into those classes. They have a lot of  
16 electrical training programs for example.

17 COUNCIL MEMBER TREYGER: Okay.

18 ELLEN ZIELINSKI: So this year we're  
19 starting with the Thomas Edison Career and Technical  
20 Education School, and we are developing an actual  
21 solar related vocational curriculum that's going to  
22 be incorporated into that school this year. We're  
23 going to pilot that in—in conjunction with the CTE  
24 program staff, and then next year we're going to  
25 scale that up to three additional schools, and

1

2 depending on the success of those programs we can go  
3 from there. But I think our focus is actually  
4 looking at helping students understand how the  
5 technology works, and learn some hands-on job skills.  
6 I think they're still will be some steps before  
7 they're actually fabricating or manufacturing panels.  
8 I think that might be down the road, but certainly  
9 they can get involved in installation and  
10 understanding the basics.

11 COUNCIL MEMBER TREYGER: So-so I agree  
12 that we have to start somewhere to help build up  
13 capacity, and I'm all for that, and I think it's nice  
14 to have a curriculum around sustainability, but I'm  
15 actually talking about helping train, you know,  
16 connecting the labor force to our schools and  
17 actually training kids and staff how to actually  
18 build these things. But when you say, you know,  
19 workforce and career technical skills, that's the  
20 thing, a career. We want to make sure that the  
21 people who are building these things who are here  
22 from New York, who are here from our neighborhoods  
23 that are most—that are most vulnerable, that they—  
24 that they have the ability to earn a good wage, a

25

1

2 good-good pay. Are these solar contracts subject to  
3 city agency project labor agreements?

4

DEPUTY COMMISSIONER FIORE: So the  
5 capital work is subject to the project labor  
6 agreements. The power purchase agreement is not  
7 subject to the PLA.

8

COUNCIL MEMBER TREYGER: And are we  
9 moving towards the direction of power purchase  
10 agreements or towards PLAs?

11

DEPUTY COMMISSIONER FIORE: I think that  
12 we want to reserve all project delivery mechanisms  
13 available to us in order to achieve the goals that  
14 have been set out in the timeframes that we need to  
15 achieve them. I don't think we can do one approach  
16 and eliminated all others. I think we want to  
17 continue to collect costs and quality data on the  
18 different project delivery mechanisms and adjust our  
19 procurement strategies accordingly as we go forward,  
20 but we need—we really do need all of these project  
21 delivery alternatives available to us in order to  
22 achieve what we're trying to achieve here.

23

COUNCIL MEMBER TREYGER: You see project  
24 labor agreements ensures decent payment, ensures  
25 benefits, ensures certain things that help build and

1  
2 sustain a working class in our city. In addition to  
3 resiliency, physical resiliency I think that we need  
4 to also focus on human resiliency, and it's my vision  
5 that—that those individuals and young people who live  
6 in impacted communities that are threatened most by  
7 climate change like districts like mine in Coney  
8 Island, they're the ones that should be trained and  
9 prepared to build and maintain such—such a system,  
10 and—and I want them to be able to not just help  
11 better protect their community but also to help build  
12 up their—their life as well, and I think that we need  
13 to make sure that we are ensuring strong labor  
14 standards in these contracts. If we're spending tens  
15 and hundreds of millions of dollars lets reinvest  
16 right back in those communities that need the help  
17 the most. Now, it's my understanding and my  
18 colleagues I think touched on this that the only  
19 buildings that can have these solar panels have to be  
20 seven years or younger. Is that correct?

21 ELLEN ZIELINSKI: We're using ten years  
22 or younger.

23 COUNCIL MEMBER TREYGER: Ten year or  
24 younger?

25 ELLEN ZIELINSKI: Ten years or younger.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

COUNCIL MEMBER TREYGER: So the issue I  
have with that--

DEPUTY COMMISSIONER FIORE: [interposing]  
Roof age.

ELLEN ZIELINSKI: [interposing] Roof age.

COUNCIL MEMBER TREYGER: --roof age is  
that many of my facilities in my district were built  
during the New Deal with money from the New Deal. So  
are you saying that most of Southern Brooklyn is--is  
left out?

ELLEN ZIELINSKI: I hope that your roofs  
have been patched since then. Otherwise--

COUNCIL MEMBER TREYGER: [interposing] I--  
I--

ELLEN ZIELINSKI: --it's probably raining  
on your constituents.

COUNCIL MEMBER TREYGER: Oh, that's why  
I--I--I constantly reach out to the SCA about schools  
Southern Brooklyn.

DEPUTY COMMISSIONER FIORE: No. [coughs]  
I mean it's--it's a good point and we've looked. So  
it is ten years of roof age not building age, and  
included in the Solar 100 Report that we've given to  
you in the back is--is kind of just a chart that looks

1

2 at roofs that are not solar ready by-by income, and  
3 you'll see that there is no disparity across that.

4 So we'll—we'll be addressing all roofs. We find them  
5 well dispersed throughout the five boroughs and  
6 throughout the different neighborhoods just with the  
7 projects we've done to date and the projects in the  
8 queue as well as them looking at the—the buildings  
9 that don't have roofs that are solar ready day.  
10 There's—there's very good dispersion.

11 ELLEN ZIELINSKI: there is a regular  
12 Capital Program to repair and replace rooftops.

13 COUNCIL MEMBER TREYGER: I am concerned  
14 that many of again the facilities in my district are  
15 not going to reach your—your criteria, and that  
16 means—basically means that only emerging neighborhood  
17 or areas that have seen recent investments will get  
18 to have the benefit and the good fortune of seeing  
19 solar panels be placed upon their roofs. So I—I  
20 would like to go to follow up on that because many of  
21 the buildings in my district are—are not. I'm going  
22 to ask one final question in the interest of time,  
23 and the chairs—co-chairs have been very generous  
24 already. Is there—just to follow up on that point—is  
25 there a—an emphasis to make sure that the communities

1  
2 that have been impacted the most or threatened the  
3 most by climate change as impacted by Sandy are  
4 economically vulnerable. Are they going to see these  
5 solar panels? What is—what is the selection  
6 criteria?

7 DEPUTY COMMISSIONER FIORE: [coughs] I—I  
8 think the short answer to that is yes. Again, we're  
9 talking about municipal facilities and where they're  
10 located, right. So that's the primary factor.  
11 Secondary is then which one of those have roofs that  
12 are ready to accept solar today, and as part of our  
13 strategy, we'll be looking to accelerate roof  
14 replacements for some of the larger buildings that  
15 are not currently ready to accept. And so I—I think,  
16 you know, we're going—we're going to hit many  
17 buildings across the—the five boroughs. You want to—  
18 -

19 ELLEN ZIELINSKI: I would maybe add that  
20 we are current rolling out a resilient solar program.  
21 So a key point to make here is the solar that we've  
22 installed to date, it's tied to the grid. So in the  
23 event of a power outage that solar PV system is not  
24 powering that facility. Due to the rules from Con  
25 Edison, the system must be disconnected for grid

1  
2 safety reasons. However, because we have this new  
3 technology with battery storage, that is really a  
4 critical new technology for resilient solar. So we  
5 are rolling out a whole series of pilot resilient  
6 solar installations, and we targeted all the  
7 locations that are in climate vulnerable communities,  
8 and we worked very closely with the Department  
9 Emergency Management to ensure that the investments  
10 in infrastructure that we're making are, you know,  
11 are aligned with the work that they are doing, and  
12 like I said, the selection criteria was entire  
13 climate vulnerable.

14 COUNCIL MEMBER TREYGER: But just be  
15 aware. This is my final sentence. I think that it's  
16 important that coordination exists because the only  
17 thing that I did hear about in my district was the  
18 Abe Stark Ice Rink, which is a park-park facility in  
19 Coney Island, and I'm just not sure if you're aware  
20 that--

21 ELLEN ZIELINSKI: [interposing] It has--

22 COUNCIL MEMBER TREYGER: -EDC has the  
23 authority to at some point demolish it to make way  
24 for housing. So you wouldn't want to spend millions  
25 of dollars on panels to see it knocked down, but

1  
2 there are schools in my community that would love to  
3 see that. So I'd like to follow up with you further  
4 on that. I thank the chairs.

5 CHAIRPERSON ROSENTHAL: Council Member  
6 Menchaca. [background comments] Will's right after  
7 Council Member Menchaca.

8 COUNCIL MEMBER MENCHACA: Thank you,  
9 Chairs, and thank you for coming today before the  
10 City Council. [Speaking Spanish] Make the Road New  
11 York. [Speaking Spanish] I wanted to first start  
12 with the—maybe we'll start at the end actually where  
13 we start—where the last kind of comment in there  
14 about really understanding how to connect  
15 communities, and I want to than the Council Members  
16 that have been pushing on that. Post Sandy a lot of—  
17 a lot of communities are getting funding to think  
18 about ways to become more resilient. In Red Hook  
19 there are some really good ideas about Microgrids.  
20 How does this plan connect to that energy, and really  
21 kind of concretely, not just on vision but really how  
22 are you assisting making those visions a reality?

23 DEPUTY COMMISSIONER FIORE: I want to  
24 thank you for the question, Council Member. I think  
25 what's really—what I'd like to highlight here is

1  
2 something that we outlined in the Mayor's Office of  
3 Sustainability's Roadmap to 80 x 50 report released  
4 in September. We have a feature in that report to  
5 highlight a community energy mapping exercise that  
6 we're conducting, and what this attempts to do is to  
7 overlay resource potentials, technical potentials for  
8 distributed resources like solar energy, combined  
9 heat and power and see where there are overlaps with  
10 factors of social and environmental vulnerability.  
11 So what we are using as data inputs for that exercise  
12 right now encompass air quality, energy cost  
13 affordability, heat vulnerability as well as flood  
14 risk factors, and we're in an ongoing process of  
15 figuring out how to—how to constitute an index of  
16 those vulnerability indicators. So that where there  
17 are solid resource potentials in those areas, we know  
18 to work with those communities to try to target  
19 interventions in that whether it's hard hardening  
20 energy resiliency, improving air quality, we know we  
21 can improve those factors and I think that—that can  
22 guide the work of the New York City Solar Partnership  
23 on one hand to target solarized campaigns for  
24 instance, and there we can also work with the  
25 involved communities to structure our RFP that gets

1  
2 at the factors that are important to the community.  
3 It's a community led effort. So what's import there  
4 are, you know, local workforce. We can write that  
5 into a solicitation. American made panels if those  
6 are more desirable, we can do that as well. So  
7 there's a solar piece. There are energy storage  
8 measures that Ellen was discussion. There are micro  
9 grid efforts as well that are very tied into this  
10 mapping exercise, and we've been in touch with the  
11 nine or so New York City communities that have been  
12 through a New York prize or related process to  
13 explore micro grid feasibility. So we're definitely  
14 trying to target efforts to the communities that need  
15 it most, but we welcome input.

16 COUNCIL MEMBER MENCHACA: So it sounds  
17 like you're already connected on the ground in-in  
18 some way. You're in the middle of this process for  
19 mapping or have you concluded the-the mapping process  
20 or what?

21 DEPUTY COMMISSIONER FIORE: No, it's-it's  
22 still very much in process.

23 COUNCIL MEMBER MENCHACA: Okay, okay.

24 DEPUTY COMMISSIONER FIORE: And-and what  
25 we're trying to do is discuss with other interested

1

2 stakeholders and hopefully members of Council as well  
3 to get a sense of what are the—what are the right  
4 factors to be accounting for and how to—how to weight  
5 them in different circumstances to really highlight  
6 the areas of—of highest priority.

7 COUNCIL MEMBER MENCHACA: So I—I want to  
8 also kind of point to a lot of the prizes that you  
9 talked were—are—are in discussion, but there's also  
10 the Sandy money that's coming into public housing.  
11 Red Hook will be seeing over or around half a billion  
12 dollars of improvements. How—how do you—how are you  
13 officially connecting to that effort and—and—and a  
14 lot of it is including especially in Red Hook energy  
15 plans, and so where does solar inserts often to this  
16 conversation? Where have you officially inserted  
17 yourself?

18 ELLEN ZIELINSKI: Our facilities are  
19 being assessed to see if they can be a part of the  
20 Microgrid. We identify those facilities and we've  
21 been coordinating with the other entities as well.

22 COUNCIL MEMBER MENCHACA: So there's—  
23 you're telling me that there's coordination right now  
24 at—at the—at the project level with Sandy money  
25 coming into public housing, federal dollars?

1

2

ELLEN ZIELINSKI: While our projects are separate from NYCHA's, we do regularly meet with NYCHA to coordinate on the work that we're doing, and we're providing our report, and to see if there's any way that we can collaborate.

7

COUNCIL MEMBER MENCHACA: And so is there a conclusion to Red Hook's infrastructure right now or--or where are you in the process with that.

10

ELLEN ZIELINSKI: I think that it's--I don't think it's been completed yet.

12

COUNCIL MEMBER MENCHACA: Yeah, it hasn't been completed. Okay, and only--I'm only saying that because there's parallel processing right now that's--that's happening and--and the design process is pretty--pretty far along, and I haven't seen any solar. We've been asking for solar. There's a lot of co-cogen concepts that are not. It's natural gas and not solar, and so because Red Hook is having conversations about solar, I--I just haven't seen this--this--this connection, and so it sounds like--

22

ELLEN ZIELINSKI: [interposing] Okay, we'll--

24

25

COUNCIL MEMBER MENCHACA: --you don't know where that is, but let's--let's figure out where that

1  
2 is, and—and inject an honest analysis about what is  
3 possible, what's not possible, and not let this—this  
4 momentum—natural sense of momentum to get stuff done  
5 preclude us from a possibly there. So stepping back  
6 on—on this concept of timing, I heard this. It's  
7 like that—that we are in the middle of an aggressive  
8 agenda to get somewhere, and there's a question one  
9 of my colleagues asked about the PLAs versus PPAs  
10 that don't require a PLA, and—and so—so tell me—tell  
11 me the tension point here. I want to understand the  
12 real tension point about what—what removes us from  
13 the possibility of making sure that everything we do  
14 within the PPA agreements include PLAs. What—what's—  
15 what's preventing us from doing that.

16 DEPUTY COMMISSIONER FIORE: I—I think  
17 that what—what we need to do is a cost benefit  
18 analysis of including a project labor agreement in  
19 the purchase agreement model.

20 COUNCIL MEMBER MENCHACA: And then has it  
21 happened yet?

22 DEPUTY COMMISSIONER FIORE: That has not  
23 happened.

24 COUNCIL MEMBER MENCHACA: So we're moving  
25 over—we're moving into PPAs. We're—we're—I think

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

we're clocking it at four now, four PPAs, is that right or is that right?

DEPUTY COMMISSIONER FIORE: No, this--this would be--this would be our second PPA.

COUNCIL MEMBER MENCHACA: Second PPA.

DEPUTY COMMISSIONER FIORE: And the first one was a small pilot PPA for the total of two megawatts.

COUNCIL MEMBER MENCHACA: So that we're--we're at two PPAs, and we haven't yet created a--a cost benefit analysis on--on a PLA structure that could be included in--in the PPAs that we're--we're two in. Is that right?

DEPUTY COMMISSIONER FIORE: We've done a cost benefit analysis to look a PPA versus a capital works project, but you're correct. We have not done a cost benefit analysis of including PLA in a PPA model.

COUNCIL MEMBER MENCHACA: So what would compel you to make that happen now before we move any further?

DEPUTY COMMISSIONER FIORE: I--I think we will do that before we do another RFP for a PPA.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

COUNCIL MEMBER MENCHACA: And so what's the timeline on that? How can we keep you accountable to that? Does that require a-a city-a city resolution or help us understand how we can make sure that happens because I-we're-we're going to be hearing from a lot of people in-in the community about-about just some-some issues that that would kind of create a different set up.

DEPUTY COMMISSIONER FIORE: So I-we can commit to you today that we will do that cost benefit analysis before releasing another PPA, another RFP for a PPA, and we will follow up with the Council to provide the results of that.

COUNCIL MEMBER MENCHACA: Okay, and I want to honor the fact that yes I know we're-we're-we're rushing and racing to get some stuff done, but when we can-we can better analysis about the full thread of experience and there are a lot of questions about local hiring for example, and the length of contract time and 10, 15 or 15 and 20 years for some of these contracts to build out. What's going to happen with maintenance for example? What-what-what do we do after the contract is over and-and who's

1  
2 maintaining these—these systems that we're building  
3 today?

4 DEPUTY COMMISSIONER FIORE: So through  
5 our Capital Works Program we either maintain those  
6 with city employees or through requirement contracts,  
7 and in the PPA model the project developer is  
8 responsible for that maintenance.

9 COUNCIL MEMBER MENCHACA: But not until  
10 after, well essential that ends that the contract  
11 ends in 15 and 20 years, right? That it can kind of  
12 walk away and say we're—we're done with this  
13 contract?

14 DEPUTY COMMISSIONER FIORE: So at the—at  
15 the end of the contract, the city has the option to  
16 continue that contract to purchase the system or to  
17 have the developer remove the system from the site.

18 COUNCIL MEMBER MENCHACA: Got it. So it  
19 will be—it will be at our discretion at that point,  
20 and 15 years from now we can make that decision, but  
21 I guess what—what this cost benefit analysis might  
22 tell us a little bit about that only are we—are we—  
23 are we educating our young people in our—in our—in  
24 our, which is great. Thank you for doing that, but  
25 the way, getting people about solar at a young level

1

2 to go into careers, but I think what we're point to  
3 is this gap of opportunity where the workforce and  
4 here's the question to you: Where--where in the  
5 current contract in what we've already executed where  
6 are those workers coming from right now. I-I think  
7 that might have been asked, but I-I want to ask it  
8 again? Where are these workers coming from today to  
9 do the installation an--and--and work?

10 DEPUTY COMMISSIONER FIORE: So Tangent,  
11 the contractor, that's been selected for this Power  
12 Purchase Agreement has committed to using local firms  
13 to do the work.

14 COUNCIL MEMBER MENCHACA: Committed so  
15 we--we're not at--are we at a point? So just remind me  
16 because I'm--I'm not connected at that level. Has  
17 there been any work done yet on--on that contract, or  
18 are we still in designing the contract or  
19 implementation?

20 DEPUTY COMMISSIONER FIORE: The--the  
21 contract is now with the Office of Management and  
22 Budget, which is the last step before that contract  
23 would be submitted to the Controller for  
24 registration.

25

1  
2 COUNCIL MEMBER MENCHACA: Okay, and only-  
3 only warning but I-I-I think there's a lot of-what's  
4 the word I want to use-gray area in commitments that  
5 are made to us on MWBEs and local hiring, and things  
6 like that that-that the commitments don't end up  
7 getting done. And so that's-that's why I'm-I'm-I'm  
8 concerned here that-that we're not-we're not kind of  
9 committing front end development of workforce on the  
10 citywide level rather than giving it over to  
11 developer to kind of build the workforce and if he's  
12 developed-this is my opinion. The developers that  
13 want to come in and kind of build this stuff will  
14 bring their workforce naturally because they know-  
15 they know certain people. That's how it works, but  
16 if we're going to-if the city is going to be doing  
17 this and-and I'm wondering how we're going to-how  
18 we're going to budget this. Is this through a bond  
19 that we're-we're doing this or how does it--?

20 DEPUTY COMMISSIONER FIORE: So the-the  
21 PPA is an expense funded contract whereas our-our  
22 Capital Program is--

23 COUNCIL MEMBER MENCHACA: [interposing] I  
24 removes us from the requirements on bond that we  
25 could-we can actually have a different relationship

1  
2 with-with the work, and it gives a lot of  
3 flexibility. So these are all flags that I'm just  
4 throwing out there that-that I think your cost  
5 benefit analysis would kind of give us a sense of how  
6 much investment we can put in that might cost us a  
7 little bit more and-and build the workforce, and in  
8 10 of 15 years we'll have maintenance operations  
9 ready to go humming in the City of New York with New  
10 Yorkers building this stuff, maintaining this stuff  
11 forever. And then I know I've taken a lot of time,  
12 but the last thing I want to talk about is on the  
13 panels themselves who-who owns these panels after  
14 they're installed? So I know we're talking about  
15 city-city infrastructure, roofs and all that, but who  
16 ends up owning those-those panels. Is that the city?  
17 Is that city-owned? Do we own those forever?

18 DEPUTY COMMISSIONER FIORE: So [coughs]  
19 under our Capital Program, yes the city owns those  
20 panels. Under the PPA the city again has the  
21 flexibility of purchasing the panels at the end of  
22 the contract, doing another Power Purchase Agreement  
23 or having the panels removed. If the panels are  
24 removed, they-they belong to the developer.

25

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

COUNCIL MEMBER MENCHACA: Got it. So, okay, that's another flag I think anyway that maybe we can follow up on in-in the kind of transfer of-of resource and-and really owning this from the beginning. New York-New Yorker Design made, installed, maintained and owned from-from here on out.

DEPUTY COMMISSIONER FIORE: So I appreciate that and we're happy to follow up and have that discussion continue. You know, I-I do think it's important that the way the contract is structured that we do have the flexibility at-at our decision on-on how to deal with that. And, you know, I think as-as Council Member Rosenthal mentioned earlier, the pace of the technology development has been phenomenal and, you know, if in 20 years from now the-the pane are so low efficiency compared to new panels, we wouldn't want to be stuck with that. Now, that may not be the case, right, but-so the way that the-the contract is structured is we do have those options that provides us with quite a bit of flexibility there.

ELLEN ZIELINSKI: There's a few points-quick points I'd like to make. One is per the terms

1  
2 of the contract, we do have the ability to own and  
3 purchase those systems after six years if we so  
4 choose. Another thing that I would mention is  
5 someone who is day-to-day trying to get work  
6 installed and working with out city agencies, and  
7 that's right we are—we are not quite up to speed on  
8 our operations and maintenance program. We are  
9 getting there. We just hired two excellent engineers  
10 at DCAS to actually roll out a Solar O&M Program, and  
11 they are developing a standard inspection protocol.  
12 They are developing the renewable energy training  
13 class that we've been talking about that is specific  
14 for city employees. We're developing the really  
15 critical monitoring technologies. So some of the  
16 older Capital Program that we installed didn't have  
17 monitoring devices on that PV. So you don't know  
18 what the performance is, but the technology has  
19 improved so much. We have all these devices, but we  
20 haven't yet installed them. So we're getting the—the  
21 contracts in place to do the purchase, and get those  
22 devices installed so that we can centrally model—  
23 monitor all the production of these systems. So  
24 we're—and we're also working on the actual like  
25 maintenance and repair of the system. I'm like what

1  
2 is the strategy. Who's going to do the inspection.  
3 If a module is cracked, how are we going to get it  
4 replaced? And actually developing this program.  
5 Well, actually, it's not yet in place. This is  
6 someone that we just hired. They people they're  
7 rolling it because as we plan on scaling up this  
8 portfolio, we want to have this down and—and really  
9 well organized. So as we work with our city  
10 agencies, some have actually expressed to us that  
11 they would like Power Purchase Agreement because when  
12 those assets are installed through a Capital Program,  
13 they're responsible for maintaining them. And  
14 they're like right now we don't have the staff or the  
15 training to maintain the system, but we assured them  
16 that we're going to—we will have it soon. Like I  
17 said, I just hired these people. We got this  
18 underway, but in the meantime until we get O&M  
19 program up to speed, this PPA model is something has  
20 been very attractive to us because you're only paying  
21 for the electricity that's being generated, and if no  
22 one is properly looking after those systems, the  
23 production can decline. Inverters do break, modules  
24 do crack. There are issues that can arise and you do  
25 need to have someone properly inspecting and

1  
2 monitoring those systems just like you would any  
3 capital asset. So one other thing I wanted to  
4 clarify that was said earlier is that we have never  
5 moved away like the—the city is moving away from a  
6 Capital Program. I just want to make clear that we  
7 have never moved away from out Capital Program, and  
8 we are expanding it, not just through the New York  
9 Power Authority, but through the Department of Design  
10 and Construction, the—the School Construction  
11 Authority and also the Department of Education has  
12 contracts, and they were very excited to do more—to  
13 do more solar. So we are expanding our Capital  
14 Program. We are not scaling it back, and we can't in  
15 order to meet the 100 Megawatt goal. So we're just  
16 trying, you know, we're—we're advancing multiple  
17 delivery mechanisms as we expand.

18 COUNCIL MEMBER MENCHACA: So my final  
19 thoughts, and I guess the numbers will tell, right,  
20 if you're going to be—if you're moving away from  
21 capital. We'll look at the numbers on PPA. You  
22 promised a cost-efficient, a cost benefit analysis.  
23 We'll—we'll look at—at this new kind of operations  
24 and maintenance program, but it sounds like right now  
25 my—my—in my conclusion of the moment, and it could

1  
2 change to more information and let's keep talking.  
3 We're moving quickly here, and we're—we're using  
4 mechanisms that might be saving us money right now,  
5 but at the end of the day might not actually yield a—  
6 a kind of robust economic ecosystem for—for solar,  
7 which is the future which the city will run on. I  
8 have no doubt solar and all renewable energies, and  
9 so and I—and I beg us, at this time I beg us to stop  
10 and look at it, and really build the system even if  
11 it costs a little bit more. God forbid that that  
12 would be a cause or an effect of our—of our pause,  
13 but I'm hoping that we just do more of that—more of  
14 that work together. And I'd like to entice  
15 manufacturers to come to New York City and build that  
16 stuff here. I'm holding the line on zoning and  
17 manufacturing, the manufacturing and zoning in—in  
18 Sunset Park. There are a lot—there's a lot of  
19 developers that want—want to bring hotels and—and  
20 residential, and we want those spaces to be  
21 manufacturing spaces, and this would be great, but  
22 we've got to build on that and invest that. And  
23 there's a workforce ready here. We know that, and  
24 that's the vision that we see, but that might require  
25 a little bit more investment if we want to get this

1

2 right and not rush. So thank you so much for the  
3 work you're doing today, and thanks to the chairs.

4

CHAIRPERSON ROSENTHAL: Thank you so  
5 much, Council Member Menchaca and you nailed it. So  
6 to follow up on the council member's questions, in  
7 the book you refer to 429 sites. Are the 88 for the  
8 PPA included in that 429 or they're in addition?

9

ELLEN ZIELINSKI: They're in addition.

10

CHAIRPERSON ROSENTHAL: Great. Got it  
11 and how big is the next tranche? Sorry. The 429 are  
12 site ready. Are you looking at the next tranche or  
13 batch after that?

14

ELLEN ZIELINSKI: The next for the  
15 Capital Project, I just made some quick notes of the  
16 capital work we're advancing. We have actually  
17 parking lot canopies. So this was another critical  
18 piece. We're—we're looking beyond the rooftop here  
19 thinking beyond the roof I like to say, and we're  
20 going to do a whole number. We're actually scoping  
21 out 20 different parking lots. The city also manages  
22 a whole portfolio of both parking garages and parking  
23 lots. So we're looking to see where we can install  
24 parking lot canopies because you could also  
25 incorporate electric vehicle infrastructure—

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

CHAIRPERSON ROSENTHAL: [interposing] Oh, that's nice.

ELLEN ZIELINSKI: --charging infrastructure and they're very difficult.

CHAIRPERSON ROSENTHAL: [interposing] So those are all capital funded?

ELLEN ZIELINSKI: Capital funded.

CHAIRPERSON ROSENTHAL: Of the 429, how much are you expecting? Do you have a sense of the split on capital funded and PPA now? Good. Are the contracts nimble enough so as the--the contracts--the agreement you're signing with Tangent, is it nimble enough to accommodate changes in technology, solar technology.

DEPUTY COMMISSIONER FIORE: I think it's nimble enough to incorporate those changes, yes.

CHAIRPERSON ROSENTHAL: Great, and is--

ELLEN ZIELINSKI: [interposing] Well, it is the contract for rooftops solar.

CHAIRPERSON ROSENTHAL: [interposing] Got it.

ELLEN ZIELINSKI: Just to be clear, you couldn't install our parking lot candy. (sic)

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

CHAIRPERSON ROSENTHAL: Got it. The cost benefit analysis that you referred to is that the one that got you to the \$19.3 million in savings?

DEPUTY COMMISSIONER FIORE: So I think I spoke about two different cost benefit--

CHAIRPERSON ROSENTHAL: [interposing]  
Yeah, that's right.

DEPUTY COMMISSIONER FIORE: --analyses, and--and yeah, so we did one cost benefit analysis to look at the project all the way through a Power Purchase Agreement versus a Capital Project, and that's the \$19.3 million in net present value savings through the PPA. The second is doing a cost benefit analysis for including a Project Labor Agreement in a PPA model.

CHAIRPERSON ROSENTHAL: Okay, and both of those are completed?

DEPUTY COMMISSIONER FIORE: No, so the second cost benefit--

CHAIRPERSON ROSENTHAL: [interposing] Oh, got it. Got it.

DEPUTY COMMISSIONER FIORE: --analysis.  
This is not.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

CHAIRPERSON ROSENTHAL: So can you share with the public the first one that you referred to that got you to the savings of \$19 million.

DEPUTY COMMISSIONER FIORE: Sure.

CHAIRPERSON ROSENTHAL: Like is that in the office and you can send it over tomorrow morning?

DEPUTY COMMISSIONER FIORE: We'll send it over to you as soon as possible, yeah.

CHAIRPERSON ROSENTHAL: Okay, and is it for the public for us to share publicly?

DEPUTY COMMISSIONER FIORE: Sure.

CHAIRPERSON ROSENTHAL: Okay, that's great, and then similarly, you committed for the second one. Okay, I—thank you very much. Thank you so much for testifying. You can—yes.

DEPUTY COMMISSIONER FIORE: Thanks.

CHAIRPERSON ROSENTHAL: So the reason I moved it along a little bit is because of climate change we are on—we are experiencing a fast approaching storm, and the City Council has said that city—all City Council employees can—should—can and should go home at 3:00. So we're shooting to end this hearing at 3 o'clock, and we're going to move everyone along. We want to hear from everyone. So

1  
2 we're going to ask unfortunately that you stick on a  
3 two-minute clock and I'm going to enforce that  
4 incredibly strongly because we want to hear from  
5 everyone so we don't need to bring everyone back  
6 again, and I know how hard that's going to be. I'm  
7 going to call up the first panel while everyone is  
8 getting organized. Lolita Molina and Solovera I'm  
9 guessing. Luisia De Leon and Mel Fernandez. If you  
10 could start us off and if the sergeant-at-arms could  
11 get ready the two-minute clock, I would really  
12 appreciate that. The panel after that I'm going to  
13 announce who is going to be Alex Gleason, Allison I  
14 want to say Zayalas, and Ben Arana, and if everyone  
15 just could be again mindful of the two-minute clock  
16 and if you no longer want to testify, but want to  
17 give us your written statement, you should know that  
18 your written statement will be read, and very much  
19 appreciated. So we're going to start with the first  
20 panel. We're going to start with the nurses. Oh,  
21 well, someone sat in that seat.

22 CHAIRPERSON KALLOS: If I can just—

23 CHAIRPERSON ROSENTHAL: [interposing]

24 We're going to start with Environmental Justice, but  
25 really stick with the two minutes.

1

2

CHAIRPERSON KALLOS: And—and we have exactly 12 folks so if everyone takes their two minutes, it will take 24 minutes. And just so you know what to deal with we're seeing high gusts of wind as high as 60 miles per hour starting at 3 o'clock until 1:00 a.m., flooding and-

8

CHAIRPERSON ROSENTHAL: [interposing]  
Okay.

10

CHAIRPERSON KALLOS: --lots of other great weather.

12

CHAIRPERSON ROSENTHAL: Good. Let's begin. Environmental Justice, we need you.

14

15

16

17

18

19

20

21

22

23

24

25

ANNELE HERNANDEZ: Great. Hi everyone. My name is Annel Hernandez, I'm with the New York City Environmental Justice Alliance, and we are a citywide non-profit member networkship-network linking grassroots organizations from low-income neighborhoods and communities of color in their struggle for environment justice. EJA empowers its member organizations to advocate for improved environmental conditions and against inequitable burden. Through our efforts, member organizations coalesce around specific common issues that threaten the ability of low-income and communities of color to

1  
2 thrive and coordinate campaigns designed to affect  
3 city and state policies including energy policies  
4 that directly affect these communities. Our  
5 organization is a key advocate of the city's 80 x 50  
6 emission reduction goals because these member  
7 organization come from communities most over-burdened  
8 by greenhouse gas emissions and copolymer (sic) from  
9 power plants clustered in their neighborhood. EJA  
10 also co-coordinates the condo works for all coalition  
11 with the line and the New York City Central Labor  
12 Coordinating Council. And with the goal of reducing  
13 greenhouse gas emission, creating good jobs with  
14 equity as a central focus. And we commend the City  
15 Council for having this hearing today to hold the  
16 city for accountable for the 100 Megawatt Solar Power  
17 goal on public buildings by 2025. We need to  
18 prioritize solar power in EJA communities. Large  
19 scale rooftop sola on public buildings is an  
20 opportunity to address the inequitable burdens facing  
21 these communities. These communities deal with the  
22 siting and clustering of polluting fossil fuel based  
23 energy infrastructure that on its high of copolymer  
24 in its greenhouse gas that case many public health  
25 issues. Environmental Justice communities are also

1  
2 the most vulnerable to climate change impacts  
3 including extreme heat, flooding and storm surge. In  
4 our recent report the New York City Climate Justice  
5 Agenda, we highlight that heat related deaths are  
6 more likely to occur in these vulnerable communities.  
7 Some neighborhoods in Central Brooklyn have a  
8 particularly high heat vulnerability index, which  
9 fall in to Con Ed's Brooklyn Queens Demand Management  
10 Program area. This area has a projected energy demand  
11 shortfall within the next few years, and this limited  
12 energy infrastructure capacity in communities most  
13 vulnerable to heat will be exacerbated--

14 CHAIRPERSON ROSENTHAL: Annel--

15 ANNEL HERNANDEZ: --by increased energy  
16 demands--

17 CHAIRPERSON ROSENTHAL: [interposing]  
18 Unfortunately, the bell isn't working. I have your  
19 testimony. Is there one last sentence you'd like to  
20 make? Or else we're going to just move on.

21 ANNEL HERNANDEZ: Definitely. I mean I  
22 think that there are many climate change impacts that  
23 need to be considered including communities  
24 overburdened by extreme heat, storm surge and other--  
25 other climate impacts.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

CHAIRPERSON ROSENTHAL: Okay, I'm going to ask everyone it really needs to move. So everyone we have your testimony. If you can speak for less than two minutes and just make your point very clear, we would appreciate that. To be continues. Yes.

ANN BOVAY: Okay, my name is Anne Bovay from NYCHA. I'm a nurse at Bellevue Hospital. I-I saw Sandy happen. We evacuated 700 people, patients out of the building and, you know, it was-it was a disaster that didn't happen in the sense that of the truest word, but we suffered the consequences. We're part of the Climate Works for All, a coalition of New Yorkers drawn from the labor community, faith and environmental justice groups, and we work to manifest the growing awareness of an expression of necessity to work together provide solutions to carbon emissions, and their effects on human health. Nurses in public hospitals see adults and children with serious asthma and lung ailments resulting from air pollution as resident neighborhoods sit on top of major highways and along depots of buses and trucks. We can lessen the carbon load and we can turn back the tides of sickness as well as disease and lessen the death toll if we follow the framework of looking

1  
2 at solar energy. New York City Health and Hospitals  
3 is truly the backbone of New York City. One in five  
4 New Yorkers received treatment in public hospitals  
5 last year. No one is denied care in our public  
6 system. Our service is greatest to the city's lowest  
7 income population and our communities of color. I  
8 use it myself. Nurses are about solutions, meeting  
9 problems head on, making assessments and carrying out  
10 treatments. Public solar touches many of the  
11 bases that we're talking about here today. First and  
12 foremost, it lessens the carbon footprint and  
13 protects our patients. It translates into savings of  
14 dollars. Nurses also believe that good jobs with  
15 good wages are absolutely integral for achieving and  
16 sustaining a healthy lifestyle. The City's Public  
17 Solar Program can and should be a source of good  
18 union jobs. It is a route—a route to opportunity for  
19 low-income New Yorkers seeking a good living and  
20 ensuring a healthier life. This is a win-win for the  
21 City for the public hospitals and for the communities  
22 that we serve. Public—public solar underscores the  
23 commitment of public hospital system to many  
24 communities of a variety of frameworks. Good jobs,  
25

1  
2 good health, a clean environment, a public system is  
3 leading for a good example. Thank you.

4 CHAIRPERSON ROSENTHAL: Thank you.  
5 Without the bell you made—you made it in. So thank  
6 you.

7 ANN BOVAY: No problem.

8 CHAIRPERSON ROSENTHAL: I just want to  
9 acknowledge the translators who are here. I know how  
10 hard this is for you trying to keep up, and thank  
11 you. I'm sorry. Okay.

12 LUISIA DE LEON: [off mic] Good  
13 afternoon, Chairpersons--

14 CHAIRPERSON ROSENTHAL: I think you pull  
15 it towards you a little.

16 LUISIA DE LEON: There?

17 CHAIRPERSON ROSENTHAL: [off mic] Yes.

18 LUISIA DE LEON: Good afternoon.

19 CHAIRPERSON ROSENTHAL: [off mic]  
20 Summarize. You don't have to speak—just speak from  
21 your heart.

22 LUISIA DE LEON: Alright, I—my name is  
23 Luisia De Leon. I am the Program Manager at the  
24 Green Jobs for New York out in Puente which is non-  
25 profit organization that we look to inspire young

1  
2 people to become leaders of peace and justice.  
3 Currently, the Jobs for New York Program it's-it's  
4 under the umbrella of the Green Light District, and  
5 we have all—we have done some studies with an air  
6 monitor. I mean we've been monitoring the air, and  
7 we have on the—near the Brooklyn-Queens Expressway,  
8 and we have identified that there's a high—there's  
9 like 2.5 levels of particulate matter, and that area  
10 in particularly has been suffering from a lot of  
11 asthma. Also, due to gentrification, a lot of our  
12 people that use to be living in that community has  
13 moved into Bushwick, which is another area where we  
14 have one of our leadership centers. Bushwick is—is  
15 one of the—it's part of the—one of the neighborhoods  
16 that are part of the Brooklyn-Queens demand, and as  
17 you know, Con-Ed is—is not going to able to—to  
18 provide enough energy for due to the increase. So  
19 we're really concerned that with the pollution in  
20 Williamsburg, and—and, you know, our people in  
21 Bushwick, we need to—we need to have the support from  
22 the city to pay attention and—and bring like solar,  
23 renewable energy and solar panels to [laughs] to  
24 provide more quality of jobs, and to make the  
25 environment better.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

CHAIRPERSON ROSENTHAL: Alright, thank you very much. Translator, thank you.

TRANSLATOR: We're also going to keep it short.

CHAIRPERSON ROSENTHAL: Thank you. Just from your heart

TRANSLATOR: Yes.

NOLITA: MOLINA: [Speaking Spanish]

TRANSLATOR: My name is Nolita Molina. I've been living for three decades in Elmhurst, Queens. I love my neighborhood, and I'm also a member of Make the Road New York.

NOLITA MOLINA: [Speaking Spanish]

TRANSLATOR: Just like I care about the planet, this one earth that we all live in, we need to do our part in New York City to fight climate change.

NOLITA MOLINA: [Speaking Spanish]

TRANSLATOR: So, I—I fully support to address the problem, but by the end of the day, I care about saving our planet because of the people I love and the community that I care for. I am concerned about climate change because I see so many children in my neighborhood who are sick because they

1

2 has asthma, and I also care about what another  
3 Hurricane Sandy means to our people especially low-  
4 income people across out city.

5 NOLITA MOLINA: [Speaking Spanish]

6 TRANSLATOR: We also have noticed that  
7 in—in my community in Elmhurst there have been  
8 identified schools where there have been a place for  
9 a solar system. [background comments]

10 NOLITA MOLINA: [Speaking Spanish]

11 TRANSLATOR: Our community also needs  
12 more resources and investment from the city. We are  
13 part of a community, but so many things can be  
14 improved. Our children don't have nice parks to play  
15 in, our schools need more resources. So I was very  
16 alarmed when I learned how much the city spent on  
17 utilities, \$700 million just last year. And now with  
18 even part of that money will be directed to other  
19 needs in our communities. Our families with children  
20 will benefit from that. Solar energy presents an  
21 opportunity to save on funds that go to utilities.  
22 So we must make sure that the city not corporations  
23 are benefitting from these deals.

24 CHAIRPERSON ROSENTHAL: I'm grateful for  
25 your testimony. Thank you. [applause] I'm going to

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

call up Alex Gleason, Allison—I'm sorry. I can't pronounce your last name, and Ben Arana, and if we could start right away, Alex. [pause]

ALEX GLEASON: Good morning or good afternoon. My name is Alex Gleason. I'm the Policy Associate at the New York City Central Labor Council of the AFL-CIO. You have a copy of my testimony. I don't want to bemoan it, but I will say this: I want to talk about three things in particular. I want to talk about the importance of cost benefit analysis. I want to talk about the importance of local hire, and I want to talk about the importance of essentially ensuring that we're—we're looking at this in a holistic way, and what I mean by that is we have a great opportunity to not only tackle climate change but also wealth and income and equality. This is a great program. It could become a-a catalyst for sort of public works projects in the city that we need, and we so-so often talk about. And I would also say our Coalition Climate Works For All was looking for cost benefit analysis on this very issue from DCAS. For—for over year we had to file Freedom of Information, a request and we were left waiting for Goodell (sic). So it would be great when the

1

2

committee gets it if we could get it as well to

3

understand because we've been attempting to engage in

4

constructive dialogue with the various agencies to do

5

this right and to achieve every goal. There--there is

6

not party that has to lose here, and we're excited to

7

be a part of that and the labor movement of New York

8

City wants to be a proactive partner in helping

9

weather storms like the one outside today.

10

CHAIRPERSON ROSENTHAL: Thank you very

11

much.

12

ALLISON BOGUS: Good afternoon. My name

13

is Allison Bogus, an I'm Local Union No. 3

14

electrician, foreman and solar installer. I've been

15

a proud member of Local 3 for the last 10 years, and

16

I've spend the majority of my career working with

17

photovoltaic systems. The projects I've worked on

18

have played an important role in leading New York

19

City towards a transition to renewable energy

20

including PS62R, the first Net Zero energy school in

21

our city. Each one of the works that built PS62R

22

were drawn from Local 3's highly trained community

23

workforce having received training through the

24

Union's Apprenticeship program which focuses on solar

25

power including installation, electrical wiring, and

1  
2 maintenance of solar system. Local 3 has been and  
3 will continue to play a significant role in the  
4 recruitment, training and placement of community  
5 residents in green jobs. The effort that went into  
6 construction PS62R is evident that Local 3 is the  
7 right choice for delivering cutting edge green jobs  
8 with a level of professionalism and craftsmanship  
9 that's unmatched anywhere in our city. In a time of  
10 soaring unemployment, growing income inequality and  
11 deteriorating conditions in America's workplaces the  
12 need to ensure that green jobs are good jobs is more  
13 pressing than ever. Our city can help lead the way  
14 towards economic justice for working men and women by  
15 ensuring that every single public solar project is  
16 done with not on the highest labor standards, but  
17 also connected to workforce development programs that  
18 can train and recruit even more local woman and  
19 disadvantaged workers for good jobs. As we build  
20 this sector of government promoted green industry, we  
21 must ensure that green jobs are union jobs by  
22 requiring project labor agreements to cover solar  
23 installations. Investment in sustainable energy  
24 shouldn't displace the city residents currently doing  
25 this work by outsourcing these jobs to non-union

1  
2 contractors that undercut hard fought battles for  
3 fair wages and safe working conditions. New York  
4 City's Public Solar Program is a chance for the city  
5 to make an investment in New York's most valuable  
6 resource, it's people. I'm proud of the sustainable  
7 projects-

8 CHAIRPERSON ROSENTHAL: [interposing] I  
9 will ask you to cut of there.

10 ALLISON BOGUS: Okay.

11 CHAIRPERSON ROSENTHAL: Because that was  
12 a great last sentence.

13 ALLISON BOGUS: Well, I hop that-

14 CHAIRPERSON ROSENTHAL: But we have your  
15 testimony--

16 ALLISON BOGUS: Thank you--

17 CHAIRPERSON ROSENTHAL: Thank you for  
18 everything--

19 ALLISON BOGUS: --very much.

20 CHAIRPERSON ROSENTHAL: --that you--could  
21 we please follow up, you and I?

22 ALLISON BOGUS: Absolutely.

23 CHAIRPERSON ROSENTHAL: Great.

24 BENJAMIN MORAN: Thank you, Councilwoman  
25 Rosenthal. I'm going to bend this over here. Thank

1  
2 you, and it's goo to see you again always. Thank you  
3 committee for hearing my testimony. My name is  
4 Benjamin Moran and I'm a Business Representative for  
5 Local Union No. 3, International Brotherhood of  
6 Electrical Workers. The Climate Works for All  
7 Coalition is an unprecedented alliance of labor,  
8 community, faith and Environmental Justice  
9 organization working to create good jobs and healthy  
10 communities by reducing our city's emissions. I ask  
11 that all new installations of solar PV on public  
12 property be built under the terms of the city agency  
13 Project Labor Agreements regardless of whether the  
14 work is directly funded with the public dollars or  
15 via public-private partnerships like the PPA, which  
16 is the route that the city is currently taking. At  
17 the very least there should be an addendum to any  
18 contract including PPAs to adopt the terms of the  
19 city agency Project Labor Agreements. Public works  
20 should never undermine our communities and workers.  
21 The city needs to ensure that regardless of the  
22 financing mechanism, all renewable energy work and  
23 specifically public solar installations are covered  
24 by the city agency PLA. In addition there seems to  
25 be no local hire programs that are connected to solar

1  
2 installation projects. Local 3 has been in New York  
3 City for over a 100 year, and we have programs  
4 through the Buildings Trades Council that provide  
5 direct entry into our programs including non-  
6 traditional employment for women, construction  
7 skills, which is entry from our city's trades  
8 schools, Helmets to Hard Hats, which is the entry for  
9 our nation's military under NYCHA PLA. If these  
10 jobs go forward in using the building trades, New  
11 York City communities would have good career jobs  
12 available to them, and would help bring their  
13 standards of living to a better place. This the--

14 CHAIRPERSON ROSENTHAL: [interposing] You  
15 know what, I'm going to ask you to stop there.

16 BENJAMIN MORAN: Yes.

17 CHAIRPERSON ROSENTHAL: Because I am with  
18 you 8,000%.

19 BENJAMIN MORAN: Thank you.

20 CHAIRPERSON ROSENTHAL: We have your  
21 testimony, and I'm going to call up the next panel.  
22 We're with you.

23 BENJAMIN MORAN: [interposing] Okay, I  
24 just wanted to--

25

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

CHAIRPERSON ROSENTHAL: Do you want to do  
a last sentence?

BENJAMIN MORAN: One sentence.

CHAIRPERSON ROSENTHAL: Go.

BENJAMIN MORAN: That's not part of my—

CHAIRPERSON ROSENTHAL: Go.

BENJAMIN MORAN: Based on DCAS' report,  
we audited or the CLC along with the line audited the  
first 24 jobs, and I found four wage violations on  
four contractors, which I'm going to bring to the  
Controller's Office.

CHAIRPERSON ROSENTHAL: [interposing]  
Yes.

BENJAMIN MORAN: That's one thing.  
That's—I'll—I'll bring it forward. I'll share that.  
I left the file in my car, but I'll get it to you,  
and I couldn't find licenses, electrical license, and  
I was once a New York City electrical license holder.  
Every electrical job regardless of your earning fee  
(sic) still requires a filing of some sort.

CHAIRPERSON ROSENTHAL: Oh, my goodness.

BENJAMIN MORAN: And I put it—

CHAIRPERSON ROSENTHAL: Can you follow up  
on this. This is critical.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

BENJAMIN MORAN: [interposing] I have  
been easily conned. (sic)

CHAIRPERSON ROSENTHAL: --information.

BENJAMIN MORAN: I-I do have--

CHAIRPERSON ROSENTHAL: [interposing] I'm  
going to call up the next panel.

BENJAMIN MORAN: Thank you.

CHAIRPERSON ROSENTHAL: Jean Bergman,  
Josh Kellerman, Samantha Williams, and then after  
that, we're going to hear from Lee Smith and Anthony  
who wrote his name really fast for us. Sorry,  
apologies. Okay, if we could start. No families.  
Josh, if you could just jump in and talk from what's--  
what's in your heart.

JOSH KELLERMAN: [coughs] I thank you.  
My name is Josh Kellerman. I work at ALIGN, the  
Alliance for a Greater New York. While we fully  
support the implementation of the 100 megawatt goal,  
we have not been thrilled with the actual  
implementation around equity goals. There were many  
things that were claimed today. We would love to  
have follow up with DCAS to make sure that all of  
this is verified, and I'll jump into summarize some  
of the specific demands that are being made today. A

1  
2 Project Labor Agreement that's incorporated into any  
3 future renewable energy contract regardless of the  
4 financing mechanism, a comprehensive workforce  
5 development program that recruits, trains, supports  
6 and refers workers from disadvantaged backgrounds in  
7 the new jobs and clean energy. Hire NYC is an  
8 important step, but it's only one part of a  
9 comprehensive workforce development system. It is in  
10 no way the-sort of the comprehensive that we need  
11 here. Again, it's part of the solution, but not the  
12 solution. Utilizing and training public sector  
13 workers to oversee, operate and maintain renewable  
14 energy systems. Why is this training program only in  
15 development now? Creating a set of criteria  
16 alongside roof size, roof-roof age and solar access  
17 to select future solar installations that prioritizes  
18 community environmental justice concerns. And it-to  
19 do a process of selecting these sites that it-that  
20 actually includes those communities that are most  
21 impacted by these solar installations or by-by, you  
22 know, high levels of asthma, et cetera. But this is  
23 not a decision that should be made internally, but  
24 one in where there is a public process to engage with  
25 where the sitings occur. A study that actually

1  
2 assesses where—whether roof age of public buildings  
3 correlates to raising the income in New York City,  
4 and if it does, a commitment to address this  
5 inequity. A commitment to maximizing savings from  
6 renewable energy installations, and to work with  
7 local communities and/or impacted institutions to  
8 save the—to share these savings. And—and lastly, to  
9 keep public solar public, and then I think there's a  
10 really strong point that we need to assess when the  
11 cost benefit analysis have to ensure that those cost  
12 benefit analyses are true cost benefit analyses that  
13 take into account all of the benefits that can come  
14 from public sector installations and our own  
15 installations. Thank you. [background comments]

16           JEAN BERGMAN: I'm Jean Bergman and I'm  
17 here on behalf of the People's Climate Movement,  
18 which is the organization that was born out of the  
19 massive 2014 People's Climate March. Most of my  
20 remarks really concern the importance of cities  
21 leading in the matter of both climate change and  
22 equity especially under the current administration in  
23 Washington. I did want to make a couple of key  
24 points. I think it's import in the cost benefit  
25 analysis to look at what the—the private companies

1  
2 who were interested in PPAs are doing with respect to  
3 deals to get federal and state tax credits to offset  
4 the cos of their installations, which they would  
5 benefit from, but the city would not necessarily  
6 capture all of those benefits. So make sure that  
7 that is closely investigated. Our second issue I do  
8 want to underscore what Josh just said about the  
9 importance of being sure that the fact that a  
10 community has been underserved for a long time and as  
11 a result it has old schools and old roofs, should not  
12 be a basis for denying it access to these new  
13 technologies. I think it's also important to-to  
14 compare solar installations with other heavy  
15 equipment that the city owns, installs and maintains.  
16 For example, heavy duty kitchen equipment and  
17 finally, a couple points that came up today, green  
18 roofs and photovoltaic systems can be used  
19 simultaneously with a green roof under a photovoltaic  
20 system, which also increases the-the comfort and  
21 sustainability of the building, the efficiency of the  
22 building itself, and then on a question of battery  
23 storage and resilience it is true that-that you're  
24 cut off from the grid. Your solar is cut off from  
25 the grid, but a simple switch like a light switch can

1  
2 allow the building to use its solar to-to let  
3 community members charge their bat-their phones and  
4 other materials.

5 CHAIRPERSON ROSENTHAL: You know, you've  
6 brought in some expertise that I'm not familiar with,  
7 and I don't see a copy of your testimony here. Will  
8 you please write it up and send it into--

9 JEAN BERGMAN: [interposing] I will.

10 CHAIRPERSON ROSENTHAL: --the committee.  
11 I really would appreciate that. Thank you. Yep.

12 SAMANTHA WILLIAMS: Hi, I'm Samantha  
13 Williams from the Natural Resources Defense Council.  
14 Thanks so much for having us. Because our goals are  
15 so important and ambitious we really believe all of  
16 the above Power Purchase Agreements can be crafted in  
17 multiple ways. There's lots of things to do. Tons  
18 of people use them, and the investment tax credit is  
19 30% and it's going to away. And we believe in equity  
20 in local jobs, and think that we can make all those  
21 things happen in various and we don't want to  
22 preclude particular constructs for, you know, without  
23 deep analysis and good weighing and measuring. So,  
24 we fully support that, and we think that displacing  
25 fossil fuels with electricity generation in

1

2 overburdened communities is enormously important and  
3 will have a lot of local benefits. But we do think  
4 that there is a role for Power Purchase Agreements,  
5 and there are—there are a lot of things to do. So  
6 thank you.

7 CHAIRPERSON ROSENTHAL: You know what, I  
8 can't tell you how much I appreciate you guys coming  
9 here educating the council members, educating the  
10 public. You know, I'm rushing through this only  
11 because of the storm, but what you've offered here  
12 and—and this goes to all of the panels is vital for  
13 what the city does moving forward, and Daisy, I may  
14 have texted you this, but all the—all the things that  
15 the city was bragging about in their—in their panel  
16 testimony I think came about since and because you  
17 guys are working on this. So I commend you for this.  
18 You should take a lot of pride in that. There's much  
19 more to be done, but thank you, thank you. Don't  
20 take my rushing through this as a statement of  
21 anything except for the fact that the Apocalypse is  
22 happening. Lee Smith and Anthony, if you could come  
23 up, please. [pause] And just jump right in.  
24 Anthony, you want to start?

25

1  
2                   ANTHONY PEREIRA: On this, yes. Okay, my  
3 name is Anthony Pereira. Thank you for the time. I  
4 am a resident in New York a graduate of Fordham  
5 University. I worked for Green Peace as a young man.  
6 In 1998, I started a company Alt Power, which was  
7 really New York City's first installation of solar  
8 electric systems. We've been in business since then.  
9 We've expanded to London. We have done projects in  
10 many states over a half dozen countries. So we  
11 definitely take jobs in other cities—from other  
12 people in other cities and we like that. But, you  
13 know, the solar industry is a big, a big industry and  
14 it's really mature. Not so mature in New York City.  
15 So one of the things that—that has come over the  
16 years is like the—the bad argument about PPAs versus  
17 other types of mechanisms. As president of the New  
18 York Solar Industry Association for three years and a  
19 board member for six, I have a lot of insight on  
20 that, and frankly 15 years ago when we had good  
21 legislation to pass in New York State and make it  
22 more equitable through a feed-in-tariffs, we really  
23 had no support from labor or any other environmental  
24 groups, and that would have changed things because  
25 feed-in-tariffs are really the true way to get solar

1  
2 energy cheaply anywhere around the world. It's been  
3 proven over and over again in other countries.  
4 Unfortunately, we had a tax credit, and that makes it  
5 very difficult. A lot of the solar industry is never  
6 a fan of that, but it is what it is. We have it for  
7 five more years, and the way it works is you got to  
8 get your, you know, if you're a municipality or a  
9 state or a not-for-profit organization like the NRBC  
10 there's no way to take advantage of the incentives.  
11 So you're paying—you'll be paying an exorbitant  
12 amount for electricity. So in the case of RPPA,  
13 which—okay, New York's—for this New York City PPA,  
14 Alt Power was the partner with Tangent in the first  
15 PPA. We're the partner with Tangent on the current  
16 PPA. We installed or involved with all the projects  
17 in Battery Park City, Rockefeller Center, and then  
18 we've done a lot of projects, and we work with Local  
19 3 all the time. I have probably done more projects  
20 with Local 3 than any other installer in the city or  
21 in the country frankly. We—the first meeting we had  
22 was with Local 3, and we intend to work with Local 3  
23 and, in fact, everybody we engage with is Local 3.  
24 So that's not really a—for us, it's not a big  
25 concern. We love Local 3. We worked with Allison

1  
2 PS62, and we intend to do that, but there are things  
3 that Local 3 needs to do as well. The costs are very  
4 high compared to the rest of the country. Training  
5 is not as good as has been stated. New York State,  
6 on the other hand has a great training program, which  
7 NYSERDA developed through NABCEP. So some of the  
8 most--actually most of the trained installers in the  
9 United States are in New York State. Maybe not in New  
10 York City, but it's really--it's a really deeper thing  
11 than that.

12 CHAIRPERSON ROSENTHAL: Anthony, it's 3  
13 o'clock--

14 ANTHONY PEREIRA: Okay, I'm ready to go.

15 CHAIRPERSON ROSENTHAL: --and I, you  
16 know--

17 ANTHONY PEREIRA: [interposing] So to end  
18 the line--

19 CHAIRPERSON ROSENTHAL: --I do like, you  
20 know, this is a whole new issue. I'm incredibly  
21 interested in it. I wish you had submitted testimony  
22 in writing.

23 ANTHONY PEREIRA: Yeah, I have it.  
24  
25

1

2

CHAIRPERSON ROSENTHAL: And I'm going to ask you to type it up, send it in and we will explore it further.

5

ANTHONY PEREIRA: Sure.

6

7

CHAIRPERSON ROSENTHAL: I don't have your email address or phone number or anyway to contact you. If you want to leave that with the committee before you leave, that would be great. So--

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

LEE SMITH: My name is Lee Smith, and I run a solar power company called American Solar Partners. I've been in the solar business for over 15 years. We do installations in New York, New York City and many other states. In a prior life, I was the General Counsel of the New York State Labor Department responsible for enforcement of the Prevailing Wage Law, and I also have many years of experience in project finance and I'm now principal at a Merchant Bank as well as running the solar company. We did a study on behalf of the United Federation of Teachers exploring the difference between doing a Power Purchase Agreement and a Direct Ownership structure for the New York City schools. PPAs are very simple for agencies to do. That's their appeal. However, ownership of a long-lasting

1  
2 asset like solar power if done correctly can produce  
3 many more savings. By our estimate, you would save  
4 on 150 megawatts you would save over \$400 million  
5 more in electricity costs using direct ownership.  
6 You have to use some financial engineering. You  
7 could use either a partnership flip, and inverted  
8 lease. There's various structures that have been  
9 used to allow the city to benefit from the tax  
10 benefits. It's not simple, and we understand why  
11 agencies like to use to the PPA. It's very  
12 straightforward. It's just like letting a contract.  
13 However, if they do the analysis and they get good  
14 financial advice, they'll find that they can  
15 structure something that will save the city a lot  
16 more money over the long run if they're willing to do  
17 the capital financing. The second issue I want to  
18 make is that a solar power system installed on a  
19 public building is public work. The New York State  
20 Department of Labor has already ruled that. That  
21 means that it's subject to the PLA in New York City.  
22 Now, the State Labor Department has issued this  
23 ruling. You can find it on their website. In New  
24 York City that ruling has to come from the city  
25 Controller because under the State Labor Law Section

1  
2 220, the City Controller is the fiscal officer not  
3 the Commissioner or Labor. So if the City Controller  
4 were to rule that this was public work, then all of  
5 this work would be subject to the PLA. And the last  
6 point I would make is that there's great  
7 opportunities to integrate economic development in  
8 solar. It probably won't be in the panel  
9 manufacturing. It's more likely to be in the  
10 components, the--the racking, the inverters, the other  
11 things like that. It would take a lot of work to  
12 make those kinds of things happen. I think it's a  
13 worthwhile effort, but in the meantime the City I  
14 think has set its sights too low. I don't thin 100  
15 megawatts is anywhere ambitious enough. Let's face  
16 it, in Massachusetts last year they installed over  
17 300 megawatts, the State of Massachusetts, which has  
18 seven million people. I mean we really can do a lot  
19 more if we have an aggressive program, and I--and I  
20 echo Anthony's point if we had a better incentive  
21 system in New York State like a feed-in-tariff an or  
22 SREC program, the private sector would do this very  
23 quickly. Thank you.

24

25

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

CHAIRPERSON ROSENTHAL: Thank you so much. It again on a less windy day couldn't we meet and continue this discussion?

LEE SMITH: Yes.

CHAIRPERSON ROSENTHAL: Thank you so much for your testimony. I want to thank everyone for coming to this hearing. I want to thank the staff that just prepared us so well. Really appreciate all your hard work in this, and with that, the hearing is closed. [gavel]

C E R T I F I C A T E

World Wide Dictation certifies that the foregoing transcript is a true and accurate record of the proceedings. We further certify that there is no relation to any of the parties to this action by blood or marriage, and that there is interest in the outcome of this matter.



Date January 29, 2017