

CITY COUNCIL  
CITY OF NEW YORK

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TRANSCRIPT OF THE MINUTES

Of the

COMMITTEE ON RECOVERY AND RESILIENCY

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April 26, 2016

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HELD AT: 250 Broadway- Committee Rm, 14<sup>th</sup> Fl.

B E F O R E: MARK TREYGER  
Chairperson

COUNCIL MEMBERS:

MARGARET S. CHIN  
DONOVAN J. RICHARD WEBSTERS  
CARLOS MENCHACA  
RORY I. LANCOUNCIL MEMBERAN  
ERIC A. ULRICH  
BILL PERKINS  
STEVEN MATTEO

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

Susanne DesRoches  
Deputy Director for Infrastructure Policy at the  
Mayor's Office of Recovery and Resiliency

Anthony Fiore  
Deputy Commissioner from the Department of  
Citywide Administrative Services

Patrick McHugh  
Vice President of Engineering and Planning at Con  
Edison

Richard Webster  
Legal Program Director of Riverkeeper

John Cervený  
New York Battery and Energy Storage Technology  
Consortium or NY-BEST

Kyle Kimball  
Con Edison

1

2

[gavel]

3

CHAIRPERSON TREYGER: Okay, good

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afternoon. My name is Mark Treyger and I am the Chair

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of the Committee on Recovery and Resiliency. We are

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here today to discuss how the city maintains and

7

enhances resilient electric power that can withstand

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the growing threat of rising tides and other natural

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disasters and, and challenges we, we face globally.

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When superstorm Sandy hit New York City over four

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years ago two million of, of our residents were

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without power for at least four days and up to two

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weeks. The storm flooded key substations leading to

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the explosion of an East village substation that had

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supplied power to a quarter million customers. Above

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ground, high winds, downed trees that knocked into

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overhead power lines. In the year since Sandy the

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office of long term planning and sustainability

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studied the feasibility of moving overhead electrical

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wires underground and it provided several... okay,

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great... several recommendations to enhance our city's

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electrical resiliency. Con Edison has invested one

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billion dollars into its storm hardening protection

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plan. This committee anticipates updates on the

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results of these measures and what if any

1  
2 improvements can be made. Further, the committee is  
3 interested in learning more about the  
4 administration's plans to replace electrical power  
5 lost by the closing of the Indian Point Nuclear Power  
6 Facility. In 2015, the council advocated for the  
7 closing of the facilities to reactors for a good  
8 reason. Fears of a possible reactor meltdown, which  
9 has caused extreme devastation in cities that have  
10 experienced nuclear disasters have been justifiable  
11 in Indians Point day to day maintenance issues were  
12 disconcerting therefor this committee supports a  
13 transition away from that particular plant towards  
14 alternative clean sources of energy. We must also  
15 balance these issues with concerns that replacing  
16 nuclear power with carbon emissions may negate some  
17 of the city's environmental protection in resiliency  
18 efforts. In addition, we must ensure that vulnerable  
19 populations often those in high risk flood zones are  
20 not bearing the brunt of the city's resiliency  
21 efforts through unfair rate hikes and that includes  
22 communities that I represent in my district. After  
23 the immense damage to key electrical infrastructure  
24 super storm Sandy taught us major lessons. Today we  
25 want you to examine how the city has implemented

2 those lessons and not merely to assess how we have  
3 recovered from the storm but to look to the future to  
4 determine how the city can be even stronger in the  
5 face of pending natural disasters. Thank you to those  
6 who prepared for today's hearing including Anna  
7 Scaife, my Deputy Chief of staff; Committee Council  
8 Malaika Jabali, who by the way has been sworn into  
9 the New York State bar, congratulations Malaika, yes.

10 [applause]

11 CHAIRPERSON TREYGER: It's a big.. it's a  
12 big, big, big huge news, huge and Senior Policy  
13 Analyst Bill Murray. I'd like to also acknowledge a  
14 special guest we have with us, Amani Jabali who is  
15 the mom of Malaika Jabali..

16 [applause]

17 CHAIRPERSON TREYGER: The committee looks  
18 forward to hearing testimony today from the Office of  
19 Recovery and Resiliency, the Departments of Citywide  
20 Administrative Services, Con Edison and environmental  
21 advocates and I also want to just note that we have  
22 been joined by Council Member Eric Ulrich who I  
23 believe.. [cross-talk]

24 COUNCIL MEMBER ULRICH: I spent a lot of  
25 time at the bar too.

2 CHAIRPERSON TREYGER: Who I believe this  
3 is his first gold star in our committee, so  
4 congratulations Council Member and at this time I  
5 would like to call on the administration for the  
6 first panel and if you can just... we have their,  
7 their... everyone's name. just to confirm we have  
8 Susanne DesRoches... [cross-talk]

9 SUSANNE DESROCHES: DesRoches.

10 CHAIRPERSON TREYGER: DesRoches from ORR,  
11 is that correct?

12 SUSANNE DESROCHES: Uh-huh.

13 CHAIRPERSON TREYGER: Great. Miss... we  
14 have A. Fiore.

15 ANTHONY FIORE: Anthony Fiore.

16 CHAIRPERSON TREYGER: Anthony Fiore from  
17 DCAS, great and I'm not sure if I have one for... okay,  
18 great. You don't have... is it possible just to have  
19 something filled out for us and we'll get that  
20 information but if you can just please raise your  
21 right hands, do you affirm to tell the truth, the  
22 whole truth and nothing but the truth in your  
23 testimony before this committee and to respond  
24 honestly to Council Member questions?

25 [panel affirms]

2 CHAIRPERSON TREYGER: Wonderful, you may  
3 begin, thank you.

4 SUSANNE DESROCHES: Great. Good  
5 afternoon. My name is Susanne DesRoches and I am the  
6 Deputy Director for Infrastructure Policy at the  
7 Mayor's Office of Recovery and Resiliency. I want to  
8 thank Committee Chair Treyger, as well as the members  
9 of this committee, for this opportunity to discuss  
10 the progress the city has made in ensuring the  
11 resiliency of New York City's electric system. I am  
12 joined here today by my colleague, Anthony Fiore,  
13 Deputy Commissioner from the Department of Citywide  
14 Administrative Services, Iyad Kheirbek from the  
15 Department of Health. It is timely that we are  
16 together, in between Earth Day and the People's  
17 Climate March. Climate change poses a fundamental  
18 threat to our city due to the emissions of greenhouse  
19 gases that continue to cause the warming of our  
20 planet. The combustion of fossil fuels to produce  
21 electricity contributes more to climate change than  
22 emissions from any other sector. That is why New York  
23 City, despite federal cuts to climate change  
24 programs, is forging ahead. We are leading other  
25 cities by setting aggressive resiliency and

2 sustainability goals, while cutting greenhouse gas  
3 emissions 80 percent by 2050, 80 by 50. The path to  
4 80 by 50 will lead to necessary energy upgrades...  
5 energy efficiency upgrades to our buildings and  
6 greater reliance on all forms of renewable energy and  
7 storage. If carefully designed, greater, greater  
8 reliance on distributed energy resources such as  
9 solar and reducing the electricity through  
10 efficiency, along with these changes... along with  
11 changes being made by Con Edison to the distribution  
12 system, will enhance the resiliency of critical  
13 energy infrastructure across the city, and  
14 particularly in neighborhoods that are vulnerable to  
15 outages caused by storm events. The electric grid is  
16 one of the most critical lifeline systems in our  
17 city. Almost 35 percent of New York State's total  
18 electricity production is consumed within New York  
19 City. Over eight million people and 250,000  
20 businesses rely on the electric system to power our  
21 buildings, our hospitals, our transit systems, and  
22 our homes. When it fails, the cascading impacts  
23 inhibit our public transportation systems, our access  
24 to healthcare, and our economy as a whole. In short,  
25 our electric system supports almost all aspects of

1  
2 our lives and livelihoods, and supports economic  
3 activity of global importance. New York City's power  
4 supply is generated primarily by natural gas and  
5 nuclear energy. In late 2017, the state announced  
6 plans to... plans to cease operations at the Indian  
7 Point Energy Center, Indian Point in 2021. Indian  
8 Point is an important supplier of carbon free power  
9 to the region and helps maintain diversity in the  
10 generation mix, which is important from a cost and  
11 reliability perspective. Its two units supply  
12 approximately a quarter of the electricity consumed  
13 in New York City. The administration is supportive of  
14 this facility's closure so long as the impacts are  
15 fully understood and a plan is in place to replace  
16 Indian Point's energy supply and maintain the safe  
17 and reliable operation of the electric system. The  
18 city is concerned that the acceleration... accelerated  
19 retirement of Indian Point will increase the use of  
20 older, in-city power plants, which emit air  
21 pollutants, that the replacement power will be fossil  
22 fuel based and that there may be an incremental cost  
23 for this power. Steps should be taken to minimize  
24 these potential impacts. For example, funds from the  
25 State's Clean Energy Fund could be used to defray

2 some of these costs of the... of the renewable  
3 replacement resources, thereby lessening the energy  
4 burden on our residents and businesses. In sum any  
5 replacement for Indian Point must be reliable,  
6 affordable, renewable, and resilient; and must not  
7 adversely affect air quality. On a related note, the  
8 city has been a strong advocate on expanding the  
9 transmission system in New York, and especially the  
10 transmission capacity from upstate to downstate to  
11 provide the city and its residents greater access to  
12 low cost power and generation diversity located  
13 upstate and in other regions. The city continues to  
14 advocate at all levels of government to ensure that  
15 the replacement of Indian Point meets these criteria  
16 and addresses the city's concerns. The city's plan to  
17 increase the resiliency of its electric and natural  
18 gas distribution system was laid out in OneNYC.  
19 Efforts have, have focused on hardening existing  
20 infrastructure to withstand climate events and  
21 recover quickly after such events. These efforts  
22 include reconfiguring utility networks, diversifying  
23 customer options in case of utility outages; reducing  
24 energy demand; and redesigning the regulatory  
25 framework to support resiliency. The city's electric

2 distribution system is owned and operated by  
3 Consolidated Edison Company of New York, Con Edison.  
4 Con Edison provides service to almost all of the city  
5 except for the Rockaway peninsula, which is served by  
6 PSEG-Long Island on behalf of the Long Island Power  
7 Authority or LIPA. Shortly after Hurricane Sandy in  
8 2012, Con Edison filed a major rate case in which it  
9 proposed to spend one billion dollars on storm  
10 hardening and resiliency efforts. The Department of  
11 Public Service convened a storm hardening and  
12 resiliency collaborative during the rate case, to  
13 understand, discuss, and assess Con Edison's storm  
14 hardening plans. The city was an active participant  
15 in that collaborative and we drove the effort to  
16 change Con Edison's design standards to incorporate  
17 the prospective impact of climate change. Over the  
18 past four years, Con Edison completed almost all of  
19 its planned one billion dollars in storm hardening  
20 investments across its electric transmission and  
21 distribution systems, as well as natural gas  
22 distribution and steam generation and distribution. I  
23 can report today that Con Edison's infrastructure is  
24 more robust and resilient than it was before Sandy.  
25 With respect to LIPA, the city has continued to

1 advocate for the integration of storm hardening and  
2 resilience considerations into PSEG-Long Island's  
3 capital planning, system design and overall operation  
4 strategy... operational strategy. The city has pushed  
5 PSEG-Long Island and LIPA to implement storm  
6 hardening recommendations made in a Public...  
7 Department of Public Service 2013 audit and to  
8 consider how climate projections will impact their  
9 hardening strategies. In 2015, a voluntary storm  
10 hardening collaborative commenced. Going forward, the  
11 city has advocated for a more formal storm hardening  
12 process in order to ensure that PSEG-Long Island is  
13 taking the necessary actions to make its electric  
14 system more resilient to all climate change risks.  
15 Due to a strong urging... due to strong urging from the  
16 city, National Grid commenced a storm hardening  
17 collaborative in February 2017 as part of its 2016  
18 rate case settlement. The collaborative is examining  
19 how climate projections and climate risks can be  
20 incorporated into its system design, planning and  
21 asset hardening investments and strategies in order  
22 to mitigate the risks of climate change to gas  
23 distribution infrastructure. The city continues to  
24 ensure the resiliency of its own assets and tomorrow  
25

1 will announce the release of its preliminary Climate  
2 Resiliency Design Guidelines. Current building codes  
3 and standards incorporate historic weather data  
4 without accounting for a changing climate conditions.  
5 These new guidelines establish for the citywide  
6 guidance for architects, engineers and urban planners  
7 to incorporate projected changes in precipitation,  
8 sea level rise, and temperatures into the design of  
9 city facilities. Over the next months, the city will  
10 review and pilot the Guidelines and projects. The  
11 results will be used to refine the preliminary draft  
12 and a final version will be released in December  
13 2017. The city's Climate Resiliency Design Guidelines  
14 were developed in partnership with city agencies and  
15 the New York City Panel on Climate Change to ensure  
16 the best available science is incorporated into a  
17 consistent methodology for designing resilient city  
18 buildings and infrastructure. We are confident this  
19 effort will result in enhanced standards that will  
20 make our built environment more resilient to extreme  
21 weather and climate change while promoting the  
22 health, safety, and prosperity of all New Yorkers.  
23 The city's OneNYC plan also outlines measures to  
24 expand the use of renewable resources. This includes  
25

1           our commitment to support the deployment of one  
2           gigawatt of solar capacity citywide by 2030, enough  
3           to power more than 250,000 New York City homes. Last  
4           week, the city announced the first round of Solarize  
5           NYC campaigns in Harlem and Downtown Brooklyn.  
6           Solarize NYC is a citywide program designed to  
7           increase access to solar power in New York City  
8           neighborhoods through community group purchasing  
9           campaigns. The city has also kicked off a project to  
10          provide solar power for 88 city owned buildings,  
11          including 66 New York City public schools. The  
12          agreement will result in over 100 public schools  
13          operating with solar power and tripling the size of  
14          the city's total solar portfolio to approximately 25  
15          megawatts by 2019. To ensure this renewable energy  
16          is, is available consistently, the Mayor established  
17          the city's first ever energy storage deployment  
18          target of 100 megawatt hours by 2020. This target  
19          will help reduce reliance on the electric system by  
20          making variable sources of energy production such as  
21          solar arrays, usable over a longer time... period of  
22          time, time period each day. Energy storage also helps  
23          increase the city's resiliency by providing an  
24          alternate source of power at peak periods or if there  
25

1 is a sudden loss of generation. We know that the  
2 waters near New York City have the potential to  
3 support large scale offshore wind power. The city  
4 continues to coordinate with state and federal  
5 government agencies to identify opportunities for the  
6 development of offshore wind in areas that have been  
7 designated off the coast of Long Island and New  
8 Jersey. The city views offshore wind as an  
9 increasingly viable solution to meet its energy needs  
10 and we expect the cost of offshore wind to come down  
11 considerably in the coming years. In order to reach  
12 our 80 by 50 goals the city will need to both... need  
13 both offshore wind and increased access to upstate  
14 renewables through additional investments in  
15 transmission however current costs and state level  
16 policies dictate the implementation timing of such  
17 technologies. The city continues to pursue  
18 opportunities to supply 100 percent of our electric  
19 needs from renewable resources and our power  
20 supplier, New York Power Authority will be releasing  
21 a request for proposals to solicit such opportunities  
22 imminently. The city also continues to advocate at  
23 the state and federal levels for changes to energy  
24 policies to help achieve the city's policy, policy  
25

1 goals. For instance, the city has successfully  
2 advocated for changes to the State's Community  
3 Distributed Generation Program rules, reducing the  
4 minimum number of participants from ten to just two  
5 in an effort to avail more of New York City's  
6 building stock for solar installations. At the  
7 federal and regional level, we are involved in  
8 defending the Clean Power Plan, the Regional  
9 Greenhouse Gas Initiative, and solar investment tax  
10 credits all of which are crucial for driving down  
11 greenhouse gas emissions, promoting public health,  
12 and increasing our energy resiliency. The city's  
13 renewable energy goals are an important step in  
14 fostering a dynamic and inclusive economy and to  
15 develop a workforce pipeline for an industry with  
16 significant potential for new jobs. New York State is  
17 already home to more than 85,000 clean energy jobs.  
18 To help deliver on the city's 2.6-billion-dollar  
19 municipal building retrofit program and to achieve  
20 the significant reductions in greenhouse gas  
21 emissions we will need to see from building citywide,  
22 the Mayor... excuse me, Mayor de Blasio announced the  
23 New York City Green Jobs Corps as a partnership with  
24 the Building Construction Trades Council. With this  
25

2 green job initiative, the administration is committed  
3 to training 3,000 workers with new skills needed for  
4 the emerging green economy over the next three years.  
5 And just last week on Earth Day, the Mayor announced  
6 an agreement to launch the first class of pre-  
7 apprenticeships available through New York City Green  
8 Job Corps. In conclusion, I would like to thank the  
9 committee for this opportunity to highlight some of  
10 the progress made to protect our system, which is  
11 dynamic and ever-evolving. As we face significant  
12 challenges due to a changing climate, we are more..  
13 far more prepared than ever to deal with weather  
14 related threats to our system. The de Blasio  
15 Administration remains committed to ensuring the  
16 sustainability and resiliency of our power for the  
17 benefit of all New Yorkers.

18 CHAIRPERSON TREYGER: Anyone else? I just  
19 want to note that we've also been joined by Council  
20 Member's Donovan Richards and Steven Matteo and I  
21 guess I will begin. So, I, I believe I heard in your  
22 testimony that the, the administration supports..  
23 just, just to clarify, you said the administration  
24 does support the closure of the Indian Point Power  
25 Facility, is that correct?

2 SUSANNE DESROCHES: Correct.

3 CHAIRPERSON TREYGER: Okay and can you  
4 just specify the rationale behind supporting the  
5 closure of Indian Point?

6 SUSANNE DESROCHES: Sure, so we  
7 understand the closure is related to safety concerns  
8 and the agents of the plant.

9 CHAIRPERSON TREYGER: Okay. A question  
10 that we have is that I think that you've mentioned in  
11 your testimony that it's the Indian point's two units  
12 supply approximately a quarter of the electricity  
13 consumed in New York City and I just have to ask is...  
14 you know what is the plan to make up for the amount  
15 of energy that we are going to lose from Indian  
16 Point, is there a plan and what is the plan?

17 SUSANNE DESROCHES: So, our under...  
18 current understanding is that Indian Point produces  
19 about 21,050 megawatts so the current replacement  
20 plans and this is our understanding of those plans is  
21 that that replacement power will come through a  
22 transmission upgrade which is called transmission  
23 owner transmission solutions that is 376 megawatts  
24 and there are two new natural gas plants that are  
25 currently planned. One is actually already built,

2 that is the Competitive Power Venture Valley Energy  
3 Center or CPVV and the other one is called Cricket  
4 Valley so that is our current understanding. As I  
5 mentioned in the testimony we are concerned that part  
6 of the replacement power will also come from a  
7 potential increase of in-city generation.

8 CHAIRPERSON TREYGER: So just to clarify  
9 and we've been joined by Council Member Perkins but  
10 just to clarify these facilities are not yet  
11 operational, is that correct?

12 SUSANNE DESROCHES: Correct.

13 CHAIRPERSON TREYGER: And when are we  
14 anticipating the, the full closure of Indian Point?

15 SUSANNE DESROCHES: 2021.

16 ANTHONY FIORE: That's one unit in 2021  
17 and the second unit in 2022.

18 CHAIRPERSON TREYGER: Right and so there  
19 is a serious potential or more than a potential for a  
20 gap between the closure of Indian Point and making up  
21 for the shortfall of this energy that we, we got from  
22 it, is that correct?

23 ANTHONY FIORE: There certainly could be  
24 and the state has plans to extend the, the operation

2 of Indian Point for another few years should that  
3 come to fruition.

4 CHAIRPERSON TREYGER: Is... I, I don't  
5 think we've received that information, is that... is  
6 that in a memo or something in writing?

7 ANTHONY FIORE: it was part of the  
8 state's announcement.

9 CHAIRPERSON TREYGER: Okay... [cross-talk]

10 ANTHONY FIORE: We can... we can get you  
11 information on that... [cross-talk]

12 CHAIRPERSON TREYGER: I appreciate that...  
13 [cross-talk]

14 ANTHONY FIORE: Sure... [cross-talk]

15 CHAIRPERSON TREYGER: ...because I... we  
16 don't have that in our records but I would like to  
17 make note of that because that is a concern that  
18 certainly I share... me and colleagues share and the  
19 other issue becomes what does this mean in practical  
20 terms for New York residents as far as, you know  
21 paying the energy bills as... according to our  
22 information a lot of the... if you're saying that the,  
23 the city might have to rely on its generators located  
24 with, within the five boroughs and according to our

2 analysis they are not cheap to operate, is that  
3 correct?

4 SUSANNE DESROCHES: We are also concerned  
5 about it a potential cost increase.

6 CHAIRPERSON TREYGER: And so what are  
7 those... and that's what I'm trying to get at, what is  
8 their estimates of what type of increase residents  
9 might be seeing as a result of, of this... of this  
10 shift in transition?

11 SUSANNE DESROCHES: So, it's the energy  
12 market so we don't have estimates at this time for  
13 what a bill impact could be, we only have a, a sense  
14 of whether or not increased generation in the city  
15 would, would cost more money so we don't have numbers  
16 to provide for you today on what those increases  
17 would be.

18 CHAIRPERSON TREYGER: I think that would  
19 be very important because look I think that this  
20 council has been very vocal and very clear about  
21 certainly addressing the challenges of climate change  
22 and, and also making sure that we are reducing safety  
23 risks or... you know and, and we get that but I, I am  
24 concerned that in all this... all this transitioning  
25 whose going to pay the brunt of it and that is a very

1                   serious concern that we share and again this is...  
2                   we're not bringing this only at the feet of the city  
3                   this is... this requires the state and Washington... and  
4                   federal government to all work with us on this but I,  
5                   I see a very real scenario where the most vulnerable  
6                   New Yorkers who are prone to not just natural  
7                   disasters but they are going to be facing a financial  
8                   disaster if we don't take steps to remedy this and so  
9                   has... have there been discussions with your  
10                  counterparts and the state and others about what will  
11                  be done not just to mitigate the potential energy gap  
12                  loss but the cost associated with this transition  
13                  particularly to the most vulnerable New Yorkers?

14                                   ANTHONY FIORE: Yeah, so I'd, I'd like to  
15                                   add to what Susan... Susanne said and she's right that  
16                                   the market is dynamic and so it's hard to forecast  
17                                   what the ultimate impacts will be but we, we have  
18                                   looked at energy forecast both prior to the  
19                                   announcement of the closure and after the  
20                                   announcement of the closure and those forecasts to  
21                                   date haven't shown a, a... any substantial increase in  
22                                   prices. Now that could change as, as things change  
23                                   over time but we continue to watch those and we  
24                                   continue to work with the state to try to mitigate  
25

2 any potential impacts but so far, the data that we  
3 have haven't shown that happening. We've also worked  
4 with our utility partners through their rate cases to  
5 ensure that low income populations, the, the  
6 discounts that they receive keep up with increases  
7 in, in rates and... you know just... it should be, you  
8 know recognized that the commodity portion of a bill  
9 is the, the smallest component of, of bill delivery  
10 charges and taxes and fees are... make up the, the  
11 majority of, of that bill. So, a small increase on  
12 the commodity side has a lesser effect on the total  
13 bill than, than other components but, but in, in this  
14 last rate, rate case working with, with Con Ed there  
15 was substantial improvements to the low income  
16 program in, in terms of the number of folks that are  
17 eligible and in terms of the discount levels that  
18 they receive.

19 CHAIRPERSON TREYGER: So, if you're  
20 saying that taxes and fees make up a sizable portion  
21 of, of this bill then we need to be proactive in  
22 seeing what we can do to offset these types of cost  
23 increases to those New Yorkers who could afford them  
24 least. Again we're, we're, we're trying to address  
25 the issue of certainly renewable energy moving in

2 that direction and, and addressing the threat of  
3 climate change but not on the backs of, of work,  
4 working people that could afford it the least and  
5 that, that to me is just something that we have to be  
6 very, very mindful of from the city level to the  
7 state to, to the federal level, I mean again  
8 everyone, you know is, is... I love the energy and the  
9 enthusiasm around this movement but when it comes to  
10 practical terms and who's actually going to pay for  
11 it that, that worries me deeply and so... now you had  
12 mentioned in your testimony and we've heard as well  
13 that I think Con Edison has spent about a billion  
14 dollars or so on storm hardening measures, has that  
15 translated into any rate increases?

16 ANTHONY FIORE: So the one billion  
17 dollars that they spent is capital dollars that they  
18 can earn a return on investment on so that... you know  
19 there is an increase on that but that's a necessary  
20 increase in order to maintain the system. At the same  
21 time the, the prices for the commodity portion that I  
22 spoke about have come down substantially so the net  
23 effect on rates have been mitigated from what they  
24 otherwise have been. With that being said in the last  
25 rate case there, there were rate increases and the

1  
2 city fought extremely hard to make sure that the low-  
3 income programs kept up with those rate increases and  
4 we were very successful in, in achieving that.

5 CHAIRPERSON TREYGER: So, again I think  
6 that we, we need to really take a very, very hard  
7 close look at this issue because there is a, I think  
8 a cumulative impact on residents as far as their  
9 energy bills, heating bills, water bills also just  
10 for small businesses as well in areas that really are  
11 impacted in more ways than one. This... again I, I  
12 think that we need to make these resiliency measures  
13 a reality, I, I, I get that but we're going to have  
14 to be very innovative about making sure that this is  
15 not... this is not going to be disproportionately  
16 affecting certain communities that really can afford  
17 them least. Now I also want to just take note in your  
18 testimony I'm not sensing a lot of confidence in  
19 what's taking place with the Long Island Power  
20 Authority with regards to the Rockaways and I know my  
21 colleague I'm sure will have some concerns, I mean in  
22 your testimony I keep reading that you're pushing  
23 them, you're pushing them, you're pushing them but  
24 I'm not reading measures of actually taking place,

1  
2 can you speak to your concerns with regards to the  
3 vulnerabilities with LIPA that affects New York City?

4 SUSANNE DESROCHES: So I can speak about  
5 what, what we know that LIPA has done post Sandy.  
6 They have rebuilt, hardened, and elevated three  
7 substations that serve the Rockaways so that's the  
8 Rockaway Beach, Far Rockaway, and Aberdeen, Aberdeen,  
9 excuse me and then they have retired one substation.  
10 So, they have done and are continuing to work on  
11 their substations. They have utilized flood elevation  
12 designs that are above codes and they are also  
13 hardening about a thousand miles of their overhead  
14 distribution lines. So, they have been doing work  
15 post Sandy, I would say that on the storm hardening  
16 collaborative we would like it to be a formal  
17 collaborative as we have advocated for and did with  
18 Con Edison and have just started with National Grid  
19 but it is currently a voluntary collaborative.

20 CHAIRPERSON TREYGER: And are you  
21 satisfied with the level of information and  
22 cooperation that you've been or have not been  
23 receiving from this authority?

24 SUSANNE DESROCHES: I think that there is  
25 additional work that we could explore with them

2 around other climate risks besides storm hardening so  
3 as we have... are doing with National Grid currently  
4 we're looking at changes in precipitation and we're  
5 looking at heat and we would like to explore those,  
6 those risks with LIPA as well.

7 CHAIRPERSON TREYGER: Well I think that  
8 this is something that we need to actually keep the  
9 pressure on and actually get done because this is...  
10 they... the, the Rockaways and I'm sure my colleagues  
11 would agree were one of the hardest hit areas as well  
12 and folks are still recovering and again if it's not  
13 going to be a natural disaster it'll be a financial  
14 storm one, one shape or another affecting these  
15 families. I, I read here in your testimony that there  
16 are funds from the State's Clean Energy Fund that can  
17 be used to defray some of the cost of renewable  
18 replacements resources, can you speak to what is  
19 actually in that fund right now, do you have any data  
20 or information about what, what is in that fund and  
21 what type of... what type of... what, what amount of  
22 money are we talking about to defray the cost?

23 ANTHONY FIORE: So, I don't have the  
24 total dollar amount that's in the fund, fund but we  
25 can get that for you. The Clean Energy Fund was a

2 consolidation of separate pots of money that have  
3 been collected as part of the utility bills, right,  
4 so there's been service benefit charges and energy  
5 efficiency performance standard charges. The state  
6 has now consolidated all of those into one fund and  
7 in order to provide more flexibility in the programs  
8 that those funds can be used for. So, these, these  
9 are all for energy efficiency renewable energy  
10 programs so... you know they're... they are reinvesting  
11 those funds, what we've suggested in our testimony  
12 which is not what they've considered so far is using  
13 a portion of those funds to mitigate the cost that,  
14 that Susanne spoke to.

15 CHAIRPERSON TREYGER: And we don't even  
16 know... well you mentioned you'll get back to me with a  
17 number of how much they, they have currently but we  
18 don't even... do... we have a sense of how much funds are  
19 we actually talking about to defray these costs and  
20 this is something that you're still analyzing or... I,  
21 I am concerned and I think that we have to... we have  
22 to really, you know start really getting the public  
23 aware of this because this is happening, I mean again  
24 all these announcements are happening but the devils  
25 and the detail about who's actually going to pay for

2 these announcements and it's going to get very real  
3 for people just like on the issue of flood insurance,  
4 it's not talked about very much sometimes these days  
5 because so much is going on but when FIMA finalizes  
6 those maps in a matter of a year or two it'll get  
7 very real for thousands and thousands of more New  
8 Yorkers that are currently not mandated to get it but  
9 will be mandated to get it and so this is coming in a  
10 matter of a number of... a couple of years where people  
11 will see potentially, you know increases on their... on  
12 their energy bill. Now I've also received information  
13 that... there are reports that the 1,000 megawatt  
14 Champlain Hudson Hydro Power Express and there's  
15 another plant it's called the... I think the 650  
16 megawatt CPV, I think you might have mentioned one of  
17 them power plants and the 1,000 megawatt Cricket  
18 Valley Power Plant could be brought online soon to  
19 offset the, the energy loss that we're... from Indian  
20 Point, do, do you have the status of any of these  
21 projects, I know you mentioned... or one or two in  
22 particular but the Hydro Power one I'm particularly  
23 interested in if you have any data on that?

24 ANTHONY FIORE: So, I could speak to the  
25 Hydro Power one... [cross-talk]

2 CHAIRPERSON TREYGER: ...please... [cross-  
3 talk]

4 ANTHONY FIORE: ...first. That's a project  
5 that's been in development for approximately ten  
6 years now. They have received all of their permits  
7 that are required to build that line and our  
8 understanding is that they are now seeking off takers  
9 for the power in order to get to financial close.

10 CHAIRPERSON TREYGER: So... but they're,  
11 they're not at operation still there... [cross-talk]

12

13 ANTHONY FIORE: They, they are not at  
14 operation, it's not constructed... [cross-talk]

15 CHAIRPERSON TREYGER: ...not constructed..  
16 [cross-talk]

17 ANTHONY FIORE: ...they have all the  
18 permits to, to do that, they are currently in the New  
19 York independent system operators... [cross-talk]

20 CHAIRPERSON TREYGER: ...yeah... [cross-talk]

21 ANTHONY FIORE: ...interconnection que  
22 that's a... that... they entered the 2017 generation  
23 class que in, in March that's about an 18-month  
24 process at the completion of that process they would  
25 be cleared to begin construction and our

2 understanding it's a... is that it would be about a two  
3 year construction period.

4 CHAIRPERSON TREYGER: So in, in essence  
5 what we're... the sense I'm getting is that many of  
6 these projects are not, not even at operation,  
7 they're not even built yet or in the process of being  
8 built and so there's going to be a reliance on  
9 generators that are existing which if I'm not  
10 mistaken, you know some of these stations require the  
11 burning of coal, is that correct?

12 ANTHONY FIORE: So, there are no  
13 generating stations within the city that burn coal..  
14 [cross-talk]

15 CHAIRPERSON TREYGER: But do we... does New  
16 York City use energy that is sourced from burning  
17 coal?

18 ANTHONY FIORE: So, the way that the  
19 transmission system works is it's like a swimming  
20 pool all the electrons going to that pool and, and  
21 then become fundable, there, there is some operating  
22 coal plants within New York State, there's certainly  
23 coal plants outside of New York State. The governor  
24 has announced that the coal plants within New York  
25 State will be closed by 2020 outside of the state

1 that, you know that's a different story. We have... we...  
2 you know don't have as much imports from out of state  
3 that... as we do of in state generation and as more and  
4 more renewables come online in the state to meet the  
5 50 by 30 target, 50 percent of the energy consumed in  
6 the state would come from renewable generation by  
7 2030. The overall carbon intensity of the state grid  
8 should improve. Now that being said that, that, that  
9 means the upstate nuclear plants are, are still  
10 online as well should those close then the carbon  
11 intensity may change.

12  
13 CHAIRPERSON TREYGER: Do you have a  
14 breakdown of the prices... comparison of the prices of  
15 electricity generated by nuclear plants, natural gas  
16 plants, solar installation, wind turbines, and hydro  
17 power?

18 ANTHONY FIORE: So, the, the way that the  
19 markets work in New York State is, is that they all  
20 bid in and, and there's a... you know a scale as you...  
21 its... power gets met by the lowest bid and then if  
22 there's residual energy demand the next highest bid  
23 gets taken and put into the market. So, it's, it's  
24 not a matter of what resource... what, what energy  
25 resource it is, it's a matter of their bid pricing

2 into the... to the market. So, I think that answers  
3 your question.

4 CHAIRPERSON TREYGER: Well in, in a way  
5 it doesn't, I, I'm looking to, to see is it cost  
6 prohibitive or is it cost effective for New York  
7 residents that's, that's the question.

8 ANTHONY FIORE: So... okay, when, when  
9 different technologies bid into the market they're  
10 bidding in on their variable cost, their, their  
11 operating cost so that's... the majority of that is the  
12 fuel cost to them and so renewable resources often  
13 bid in at very low or in some instances negative  
14 prices and so then are the first ones to be taken in,  
15 natural gas generally speaking would, would come next  
16 and then you would go up the scale from there and,  
17 and so coal would be towards the highest end of, of  
18 that.

19 CHAIRPERSON TREYGER: Alright, I'm, I'm  
20 just... I'm just going to, you know again reiterate a  
21 concern that I have is that in, in, in all this  
22 movement and, and, and transitioning and shifting to  
23 renewable energy or we assume there was this major  
24 shift, it doesn't appear that we have fully shifted  
25 in that direction, I think that we're talking about

2 it and it hasn't even really fully happened. I think  
3 we're still relying on for the most part antiquated  
4 forms of energy of production but I... all, all I'm  
5 hearing is that we, we don't have the capacity yet  
6 to, to shift and we... or I keep hearing that there are  
7 rate increases on the horizon and that's going to  
8 disproportionately hurt the very people that are, are  
9 vulnerable to a whole host of challenges right now. I  
10 do have some more questions but I'm going to turn it  
11 over out of respect for time to my colleague, Council  
12 Member Perkins, we welcome... this committee welcome...  
13 I'm sorry, who else is here? Oh, Council Member  
14 Margaret Chin we've been joined by her as well but  
15 Council Member Perkins... [cross-talk]

16 COUNCIL MEMBER PERKINS: Thank you...  
17 [cross-talk]

18 CHAIRPERSON TREYGER: ...you got the floor...  
19 [cross-talk]

20 COUNCIL MEMBER PERKINS: ...very much. No  
21 substantial increase just always sounds funny to me.  
22 What are the exact increases the customers should  
23 anticipate? Of course, substantial is a... you know is  
24 a... is a code that says you're not ready to share what  
25 those increases will be then... so you... so help, help

2 us better understand for our constituents what this  
3 means for their pocket?

4 ANTHONY FIORE: So... [cross-talk]

5 COUNCIL MEMBER PERKINS: In dollars and  
6 cents if you can because that's, that's what this is  
7 about.

8 ANTHONY FIORE: So, so we, we can do... try  
9 to answer that to the best of our ability because we  
10 don't have all that data... [cross-talk]

11 COUNCIL MEMBER PERKINS: Okay, just...  
12 [cross-talk]

13 ANTHONY FIORE: ...available to us, right  
14 and so what we've... what we do have available to us  
15 are energy price forecasts, okay and forecasts are as  
16 good as forecasts are but when we... when we looked at  
17 the energy forecast prior to the announcement of  
18 Indian Point closing and then we look at the energy  
19 forecast post Indian Point closing there was no  
20 discernable increase in, in those costs.

21 COUNCIL MEMBER PERKINS: So, what, what,  
22 what... why is that... why did that... why was there no  
23 discernable increase, what, what was done that sort  
24 of mitigated the... [cross-talk]

2 ANTHONY FIORE: So, so the, the forecast  
3 look at a lot of different variables but the, the  
4 cost of fuel is one, the announcements of, of new  
5 generation coming online, announcement of generation  
6 coming offline and so forth and so when it... when the  
7 taking all those variables into consideration for  
8 what is known today those forecasts did not change  
9 prior... from prior to Indian Point announcement  
10 closing to after. There are lots of things that can  
11 happen between now and then that could change that  
12 and we share... [cross-talk]

13 COUNCIL MEMBER PERKINS: Change it for  
14 the better or change it change it for the worse?

15 ANTHONY FIORE: In either direction.

16 COUNCIL MEMBER PERKINS: So this is  
17 spooky because it doesn't... it doesn't quite assure  
18 folks of when... how do... how do... how do folks prepare  
19 for this if they don't know, if you don't know which  
20 way it's going?

21 ANTHONY FIORE: That is... that is no  
22 different today than it was yesterday, the, the  
23 energy markets are, are dynamic, there, there are..  
24 [cross-talk]

2 COUNCIL MEMBER PERKINS: You're saying  
3 they're unpredictable?

4 ANTHONY FIORE: To a large degree...  
5 [cross-talk]

6 COUNCIL MEMBER PERKINS: ...then that is...  
7 [cross-talk]

8 ANTHONY FIORE: ...they are... [cross-talk]

9 COUNCIL MEMBER PERKINS: ...not the same  
10 thing as... [cross-talk]

11 ANTHONY FIORE: ...unpredictable... [cross-  
12 talk]

13 COUNCIL MEMBER PERKINS: ...they're... but to  
14 what extent... what, what predictability can you share  
15 with us that we can share with folks that are going  
16 to have the... have to deal with this?

17 ANTHONY FIORE: What... [cross-talk]

18 COUNCIL MEMBER PERKINS: How... [cross-  
19 talk]

20 ANTHONY FIORE: ...what, what we can share  
21 with you is what is publicly available to us and  
22 that's information... [cross-talk]

23 COUNCIL MEMBER PERKINS: ...in dollars and  
24 cents and in terms of the impact for the consumer.

2 ANTHONY FIORE: So, so what's, what's  
3 available to us are information from the, the federal  
4 government through the energy information  
5 administration that has forecasts for energy prices  
6 going forward. Those prices remain low because  
7 natural gas prices remain low. Now that's a forecast  
8 but, but that remains low going out into the  
9 foreseeable future, there are geopolitical forces  
10 that could change that, there are other market  
11 interactions with the opening of, of L and G Exports  
12 that could affect that. So, the sense I'm trying to  
13 give you is that the information that is available to  
14 us today predicts low energy prices going forward but  
15 there are lots of things that influence that and, and  
16 they could change.

17 COUNCIL MEMBER PERKINS: Okay, so I, I, I  
18 guess this is, is still sort of in a situation which  
19 when I have to say the, the community meeting about  
20 this what, what, what would you... what is the message  
21 that I... that we should be discussing that tells them  
22 some good news?

23 ANTHONY FIORE: Well I, I think the good  
24 news is that today the energy forecast is... forecasts  
25 have not changed, they have not changed as a result

1 of a change in federal administration, they have not  
2 changed based on the announcement of Indian Point  
3 closing, they are... they have today still remained  
4 forecasting low energy prices, that's, that's the  
5 good news. Now, you know we are watching these and  
6 there's... you know constantly and you know making sure  
7 that we understand, you know what the forecasts are,  
8 are telling us and predicting and you know we share  
9 the council's concern with energy prices and their  
10 impact on the most, most vulnerable populations and,  
11 and that's why we've worked very hard with our  
12 utility partners to ensure that the low-income  
13 programs keep up with rate increases. Again I'll,  
14 I'll say it... I, I, I've said it before but in this  
15 last rate case an additional 76,000 New York City  
16 residents are now eligible for low income programs in  
17 the Con Edison program, there's approximately 400,000  
18 customers of Con Ed that are in that low income  
19 program and I believe on the electric side the, the,  
20 the rate is about 31 percent... or 13... I'm sorry, 13  
21 percent of, of the average customer's bill. On the  
22 gas side its approximately 31 percent discount level.  
23 So, so those have all been increases that we've  
24

2 achieved to try to keep up with that and protect the  
3 most vulnerable populations.

4 COUNCIL MEMBER PERKINS: So, you're... but,  
5 but in the event, that it's too much for the most  
6 vulnerable what do we do in... just in case?

7 ANTHONY FIORE: I, I think we continue to  
8 work through the... through the rate cases and through  
9 the PSC to ensure that the energy burden on those  
10 populations are, are not something that pushes them  
11 further down and pushes more people into that  
12 category. That's not good for anyone, it's not good  
13 for the utility companies... [cross-talk]

14 COUNCIL MEMBER PERKINS: So how do we  
15 mitigate that... how do we mitigate that assuming the  
16 worst-case scenario that such an unfortunate  
17 circumstance should prevail, how do we mitigate that?  
18 I... because we're... I'm more concerned about the, the  
19 folks that can't manage it and so how do we... how do  
20 we help them, what, what, what do... what is our  
21 responsibility towards helping them?

22 ANTHONY FIORE: Again, its, it's through  
23 the proceedings with the utilities to make sure that  
24 the low-income programs are, are helping those, those  
25 populations.

2 COUNCIL MEMBER PERKINS: Okay, so I guess  
3 you'll help us manage that with them.

4 ANTHONY FIORE: Absolutely.

5 COUNCIL MEMBER PERKINS: Okay...

6 ANTHONY FIORE: Yes.

7 COUNCIL MEMBER PERKINS: Thank you.

8 CHAIRPERSON TREYGER: Thank you Council  
9 Member and just to build on some of the good points  
10 by my colleague it, it appears that the city is  
11 saying that its really so much at the mercy of  
12 external forces, is that correct, that you're at the  
13 mercy of state actions or inactions, federal actions  
14 inactions, global markets, is that correct?

15 ANTHONY FIORE: When you're talking about  
16 energy prices... [cross-talk]

17 CHAIRPERSON TREYGER: Correct... [cross-  
18 talk]

19 ANTHONY FIORE: Certainly, we, we don't  
20 have control over energy prices.

21 CHAIRPERSON TREYGER: Right. So many...  
22 typically the city has an attitude which, which we  
23 appreciate to the extent possible that we're not  
24 going to wait for Albany or we're not going to wait  
25 for Washington, we're going to try to lead the way,

1                    what, what are... what can we do that we're not doing  
2  
3                    now to lessen our dependence on these external forces  
4                    and to create renewable sources of energy right here  
5                    within our city jurisdiction?

6                    ANTHONY FIORE: So, I don't think it's,  
7                    you know as simple as creating generation in the city  
8                    by itself, we, we are working very hard to increase  
9                    the amount of distributed generation throughout the  
10                    city, most... mainly solar at this point because that's  
11                    what fits best into this urban landscape and prices  
12                    for that technology have fallen considerably over  
13                    time so the Mayor's Office has piloted a, a New York  
14                    City Solarized Program in community board six. Last  
15                    year that exceeded the, the targets that were set for  
16                    it, we've been working with the state to change the  
17                    regulations around community shared solar to better  
18                    fit New York City specifically because it is so much  
19                    different than the, the rest of the state. We've been  
20                    successful on that, we are working with the state  
21                    and... to ensure that the value of distributed solar  
22                    generation takes into account the environmental  
23                    benefits as well as social benefits that are  
24                    associated with it and, and beyond in-city  
25                    distributed generation we believe that there needs to

2 be more transmission into the city so that the city  
3 has access to more clean, lower cost generation  
4 upstate and, and elsewhere. We've been working with  
5 the state and the federal government to identify wind  
6 energy areas off shore of Long Island and New Jersey  
7 and that work continues so that can begin to supply  
8 the city as well. So, we're working on a number of  
9 different fronts to... [cross-talk]

10 CHAIRPERSON TREYGER: I mean I... [cross-  
11 talk]

12 ANTHONY FIORE: ...control that... [cross-  
13 talk]

14 CHAIRPERSON TREYGER: ...I'm not... this... for  
15 the purpose of this hearing I'm not going to delve  
16 too far off topic but one thing I really haven't  
17 heard you say is about how do we make our, you know  
18 building codes and, and other types of things more  
19 energy efficient to the point that we are  
20 significantly using less energy and being a lot more  
21 efficient? There are already international standards  
22 about energy efficiency that I hear people praising  
23 but I'm not sure if they're being implemented as, as  
24 far as... and again I understand that there are factors  
25 involved in that but that's where... that's where I

2 think we need to be thinking about too, how do we  
3 also find ways to, to use less, be more efficient and  
4 to find more renewable sources of energy.. [cross-  
5 talk]

6 ANTHONY FIORE: I'd like to say we.. that  
7 we agree with you completely and we are working on  
8 the energy efficient front as, as well.

9 CHAIRPERSON TREYGER: Right, we, we need  
10 to see some concrete steps. Now my colleague, Council  
11 Member Margaret Chin.

12 COUNCIL MEMBER CHIN: Thank you Chair. I  
13 would like to also follow up with what the Chair's  
14 been talking about because in your testimony I was  
15 looking through it, I'm really happy to see the  
16 emphasis on renewable energy and especially solar  
17 energy and I would really like to see that program  
18 expand and get underway quicker because I know that  
19 we're talking about right now you just kicked off a  
20 project to provide solar power to 88 city owned  
21 buildings, we have a lot more city owned buildings  
22 and a lot of schools so really should.. I mean are you  
23 like targeting a time line to get maybe every school  
24 use, using solar energy, all the office.. city office  
25 buildings and also to create some incentive for

2 private buildings because I think that's something  
3 that really to get the whole city behind because I  
4 think that by all of us working together we could  
5 lower the energy cost but at the same time we can  
6 really, you know play a lead in being more energy  
7 efficient and also creating everyone to take part in  
8 conserving energy because... I mean things that we're,  
9 we're taught, you know early, early on, I mean we  
10 should still do that, when you leave a room turn off  
11 the light, right, brushing your teeth, turn off the...  
12 turn off the water. So, the things that we should all  
13 be practicing and especially with the kids in the  
14 school. So, in the solar energy front how are... how  
15 are you working with the city council, let's say how  
16 can we work together to sort of like speed up the  
17 time line and really get that going as quickly as  
18 possible?

19 ANTHONY FIORE: So, we, we share your  
20 enthusiasm for, for renewables and for efficiency and  
21 thank you Chair Treyger for, for bringing that up in  
22 this hearing because it is extremely important. So,  
23 the city has a 100-megawatt goal for rooftop solar  
24 for city buildings by 2030, we do expect to achieve  
25 if not exceed that goal. The city had announced last

2 fall a new citywide target for 1,000 megawatts of, of  
3 rooftop solar and a 100-megawatt hour energy storage  
4 goal which combined with, with solar can reduce, you  
5 know peak demand, help the grid in times of, of  
6 constraint, lower energy costs for those buildings  
7 that employ that. We are working with the Department  
8 of Education and the school construction authority  
9 and for every new school that's built or schools that  
10 has a roof renovation whenever it is practical solar  
11 will be installed on those roofs and we also have  
12 training programs put in place. We are working with  
13 the Department of Education for renewable energy  
14 curriculum in their STEM program, the science  
15 technology engineering and, and mathematics program.  
16 So that, that is being rolled out to schools all  
17 across the city and in addition to that we're working  
18 with some of the technical schools to actually  
19 provide applied training for those students through  
20 their electrical classes to be qualified to enter  
21 into the, the solar industry when they.. when they  
22 graduate.

23 COUNCIL MEMBER CHIN: Any, any progress  
24 with the private sector in terms of getting  
25 commercial building to be more efficient and not, you

1 know light up... I mean we... New York City looks  
2 beautiful at night with all the buildings lighting up  
3 but is there a way to work with them to not use so  
4 much electricity but still make the city beautiful at  
5 night?  
6

7 SUSANNE DESROCHES: So, the one point  
8 about solar that I wanted to make on the private  
9 sector was that in fact we have about four times the  
10 amount of solar installed in the city than in pre-  
11 2014 so that's about 105 megawatts of solar and 8,300  
12 installations. So that's quite, quite an achievement  
13 and that's a combined number so that includes the  
14 private sector.

15 COUNCIL MEMBER CHIN: But what about... is  
16 there any work towards working with the private  
17 buildings to sort of conserve energy conservation?

18 ANTHONY FIORE: Yeah... yes, there, there,  
19 there are, are many programs that the, the Mayor's  
20 Office is running, I... one that I'd like to highlight  
21 is, is the Retrofit Accelerator. This is a program  
22 that connects building owners with technical  
23 resources and financial resources to implement energy  
24 efficiency measures, it, it, it provides, you know  
25 use cases to demonstrate to building owners the, the

2 benefit to them from actually making these  
3 investments and then it connects them also to  
4 financial resources to help put the capital in place  
5 to actually fund, fund the projects.

6 COUNCIL MEMBER CHIN: Which agency is  
7 managing that, is it... [cross-talk]

8 ANTHONY FIORE: So, that's, that's the  
9 Mayor's Office of Sustainability.

10 COUNCIL MEMBER CHIN: Oh okay, so it's  
11 not... is it connected together with HPD or... [cross-  
12 talk]

13 ANTHONY FIORE: Yes, they, they are  
14 connected with HPD through some of H, HPD's programs.  
15 They, they work with many different city agencies in  
16 implementation of, of that program but its, its  
17 geared at, at the, the private sector.

18 COUNCIL MEMBER CHIN: Great, thank you.  
19 Thank you.

20 CHAIRPERSON TREYGER: Thank you Council  
21 Member. What part of the city's power system,  
22 generators, transmission, infrastructure,  
23 distribution infrastructure needs to be improved the  
24 most in order to deliver cheaper more reliable green  
25

1 energy to the city over the long term, has there been  
2 an analysis of that?

3 ANTHONY FIORE: So, generally speaking  
4 generation that is produced in city is more expensive  
5 than generation produced outside of the city and  
6 that's a result of the higher cost to build and  
7 operate within, within the city. So that... [cross-  
8 talk]

9 CHAIRPERSON TREYGER: Can you explain why  
10 is it more expensive if its... if it's in the city, I'm  
11 just curious?

12 ANTHONY FIORE: There are... there are many  
13 factors that lead to that, I mean you know from, from  
14 the simplest things as logistics, transportation cost  
15 to move... [cross-talk]

16 CHAIRPERSON TREYGER: If it's in the  
17 city?

18 ANTHONY FIORE: To move materials into  
19 the city, absolutely.

20 CHAIRPERSON TREYGER: So, you're saying  
21 that energy from upstate New York somehow cheaper for  
22 us to, to utilize than energy from within the five  
23 boroughs?

2 ANTHONY FIORE: So, energy that's  
3 generated upstate is cheaper than energy that's  
4 generated in the city.. [cross-talk]

5 CHAIRPERSON TREYGER: But you said  
6 transportation.. [cross-talk]

7 ANTHONY FIORE: ...at utilities.. [cross-  
8 talk]

9 CHAIRPERSON TREYGER: ...cost so I, I  
10 wonder.. [cross-talk]

11 ANTHONY FIORE: ...so we're talking about  
12 development of new generation, you asked about..  
13 [cross-talk]

14 CHAIRPERSON TREYGER: Okay, okay.. [cross-  
15 talk]

16 ANTHONY FIORE: ...new, new generation so..  
17 [cross-talk]

18 CHAIRPERSON TREYGER: ...right.. [cross-  
19 talk]

20 ANTHONY FIORE: ...it costs more to build  
21 in New York City than it does to build in, you know  
22 upstate New York or.. [cross-talk]

23 CHAIRPERSON TREYGER: ...okay.. [cross-talk]

24 ANTHONY FIORE: ...in Pennsylvania.  
25

2 CHAIRPERSON TREYGER: Okay. And we hear a  
3 lot about off shore wind and is it likely that there  
4 will be large off shore wind projects that will  
5 provide power to the city in the future, I mean if  
6 you can give us an, an update on that?

7 ANTHONY FIORE: I, I think it, it is  
8 absolutely likely that that will happen. The first..  
9 [cross-talk]

10 CHAIRPERSON TREYGER: When.. [cross-talk]

11 ANTHONY FIORE: The first off shore wind  
12 project in the United States became operational last  
13 year, that's off of the Coast of Rhode Island. The  
14 Long Island Power Authority approved a 90-megawatt  
15 offshore wind project earlier this year that will be  
16 serving the South Fork of Long Island. We.. the city  
17 worked with our state and federal partners to have  
18 the first wind energy area off of Long Island  
19 identified and have an auction to hold that lease at  
20 the end of last year. So that will be the.. that, that  
21 is likely to be the first site developed although we  
22 are continuing to work with the state and the federal  
23 government to identify additional wind energy areas  
24 off of the coast of New York and New Jersey that  
25 could supply the city, you know I can't give you a

2 definitive answer of when the first project that  
3 would serve the city would come online but what  
4 we're... if we're looking at... there's a... there's a wind  
5 energy area, there's a lease for that that's being  
6 held and if we look at the development cycle and  
7 permitting cycle probably around mid-2020's would be  
8 the first opportunity for, for offshore wind to  
9 actually be supplying power to the city. It... you know  
10 there, there's a long process to do the environmental  
11 analysis as you can imagine to actually build these  
12 projects but that could be a project of up to 700  
13 megawatts and the state has announced that it is  
14 looking for 2.4 gigawatts of offshore wind to be  
15 built and to serve the state which would be delivered  
16 to New York City and Long Island. So, it, it is... we,  
17 we believe it will absolutely come.

18 CHAIRPERSON TREYGER: And... but you're  
19 saying you're, you're, you're assuming you're not  
20 confident that this is happening in the near future,  
21 this is still you're saying maybe a decade or so  
22 away, is that correct?

23 ANTHONY FIORE: Ten, ten years, seven,  
24 seven to ten years and that's, that's typical of  
25 large capital construction cycles.

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CHAIRPERSON TREYGER: Yeah, I know it takes about four or five years to build a bathroom in a park in New York City so I, I can imagine what it'll be to, to build off shore wind. I, I, I just... a couple of... couple of things just to, to reiterate and just to emphasize here is that I am... I am concerned about these transition periods, the gaps in between them who bears the brunt of the costs of these gaps. I'm also... if, if I can get a definitive answer from you about as we're moving in this direction let's say ten years from now hopefully, these wind farms are, are, are functioning and giving... providing us power is this... certainly this is renewable sources of energy but is this going in your... in your expertise and your estimation is this going to also translate into lower costs for families in New York, what is that do as far as cost?

ANTHONY FIORE: So, off shore wind specifically is still very costly, the supply chain for that does not exist in the United States so it can be expected that the first projects will be supplied from Europe where there's an established and mature supply chain. The, the state can take action, policy action and we are advocating for such that can

2 help mitigate those costs but the first projects will  
3 still be expensive and, and that's a relative  
4 measure, right and, and that's because prices for  
5 natural gas today are so low. That's a... that's a good  
6 thing for your pocket, right, it's not the best thing  
7 for our environment but that's the reality of the  
8 prices today... [cross-talk]

9 CHAIRPERSON TREYGER: And folks have to  
10 remember that natural gas is also a fossil fuel which  
11 means it's not infinite and, and, and so you know I,  
12 I understand people... I get it, people have... there,  
13 there's a sense of well it's cheaper, its, it's good  
14 for now but we have an obligation and moral  
15 obligation to also inform the public that this is not  
16 an infinite source of energy, at some point it's  
17 going to run out and we need to start taking steps  
18 right now. Now you're saying that Europe... there are  
19 parts of Europe that are already moving... or already  
20 moved into the wind direction and we've been... I, I  
21 feel like I've been hearing about... I've been... I  
22 taught government for almost a decade before I  
23 entered the council, we... I've been talking about  
24 this, hearing about this for years from government,  
25 from national leaders in this and we're still lacking

1 in capacity, we're still just talking about it and  
2 making announcements in my opinion and we're just...  
3 we're still not there and I, I... I'm not... this is not...  
4 I'm not putting this at the feet of the city because  
5 a lot of people have responsibility here but its,  
6 it's fascinating to me how much we've been talking  
7 about this for so many years and we're still not in  
8 the implementation phase and its, it's very, very,  
9 very frustrating. You did mention about curriculum in  
10 schools because this is something that's also very,  
11 very important to me that as we're shifting in this  
12 direction we're building capacity of our... of our  
13 children and, and of our public-school students and,  
14 and our residents to be the ones that will actually  
15 build these new technologies, install these new  
16 technologies, maintain them to have... to work with,  
17 with labor, to continue opening doors for  
18 opportunities for, for our residents. This has been  
19 really, really important, there are some schools that  
20 we're still building carburetors that will probably  
21 be obsolete 20, 30 years from now and we need to  
22 shift them in their focus to towards these renewable  
23 sources of energy. So I think it's a good start but I  
24 will tell you I will continue to advocate for more  
25

2 investments in our school system to build capacity  
3 for, for our kids and, and, and for the future to  
4 continue working with labor that these are also going  
5 to be good paying jobs for people and, and careers  
6 and last point I'll, I'll say because I've, I've  
7 heard it a lot from my residents and I've actually  
8 had a... you know I've, I've seen some of this stuff  
9 happen in, in my own, you know community where a...  
10 there are reports... still reports of energy service  
11 companies called ESCO's if you're familiar with them,  
12 that are targeting low income family seniors in New  
13 York City for services often using deceptive  
14 marketing practices and charging much higher rates.  
15 So, first you know how are we kind of dealing with  
16 that today but is there going to be a larger market  
17 for these companies as the city begins to use new  
18 electric power sources and if so is the  
19 administration working with the... with the PSC to  
20 address this ongoing concern?

21 ANTHONY FIORE: Yeah... yes and, and the  
22 Mayor certainly shares your concern and has been  
23 advocating for better enforcement of ESCO practices  
24 for a very long time and there is a proceeding that  
25 is open now at the public service commission, we've

2 been working with, with the state in just that in, in  
3 make... changing the framework, changing the rules and  
4 changing the regulations to prevent those practices  
5 from occurring and at, at this point the, the state  
6 has gone so far as to almost shut down that industry  
7 within New York State to the extent that these ESCO's  
8 are litigating some of the orders that the commission  
9 have, have set down. So, we continue to support the,  
10 the commission in rules that enforce protect..  
11 consumer protection. We do think that there is a role  
12 for ESCO's to play in a state to make sure that there  
13 are competitive markets that stay in place they.. the  
14 rules have to be in place, the enforcement has to be  
15 in place to make sure that those deceptive practices  
16 are, are, are not happening not only here in, in New  
17 York City but throughout, throughout the state.  
18 We're... we feel very strongly and are completely  
19 aligned with you there.

20 CHAIRPERSON TREYGER: But is, is the city  
21 taking any measures to address these particular  
22 entities, I mean we have consumer affairs... [cross-  
23 talk]

24 ANTHONY FIORE: Yes... [cross-talk]

2 CHAIRPERSON TREYGER: So can you speak to  
3 what we're doing to educate people about... because  
4 they literally knock on your door and, and they start  
5 talking to you right there and then saying how this  
6 is going to be much cheaper, much cheaper and then  
7 folks complain that within a couple of months their  
8 bills are much higher and they're not using more  
9 energy, they're just getting billed for additional  
10 things so what are we doing from our end?

11 ANTHONY FIORE: Yeah, unfortunately I  
12 can't speak to what DCA themselves are, are doing, we  
13 can speak with them and get back to you on that. I  
14 can tell you that they have participated in the  
15 proceedings at the state level as well but for what  
16 specific actions they're taking here in the city  
17 we'll get back to you with that information.

18 CHAIRPERSON TREYGER: Okay and I, I know  
19 one of my colleagues has a question and I just want  
20 to just circle back and, and just say to you that we  
21 have to examine what's within our control, what's,  
22 what's within our reach and I heard you before  
23 mention that there are certain taxes and fees  
24 incurred on some of these bills and all these things,  
25 whatever we can do to mitigate the cost for seniors,

1                   for, for vulnerable New Yorkers, low income New  
2                   Yorkers and how we even define what low income means  
3                   because at... that, that also becomes subject for  
4                   debate but for, for vulnerable families, seniors,  
5                   people on fixed incomes, working folks that are  
6                   really struggling to make ends meet I, I think we're  
7                   going to have to take a very hard look and think...  
8                   take some steps to address what I... what I see as, as  
9                   a looming financial storm. My colleague Councilman  
10                  Deutsch is here and, and he has a question.

12                  COUNCIL MEMBER DEUTSCH: Thank you Chair.  
13                  Good afternoon. So, I represent Southern Brooklyn,  
14                  parts of Southern Brooklyn which is a waterfront  
15                  district as my colleague, Council Member Treyger. So,  
16                  in my district we have... includes Sheephead Bay,  
17                  Brighton Beach, and Hampton Beach. Now over the last  
18                  three and a half or plus years we had issues with the  
19                  light flickering, power outages, I know that Con Ed  
20                  has put in money to the infrastructure which has, has  
21                  become less common now than before in my particular...  
22                  my particular district what I'm concerned about are...  
23                  because of all... like for example just yesterday we  
24                  had high winds and high tide and you never know when  
25                  the power goes out and being that's in Southern

1  
2 Brooklyn we have a high... a senior population and  
3 especially when you have people that are on life  
4 sustaining equipment so if there is a power outage  
5 and they're... they don't... they're not registered with  
6 Con Ed, right that's one thing. So... phase one would  
7 be like to, to register your residence with Con Ed or  
8 your apartment with Con Edison so this way they know  
9 that they can send an emergency services to that  
10 particular apartments or, or private home or  
11 building. So, when you... when you... we look at solar  
12 panels my concern is that we should look at those  
13 that on life sustaining equipment this way or... number  
14 one even for those that do call in and register with  
15 Con Edison and number two, for those that don't  
16 because they may not... they may not know about it,  
17 that's what's important throughout the beach. So,  
18 what do you think can be done, will it be done and  
19 number one in regard to outreach to senior citizens,  
20 outreach to the people that are on life sustaining  
21 equipment's, outreach to hospitals when people get  
22 discharged from the hospital or are on equipment they  
23 should be told and number two is regarding solar  
24 panels for those that are more vulnerable to it... to  
25 it.

2 ANTHONY FIORE: So, you're, you're right  
3 the first step would be to make sure that they're  
4 registered with, with Con Ed also New York City  
5 emergency management has a... has a role to play there  
6 as well. I think, you know your question about solar  
7 as the city is now kicking off programs to pair solar  
8 with energy storage and, and that's what would really  
9 be important for those situations so that no matter  
10 what time of day it is that there would be some power  
11 available to them so it... you know if they are on life  
12 sustaining equipment there, on life sustaining  
13 equipment during the during night and so pairing  
14 energy storage with solar panels would be really  
15 important for that. The city has been... the Mayor's  
16 Office of Sustainability has been working very  
17 closely with the Department of Building and the Fire  
18 Department as well as Con Ed on, on energy storage  
19 technology and having the different battery  
20 technologies approved for use in, in the city as you  
21 can imagine, you know the city's very dense, there  
22 are certain battery technologies that have been  
23 susceptible to spontaneous combustion and so there's  
24 a real concern that the, the right life safety  
25 apparatus are in place to make sure that these

1 systems are safe and, and Con Ed will, will be  
2 testifying today as well and they've, they've  
3 commissioned a, a study looking at a number of  
4 different battery technologies, we've been working  
5 with them on the results of that research and sharing  
6 that with the Fire Department to get them more  
7 comfortable with that technology and that is  
8 something that will happen, we're, we're going to see  
9 that happen, it's, it's not you know ready for mass  
10 market today in the city but we are kicking off  
11 projects. Partner Citywide Administrative Services  
12 will be initiating, initiating 18 projects this year  
13 that combine solar with energy storage mostly at, at  
14 schools but this will provide the use cases and, and  
15 test bed to lead to that, that market penetration  
16 that will help in, in the exact situations that  
17 you're talking about.

19 COUNCIL MEMBER DEUTSCH: So, what's the  
20 reason for the pilot project at the schools?

21 ANTHONY FIORE: It's to demonstrate the,  
22 the technologies, there's many different types of  
23 battery storage, different chemistries, it's to  
24 demonstrate their usefulness, it's to demonstrate the  
25 safety of those and so there, there are... you know

2 very stringent protocols in place for these pilot  
3 programs so that we can build those use cases.

4 COUNCIL MEMBER DEUTSCH: No, why did they  
5 choose the schools?

6 ANTHONY FIORE: It's one, schools have  
7 very good roofs for solar, you, you need... you need a,  
8 a good roof for that, they have space generally  
9 speaking for the batteries themselves and often these  
10 schools serve as places of refuge for our residents  
11 during times of, of natural disasters and so it's to  
12 have that available.

13 COUNCIL MEMBER DEUTSCH: Are these  
14 schools listed as an evacuation center, these 15  
15 schools?

16 ANTHONY FIORE: I can get you the list of  
17 schools and we can look at that, I don't have that in  
18 front of me at the moment.

19 COUNCIL MEMBER DEUTSCH: Okay, thank you.

20 ANTHONY FIORE: You're welcome.

21 CHAIRPERSON TREYGER: Okay, thank you. I,  
22 I do just have one, one last follow up question  
23 because I think we're hearing from Con Edison next,  
24 has there been an, an examination done by your  
25 offices with regards to the Mayor's Housing Plan and

1  
2 how that impacts energy demands and energy issues in,  
3 in, in the city, bottom line we hear a lot in, in any  
4 discussion of rezonings or any discussion of adding  
5 additional density is always a concern but  
6 infrastructure in a neighborhood has there been an  
7 examination about capacity whether... I mean because  
8 again we're talking about by 2022 or 2021 somewhere  
9 in the vicinity Indian Point closing or supposed to  
10 be closing and then we're shifting, I'm just curious  
11 has there been an analysis done about our capacity to  
12 support all the new development that's happening  
13 around the city?

14 ANTHONY FIORE: So, the Mayor's Office of  
15 Sustainability has been working with Department of  
16 City Planning as well as our utility partners to look  
17 at load forecasts and growth in certain neighborhoods  
18 and you know I think... I think in the past energy  
19 infrastructure may not have been considered or it may  
20 have been considered last but certainly I think that  
21 is changing now that you... this... the Mayor's Office is  
22 taking a, an active role in connecting the dots so to  
23 speak with what the utilities are, are predicting in  
24 load forecasts, what the city is predicting in growth  
25 areas and combining those two together to make sure

2 all the infrastructure that's necessary to support  
3 that growth is in place in, including energy  
4 infrastructure and water and sewer infrastructure and  
5 telecommunications and, and so forth.

6 CHAIRPERSON TREYGER: But, but is there a  
7 definitive answer about is capacity... is capacity  
8 there to sustain this, this amount of development?

9 ANTHONY FIORE: So, it depends where  
10 you're... where you're talking about and it's very...  
11 it's very region specific and, and so what I... what I  
12 can tell you is that that analysis is done now when  
13 there, there's growth identified, growth areas  
14 identified.

15 CHAIRPERSON TREYGER: Well to me I look  
16 at the city as one like so we all should have  
17 capacity, I mean in, in, in my neighborhood for  
18 example during Sandy we had a major issue with Coney  
19 Island Hospital, their, their ER and others... their  
20 infrastructure was severely damaged and, and patients  
21 had to be then transferred to other parts of Brooklyn  
22 so... and central Brooklyn was not as impacted as... from  
23 Sandy as the coastal areas of Brooklyn so it impacts  
24 them too so we're kind of interconnected but overall  
25 there should be... capacity should be there, I mean

2 that... it... we should have a citywide focus of capacity  
3 in general and the, the Mayor's plan doesn't specify  
4 only certain areas of this housing, he's looking for  
5 opportunities across the city to build additional  
6 affordable housing so I, I, I just think that we need  
7 to make sure that capacity... as residents... at every...  
8 almost every community board meeting you go to in the  
9 city of New York whenever there's talk of development  
10 there's, there's always going to be a question about  
11 do we have the infrastructure which is a very valid  
12 question... [cross-talk]

13 ANTHONY FIORE: Absolutely... [cross-talk]

14 CHAIRPERSON TREYGER: ...and that's your  
15 sewer system, that's your... and that's also an issue  
16 of, of our energy supply so I just think that we need  
17 to be very, very mindful of that. Yes, my colleague  
18 has one last question... [cross-talk]

19 COUNCIL MEMBER PERKINS: As far as the...  
20 [cross-talk]

21 CHAIRPERSON TREYGER: ...yes...

22 COUNCIL MEMBER PERKINS: ...[off mic] 18  
23 projects at schools is that... is, is that list  
24 available and places of reference...

2 ANTHONY FIORE: We, we will make that  
3 list available to you Council Member.

4 CHAIRPERSON TREYGER: Okay, thank you  
5 very much and we thank the administration for their  
6 time.

7 ANTHONY FIORE: Thank you.

8 CHAIRPERSON TREYGER: Next I'd like to  
9 call up Patrick McHugh from Con Edison and a familiar  
10 face around City Hall, Kyle Kimball from Con Edison.  
11 Do you... I don't know if... for sure if you or Kyle,  
12 Kyle have any opening remarks or...

13 PATRICK MCHUGH: I, I have the opening  
14 remarks...

15 CHAIRPERSON TREYGER: Oh, great. So, you  
16 may begin, sure, thank you.

17 PATRICK MCHUGH: Okay, so good afternoon  
18 Chairman Treyger and members of the committee. I am  
19 Patrick McHugh, Vice President of Engineering and  
20 Planning at Con Edison. I'm grateful for the  
21 opportunity to come before this committee once again  
22 to update you on the status of Con Edison's storm  
23 hardening efforts. Mr. Chairman, I'm pleased to  
24 report to you and the committee members that Con  
25 Edison's one-billion-dollar storm hardening program

1 was completed at the end of 2016. When I came before  
2 you in 2015, I recounted the events of October 29<sup>th</sup>,  
3 2012, when Superstorm Sandy struck our region,  
4 devastating our communities and our energy systems.  
5 As we all recall only too well, this historic.. this  
6 storm brought historic flooding and sustained high  
7 winds, resulting in outages to over one million  
8 customers. The 13,000 men and women of Con Edison,  
9 some of whom had their own houses affected, worked  
10 diligently around the clock supported by utility  
11 workers from around the country until all customers  
12 were restored. Almost immediately afterwards, we  
13 began developing a comprehensive storm hardening  
14 plan. We worked collaboratively with the New York  
15 State Public Service Commission, the city,  
16 environmental groups, and other stakeholders to find  
17 the best way to protect ourselves when another storm  
18 hits. Today, we are better prepared, we are better  
19 equipped, and we are better trained to withstand the  
20 onslaught of another Sandy, thanks to the four year,  
21 one-billion-dollar capital investment program for our  
22 electric, gas, and steam systems. We have completed  
23 storm hardening efforts in communities throughout the  
24 five boroughs. Across the board, New York City is a  
25

1  
2 safer and more secure place because of these  
3 investments. These investments have been guided by  
4 four principles. One, protect infrastructure from  
5 exposure to hazards, such as flooding or, or tree  
6 damage. Two, harden components to withstand being  
7 affected by a hazard, such as wind, or a falling tree  
8 branch or a tree. Three, lessen the impact to the  
9 overall system if a component does fail and four,  
10 facilitate restoration by doing several things;  
11 quickly locate and assess damage, prepare equipment  
12 to be restored and improve communication about our  
13 restoration plan and progress. The efforts are  
14 already paying dividends for the residents of New  
15 York City. For example, the work on our overhead  
16 system has already prevented more than 107,000  
17 customer outages. Flooding from Sandy caused major  
18 damage to the Con Edison's underground electrical  
19 infrastructure, particularly in the low-lying areas  
20 causing significant customer outages. We have  
21 replaced more than 850 pieces of equipment in these  
22 flood prone areas with submersible equipment that can  
23 withstand flooding. We have also redesigned  
24 underground electrical networks using smart grid  
25 technologies in areas like the flood.. the flood-prone

1 parts of Brooklyn and Lower Manhattan. During Sandy,  
2 flooded equipment caused outages to customers outside  
3 of the flood zone in these areas. Now, streets at  
4 higher elevations can retain their electric service  
5 during a flood event like Sandy. If major flooding  
6 required a system shutdown or a network shutdown in  
7 advance, fewer customers would be affected because of  
8 these re-engineered networks. To accomplish this and  
9 protect our underground systems, we've installed  
10 close to 35 underground, submersible isolation  
11 switches with remote control capabilities and close  
12 to 400 submersible network protectors. By reducing  
13 the number of customers served on each segment,  
14 feeder segment on the overhead, we minimize the  
15 impact when a tree falls and pulls down an overhead  
16 line. With our new... with our new system design, fewer  
17 customers are affected. We've also improved  
18 resiliency on targeted supply circuits, with design  
19 changes like stronger poles and more resilient cable.  
20 We've taken numerous other steps to avoid outages  
21 during major storms. An example... as an example, an  
22 overhead line can extend for several miles. We've  
23 installed close to 500 smart switches in the city of  
24 New York that can identify and isolate a problem  
25

1 instead of affecting an entire overhead line. We've  
2 also installed almost 1,900 electrical devices that  
3 isolate and clear faults on smaller line segments  
4 without taking out the whole line. These  
5 installations make the affected area smaller in  
6 scope. This translates to fewer homes and businesses  
7 losing power during storms. These designs will  
8 improve performance during adverse conditions and  
9 will allow for faster restoration if service does get  
10 interrupted. To further protect critical equipment in  
11 electrical substations and steam generating stations,  
12 we've built more than 3.3 miles of flood walls around  
13 these facilities. Sandy shut down an unprecedented  
14 six transmission substations and 11 area stations.  
15 Salt water caused extensive damage to equipment used  
16 to monitor and operate the electric system. We  
17 reinforced the station perimeter walls and installed  
18 barriers and gates, each Con Edison facility is now  
19 protected from potential flood waters that can affect  
20 station operations. With this program's completion,  
21 21 substations and generation stations are protected.  
22 Additional efforts continue with the East 13<sup>th</sup> Street  
23 substation. Once complete, we will have raised the  
24 Control Room, installed additional high voltage  
25

1 circuit breakers, and completed a fiber optic  
2 protection system, all of it exceeding FEMA  
3 standards. Because of this intricate electrical work  
4 involved, it will be completed in 2019. In addition  
5 to these capital programs, we also are focused on  
6 training and planning for storms. We have trained our  
7 employees in the field with tablets so they can  
8 quickly provide damage assessments. These damage  
9 assessments are electronically submitted to planning  
10 groups that facilitate even quicker, quicker  
11 restoration efforts and repairs. Quicker damage  
12 assessment means quicker and more accurate  
13 dispatching of field forces that reduces restoration  
14 times. We are also working closely with New York  
15 City's Emergency Management, often conducting joint  
16 exercises and seminars. This way, both city and Con  
17 Edison emergency management groups are personally  
18 acquainted. We conduct our drills jointly and both  
19 emergency management teams are present during each  
20 other's drills. And of course, we coordinate closely  
21 with them during actual outage events. Communication  
22 with our customers is critical during storms, and we  
23 have made it easier for customers to contact us.  
24 Customers can communicate with us through texting or  
25

1 on other social media platforms. They can obtain  
2 information about service interruptions more easily  
3 through their devices via our outage map. Our  
4 redesigned website is easier for customers to use. It  
5 is easier to get updates or other information,  
6 especially during the storms. A highlighted "Call to  
7 Action", posted only during storms makes it easier to  
8 see what's important in order to stay safe. During  
9 this process, we also have communicated with large  
10 customers and building owners about how they can  
11 protect... best protect their equipment. It doesn't  
12 matter if we have power available to furnish to our  
13 customers if they are not in the position to accept  
14 it. We have undertaken this process with the  
15 knowledge that we all face these challenges together,  
16 and we will meet them together. What we have  
17 accomplished has made the city safer. It has involved  
18 effective collaboration. It has changed how Con  
19 Edison works with others. It has provided a new  
20 blueprint for the way we will work with others going  
21 forward. We've incorporated lessons learned. We have  
22 modified design specifications. We are now using new  
23 criteria in our designs. All of our... all our  
24 activities have been redesigned to meet new  
25

1 challenges. This July, the Staten Island, Con Edison  
2 will begin a five-year program to install smart  
3 meters throughout our service territory. These meters  
4 will provide customers with information about their  
5 energy use. It will help them use energy more  
6 efficiently and save them money. These meters have  
7 the advantage of letting the company know as soon as  
8 a customer is out of service, decreasing the  
9 company's response time and outage duration. Knowing  
10 that we've worked together to make New York City  
11 stronger and safer has been a rewarding task. We know  
12 that there are new challenges ahead. We are prepared  
13 to meet them and support our customers. Thank you and  
14 I'm happy to answer any of your questions.

15  
16 CHAIRPERSON TREYGER: Thank you very much  
17 and just in your closing remarks you mentioned about  
18 the installation of smart meters in Staten Island  
19 this July, that's... so that kind of caught my eye, we  
20 love Staten Island but we also love the four other  
21 boroughs... [cross-talk]

22 PATRICK MCHUGH: Yes... [cross-talk]

23 CHAIRPERSON TREYGER: So what's the plan  
24 beyond Staten Island?

2 PATRICK MCHUGH: Yes, so the rollout  
3 begins in Staten Island, we work our way then around  
4 the five boroughs, it's a five-year plan. We hit the  
5 Brooklyn... I believe we'll be in Brooklyn in about the  
6 second year of the program.

7 CHAIRPERSON TREYGER: And, and when can  
8 Harlem see, see the program?

9 PATRICK MCHUGH: So... [cross-talk]

10 CHAIRPERSON TREYGER: So, so my colleague  
11 has a... [cross-talk]

12 PATRICK MCHUGH: ...it's, it's, it's... it's...  
13 we start working in multiple areas at the same... you  
14 know we start in Staten Island is where the program  
15 begins, shortly thereafter we move around we go to  
16 Westchester then Brooklyn Queens and then around the  
17 boroughs so...

18 CHAIRPERSON TREYGER: Right and... [cross-  
19 talk]

20 PATRICK MCHUGH: ...and so... [cross-talk]

21 KYLE KIMBALL: It's, it's also just worth  
22 mentioning the reason we're starting in Staten Island  
23 is because it's not something we just picked, it's  
24 that most of the meters in Staten Island are outside  
25 a big part of the... a big portion of the meters are

2 outside so they can be switched out with relatively  
3 little interference with the customer but the higher  
4 density areas like Manhattan, Brooklyn that kind.. and  
5 some of the areas in Brooklyn its... it just requires  
6 more interaction with the buildings and the customers  
7 to get... so it... the Staten Island in many ways was the  
8 easiest for us to get off the ground.

9 CHAIRPERSON TREYGER: But, but what kind  
10 of information will be available to customers now  
11 that's not available right now?

12 PATRICK MCHUGH: So, right now a customer  
13 typically would get a monthly reading of how much  
14 energy they used for the month, one data point. The  
15 new meters would give them basically every 15 minutes  
16 how much energy they're using in their household or  
17 their apartment. So, they would be able to if they're  
18 sit... in the house one day and they're looking at how  
19 much energy am I consuming they can see how much  
20 energy they're consuming on a hot day or a cool day  
21 and see what's really running and what's not running  
22 in their house. So, it's not this one data point at  
23 the end of the month that you get a bill, you can  
24 start seeing your usage on a... on a more moment by  
25 moment basis.

2 CHAIRPERSON TREYGER: Interesting and,  
3 and this is a five-year program, is, is there a cost  
4 associated with it?

5 PATRICK MCHUGH: The cost... there is a  
6 cost, the cost is approximately 1.2-billion-dollar  
7 program... [cross-talk]

8 CHAIRPERSON TREYGER: Uh-huh... [cross-  
9 talk]

10 PATRICK MCHUGH: ...that includes, you know  
11 all the meter installations as well as the  
12 communication system and the back-call system to, to  
13 implement that.

14 CHAIRPERSON TREYGER: So, so obviously,  
15 the next question is, is that going to be part of a  
16 future appeal to... [cross-talk]

17 PATRICK MCHUGH: ...in a sense... [cross-  
18 talk]

19 CHAIRPERSON TREYGER: ...increase rates..  
20 [cross-talk]

21 PATRICK MCHUGH: ...so that... all, all, all  
22 that is in our, our current rates, our current you  
23 know rate plan, you know a lot of the... we have a  
24 business case that we put forward with the  
25 commission, New York City was very intimately

2 involved as, as mentioned earlier with our... with our  
3 rate case and, and the, the business plan for this is  
4 there's a lot of savings that come out of this, this  
5 initiative. When you look at just reading meters,  
6 right, sending people to read meters there's a cost  
7 to that, there's customer savings that they now can  
8 have an impact on their own electric, you know use  
9 and see that and have real time action on it so at  
10 the end of the day a large portion of this is  
11 actually paid for through savings to the customer.

12 CHAIRPERSON TREYGER: And, and I think  
13 it's... I think it's good to give as, you know real  
14 time information to folks as much as possible the one  
15 thing I, I would note is that making sure that  
16 language access isn't... it becomes an issue in this...  
17 in this case making sure that those folks who speak...  
18 as a matter of fact at the briefing today the Mayor  
19 shared with us that in New York City it's, it's... we  
20 have almost 40 percent of New Yorkers now are, are  
21 immigrants, right, it's, it's an astonishing growing  
22 number and we're, we're proud to be an immigrant city  
23 but making sure that everyone, you know is aware and  
24 informed on how to... [cross-talk]

25 PATRICK MCHUGH: Access... [cross-talk]

2 CHAIRPERSON TREYGER: ...go with the times  
3 so is, is there a language access component to this  
4 transition?

5 PATRICK MCHUGH: I don't have all the  
6 details but I know... [cross-talk]

7 CHAIRPERSON TREYGER: Right... [cross-talk]

8 PATRICK MCHUGH: ...we work with you know  
9 in everything we do from bilingual to... you know many  
10 different languages, we, we make sure that we can  
11 communicate to all of our customers.

12 CHAIRPERSON TREYGER: Okay. I also just...  
13 what just... you know I think recently it was reported  
14 that I think last summer or, or recently was the  
15 highest I think use of energy... there was a... there was  
16 a peak moment where it was like the highest use of  
17 energy in the history of New York, is that correct,  
18 is there... do we... [cross-talk]

19 PATRICK MCHUGH: I'm not... [cross-talk]

20 CHAIRPERSON TREYGER: ...did we approach  
21 that... [cross-talk]

22 PATRICK MCHUGH: ...it might have been a  
23 weekend... [cross-talk]

24 CHAIRPERSON TREYGER: ...in July... [cross-  
25 talk]

2 PATRICK MCHUGH: ...I think we had a  
3 weekend peak last, last, last summer we had a weekend  
4 peak the highest energy usage on a weekend.. [cross-  
5 talk]

6 CHAIRPERSON TREYGER: ...on the weekend..  
7 [cross-talk]

8 PATRICK MCHUGH: ...on a weekend which  
9 would be different from a weekday, a weekday peak  
10 would be greater.

11 CHAIRPERSON TREYGER: Can you give us  
12 just your analysis, we're, we're entering summer  
13 season very soon, a lot of folks will be turning on  
14 their air conditioners.. [cross-talk]

15 PATRICK MCHUGH: Yep.. [cross-talk]

16 CHAIRPERSON TREYGER: ...and the Mayor  
17 plans to install AC's in all schools in the next  
18 couple of years, do we.. I'm sure Con Edison is, is,  
19 is aware of that are we set this summer as far as..  
20 [cross-talk]

21 PATRICK MCHUGH: Yes.. [cross-talk]

22 CHAIRPERSON TREYGER: ...as far as energy  
23 capacity?

24 PATRICK MCHUGH: So, our... so the energy  
25 capacity just from a generation perspective handled

1  
2 by the New York ISO so we, we have the energy  
3 capacity to meet our energy needs for the summer. We  
4 do a whole lot... summer preparation, our summer  
5 preparation we are ready, you know for the summer  
6 period. We do individual load analysis, are, are  
7 energy studies around... for every section of the city  
8 to make sure every section of the city is built and  
9 constructed to meet the expected load growth and... you  
10 know the load demand and the energy consumption in  
11 that area.

12 CHAIRPERSON TREYGER: So, you're saying  
13 that, that you're set for the summer?

14 PATRICK MCHUGH: Yes.

15 CHAIRPERSON TREYGER: I also just want to  
16 take a moment because you mentioned in your testimony  
17 as well and I think it's worth emphasizing and, and  
18 giving the full public appreciation to the amazing  
19 Con Edison workers that did an incredible amount of  
20 great work in the recovery of post-super storm Sandy  
21 and as you mentioned many of them were impacted  
22 themselves, their families and they went out of their  
23 way, out of... really out of their way to help their  
24 neighbors and friends recover from the storm so I do  
25 want to publicly thank Con Edison and, and their

1 employees for, for that... for that work and I've heard  
2 that from my colleagues, I've seen it myself so I do  
3 want to... I want to note that.

4 PATRICK MCHUGH: Thank you.

5 CHAIRPERSON TREYGER: Does Con Edison  
6 have a position on the Indian Point closure?  
7

8 PATRICK MCHUGH: We do not take a  
9 position on the Indian Point closure. We, we continue  
10 to work if it... you know if it does close this is not  
11 new to us, the discussion of it closing is something  
12 that has been ongoing for many years. Back in 2013  
13 there was a, a public service commission hearing on,  
14 on the topic, the proceeding out of that came as  
15 mentioned earlier there was... out of that came, you  
16 know plans to address if it was to close we, we, we  
17 are active participants in that to making sure we can  
18 secure our system, out of that came three  
19 transmission projects which were done, you know  
20 around New York State which allow us to bring in more  
21 energy into New York City post those projects which  
22 are completed, those three projects are completed. We  
23 also worked with energy efficiency so we had a, a  
24 bigger push, more dollars spent in energy efficiency  
25 trying to not only be able to bring in more but could

2 we reduce load enough so.. and that was part of that  
3 proceeding to do both of those things.

4 CHAIRPERSON TREYGER: So, what is your..  
5 from, from your angle, from your... from your viewpoint  
6 what impact will its closure have on the city of New  
7 York with regards to energy supply and capacity?

8 PATRICK MCHUGH: So, you know as we  
9 mentioned the loss of it would require new sources of  
10 energy to, to come and they mentioned earlier there  
11 were two other power plants that are, you know in the  
12 process or in the stages of being constructed, we  
13 also see energy efficiency around the city, you know  
14 there's projection of where the energy growth is  
15 going to go to, energy efficiency is now becoming..  
16 you know you can say shutting off the light is one  
17 way of energy efficiency but also you know LED  
18 lightbulbs, you can't go into a store and buy an old  
19 lightbulb, right, you know an old incandescent  
20 lightbulb, they don't exist so people are just  
21 naturally putting in energy efficiency stuff, the  
22 equipment they're buying and their air conditioning  
23 it is really come wholesale so you're seeing as  
24 people just do natural stuff in their homes that  
25 their energy usage is, is declining or being reduced.

1 So when you look at the forecast of that, you look at  
2 the transmission lines, you look at other energy  
3 efficiency programs is it going to be.. you know it..  
4 there's, there's still risk both ways but I think  
5 there's going to be a need for the ISO to make sure  
6 these transmission capacity continues to improve, I  
7 would also add that the other thing that you can't  
8 predict, I think we just.. earlier is the distributive  
9 resources, right, so as you've seen around the  
10 country we talk about solar, solar continues to grow  
11 and as it grows in New York City it's doubling every  
12 year, you're looking at battery storage, right,  
13 battery storage and I think we're going to hear later  
14 from some more battery storage is that technology is  
15 coming, timing of it is hard to predict but the  
16 ability we're working to get that, you know able to  
17 be safely installed in New York City buildings and if  
18 you.. and if we can get that technology in that's  
19 going to have a great impact on the amount of energy  
20 we need to bring in on a peak day, I mean we can  
21 bring it in at night and, and store it, it's going to  
22 have a major impact on the amount that needs to come  
23 in at that, that peak day.

2 CHAIRPERSON TREYGER: Right but you know  
3 as you mentioned that, you know I, I agree that many  
4 New Yorkers are developing I think better habits as  
5 far as energy efficiency but you mentioned that this  
6 past weekend... this, this... I'm sorry, the last summer  
7 so one weekend we had such a peak, peak demands so  
8 demand is not... you don't see demand just overall  
9 slipping, you, you're seeing some historic peaks of  
10 demand in, in our energy usage and so obviously,  
11 that, that, that... we have to figure this out. Now  
12 what is your viewpoint on the impact, the, the  
13 closure because I did not hear a definitive answer  
14 about making up the gap, everything is sort of we'll  
15 see, we'll... hopefully this plant will be built by  
16 then, hopefully this plant will be in operation by  
17 then and I'm not hearing definitive answers today but  
18 what is the impact on rates that New Yorkers will be  
19 paying for energy with the closure of Indian Point?

20 PATRICK MCHUGH: So, I will reiterate a  
21 little bit what was said earlier, we, we buy the  
22 energy from the market so we... [cross-talk]

23 CHAIRPERSON TREYGER: Right... [cross-talk]

24 PATRICK MCHUGH: ...are not a power  
25 producer... [cross-talk]

2 CHAIRPERSON TREYGER: Right... [cross-talk]

3 PATRICK MCHUGH: ...we buy energy from the  
4 market, the market is... you know will be impacted by a  
5 number of things going, going forward not just Indian  
6 Point, it's the, the price of commodity, the price of  
7 gas, the... how well batteries come in, you know  
8 batteries can, can have a major impact on the price  
9 of the commodity going forward and the implementation  
10 of solar will also have during those peak periods  
11 have a major impact. New generation coming online,  
12 you know you would think newer, more efficient  
13 better, better pricing would also challenge some of  
14 the older generators. So, I'm not here to predict...  
15 you know I, I wouldn't... I wouldn't go with my  
16 prediction on whether prices will go up or down but  
17 it will be something that we need to aggressively  
18 watch and plan for year by year as we get closer and  
19 closer to, to the closing.

20 CHAIRPERSON TREYGER: You heard me ask  
21 the administration about... you know with regards to  
22 let's say the, the off-shore wind farms that are...  
23 there's a vision for that and there's, there's some  
24 plans for that or goals for that does that actually...  
25 I mean again I support renewable sources of energy, I

2 think we're... we have to... we have an obligation to  
3 move in that direction but how do we ensure that it  
4 does not disproportionately impact those folks who  
5 could really could least afford to be impacted any  
6 more, does it... does it translate into lower cost for  
7 people, that's the... that's... and from your industry  
8 standpoint I'm very curious to hear your answer?

9 PATRICK MCHUGH: So, I would speak to,  
10 you know what... how I think about it is along the  
11 lines what was discussed that the first couple of  
12 people involved are going to pay the higher price to  
13 get the technology going, to get the, the, the  
14 assembly line moving, right, so the first one in to  
15 build something or do that those prices are going to  
16 be bigger, there's going to be learning curves,  
17 there's going to be businesses to be set up and then  
18 the question is, is where, where do you jump in on  
19 that curve as the prices come down, you know if  
20 you're first in you're going to be paying the higher  
21 price somewhere along the line it's going to  
22 continue... those costs will continue to come down is  
23 the belief, I mean that's, that's typical of business  
24 practice that the, the more you do with the more  
25 businesses involved the prices will come down but

1 right now why I don't think... as you mentioned earlier  
2 ten years people have been talking about it the  
3 prices are still pretty steep although they've come  
4 down the prices are still pretty steep when you  
5 compare it to traditional generation available.

6  
7 KYLE KIMBALL: The one thing that's  
8 important also to say is that something Anthony said...  
9 Anthony Fiore from DCAST said earlier was that and  
10 one thing that's not going to change with wind or  
11 solar is the market mechanism isn't going to change  
12 so the idea that there's still a clearinghouse at the  
13 lowest price will... that's not going to change with  
14 the advancement of, of, of renewable energies so what  
15 really has to happen for renewable energies to be  
16 competitive in those... in those markets is they have  
17 to be... they have to receive subsidies and different  
18 agreements in order to have power off take in order  
19 to keep their prices low. So, what really has to  
20 happen is on the frontend in the development of these  
21 renewable resources so that when they are dispatching  
22 into the market to the New York ISO that they are  
23 winning, winning that market and able to dispatch  
24 that power.

1  
2 CHAIRPERSON TREYGER: Right and I, I  
3 just... my concern is that there's going to be a  
4 cumulative impact on, on, on folks in New York  
5 because you're going to couple this increase in, in  
6 the initial phases of this and how long the initial  
7 phases are to be determined plus as I mentioned  
8 before FIMA is within, within a year or two away from  
9 finalizing maps which is going to mandate more New  
10 Yorkers to purchase flood insurance and at higher  
11 rates by the way and you know the cost of food, the  
12 cost of living continues to go up so there's a  
13 cumulative impact here and that's very, very  
14 concerning and so I think that government and the  
15 private sector really have to figure out ways on how  
16 to mitigate these impacts on, you know working  
17 families and, and... particularly the most vulnerable  
18 communities so I, I, I think this, this has to be  
19 examined now and as we heard before from the  
20 administration some of the biggest costs are taxes  
21 and fees attached to these things and so we have to...  
22 we have to really address this. I know my colleague;  
23 Council Member Margaret Chin has a question and I  
24 want to turn it over to her.

1  
2 COUNCIL MEMBER CHIN: Thank you Chair. My  
3 question to Con Ed is that I know you... you know you...  
4 your focus on distributing the energy but are you  
5 doing... I mean are you helping to sort of promote the  
6 reusable, renewable energy like solar and... I mean  
7 especially solar panels, are you helping customers  
8 kind of like install or like get them interested..

9 PATRICK MCHUGH: So I would say the... from  
10 an engineering perspective and design perspective we  
11 work, you know very hard... that we work to try to make  
12 it as easy as possible for customers to be able to  
13 select an alternate, you know distributive resource  
14 and be able to bring it in and connect it and connect  
15 it into the system. So, we continue to work year over  
16 year to work on any, any problems or any issues that  
17 customers are facing and take that feedback and make  
18 it easy for them to, to use this technology. So, we  
19 do it from that regard, we as a company we support  
20 solar, we support the environmental, we, we, we don't  
21 try to fight, you know we believe that's the way it  
22 is going, you know that this is the way the energy  
23 industry is going and we support it, we embrace it  
24 and we are trying to make it easier for our customers  
25 to use the technology.

1  
2 KYLE KIMBALL: And just a couple of  
3 examples of this is so Patrick's talking from the  
4 engineering side and, and, and from the company  
5 culture side... and I think our actions in... on the  
6 policy side we have a number of different  
7 demonstration programs that are really focused on  
8 working with the communities, low income communities  
9 and having... and making sure that those communities  
10 can access... because there's some very unique  
11 challenges with renewable energies in this city for...  
12 but not only for the building environment but for the  
13 economic environment and so there's a number of  
14 demonstration programs we have that are sort of  
15 demonstrating ways that you can bring solar to  
16 communities, ways that you can bring electric vehicle  
17 charging to communities, ways that you can work  
18 within communities to lower infrastructure  
19 investments that we might otherwise have to make to  
20 advance microgrids or a number of different things  
21 like that. So, so there's a lot of different programs  
22 we have inside Con Ed on our policy side that are  
23 helping to demonstrate the, the promise of renewable  
24 energies to all the communities around the city.

1  
2 COUNCIL MEMBER CHIN: Yeah, I think we..  
3 it'd be great if you could kind of share that  
4 information with us in the council so that we can  
5 also, you know make sure that that information gets  
6 to communities that we serve. One of the, the issue  
7 is that with the public housing, with NYCHA, right  
8 because a couple of months ago I had one building  
9 where all the elevators wasn't working and it's  
10 because of the electricity, you know there was a  
11 shortage of.. it was a electricity problem and that's  
12 why they couldn't run the elevator and so in the long  
13 run, I mean some of the, the building will be getting  
14 a generator because of what happened after super  
15 storm Sandy but not all of them but the whole thing  
16 with solar energy, I mean imagine if every NYCHA  
17 development can generate their own power or at least  
18 for critical services like elevators that is  
19 something that, you know we can.. you can work  
20 together with NYCHA as, you know your public policy  
21 and to really help the community especially, you know  
22 with the vulnerable population and the growing number  
23 of seniors in public housing that we cannot afford to  
24 have an elevator breaking down because of an  
25 electricity problem. So is that something that, that

2 you can, you know begin to at least work with NYCHA..  
3 [cross-talk]

4 PATRICK MCHUGH: Well... [cross-talk]

5 COUNCIL MEMBER CHIN: ...or have you  
6 started working with them?

7 PATRICK MCHUGH: Yes, so we work closely  
8 with NYCHA, we, we want those elevators working, you  
9 know very much so, so we, we not only work on our  
10 system to make sure that our system can support those  
11 elevators going on, we've also recently introduced a  
12 new policy where we inspect the, the service holes  
13 that service the NYCHA facilities on a more periodic  
14 basis than, than we do the rest of the facilities. We  
15 also work on them with their internal so, so we fill...  
16 supply a NYCHA development and there's a lot of  
17 internal wiring and we want... we work with them from  
18 our technical knowledge on what issues they may be  
19 having on their side so, so we try to approach it  
20 from three ways to again reduce the impact of an  
21 elevator going out of service. The other thing I'd  
22 like to say just from the solar side and why we... also  
23 the batteries that tie in here, solar will not work  
24 in an outage the situation, the way the solar  
25 technically works is the solar systems that are

1  
2 designed today match the, the, the energy system that  
3 it connects to. So, if the solar... if you lose power  
4 to your house and you have solar on the roof you  
5 can't run your house, your, your house is, is out of  
6 power. The solar... the inverters are technically not  
7 able to work really where it comes where you can get  
8 that island... that like operate as an island comes in  
9 if you connect a battery system to it and so that's  
10 why you hear... you've heard some talk earlier about  
11 this solar battery connection, the battery does a lot  
12 of great things for the system as well as for solar  
13 so battery technology is something we, we all  
14 continue to push and think will be a, you know a... you  
15 know very good for, for the whole system and for, for  
16 the environment once we can get the technology safe  
17 to put in the buildings.

18 COUNCIL MEMBER CHIN: Just a question for  
19 my own interest, so is this battery thing is it  
20 better than generators?

21 PATRICK MCHUGH: So, batteries is, is  
22 just storage of energy, right, so most people... most...  
23 many people think that the electric can be stored  
24 somewhere, right, so energy is... electrical energy is  
25 used the moment it's created, there's no... the

1  
2 generators that are generating all around us are  
3 meeting the load, you know second by second of what  
4 people are using, there's no storage of it, it's not  
5 like natural gas storage or other commodities you may  
6 have a storage capability of it, batteries are the  
7 storage for electricity and large scale batteries  
8 that are priced... right, right now there... those exist  
9 they're just too expensive, large scale batteries.  
10 So, trying to drive those costs down, there's a lot  
11 of initiatives throughout the state and throughout  
12 the country to drive down the cost of batteries and  
13 with that if you can drive the cost down and have  
14 safe to put in... inside buildings you'd really see a  
15 dynamic change in the whole electric equation, the  
16 electric equation.

17 COUNCIL MEMBER CHIN: Yeah because like  
18 right now, I mean the, the thing that people are  
19 looking at is oh every, every building we want to  
20 have a generator just in case if the, the power goes  
21 out, every tall building in my district they say we  
22 want a generator but if this is something that could  
23 be a positive alternative, you know it don't take up  
24 as much space and its cleaner energy, wow, I mean  
25

2 that is something that we definitely should... [cross-  
3 talk]

4 PATRICK MCHUGH: So, so the one thing  
5 with generators that you need to realize is  
6 generators are, are an O and M item, you, you don't  
7 put a generator in and then wait two years to use it,  
8 you know your... probably it's not going to work, you  
9 need the generator running and if you're running it  
10 then you need maintenance so there's a cost that you  
11 need to have in, in running a generator so something  
12 to think about when people saying they're... we're  
13 putting it inside the building if you're going to use  
14 it as an emergency backup that's fine, you've going  
15 to need a maintenance cycle, you're going to need to  
16 change parts, you're going to need to do upgrades on  
17 it so just something to think about as, as people  
18 think of their resiliency, where batteries are, are...  
19 batteries are like you think of batteries in your...  
20 that you use they're much lower maintenance type  
21 items.

22 COUNCIL MEMBER CHIN: Thank you Chair, I  
23 think we probably could follow up more on this  
24 because this is very interesting, I mean I'm looking  
25 forward to hearing about batteries but... because

1 that's what, what after Sandy, I mean that's what all  
2 the buildings is like we want to have our own  
3 emergency generator and that's... if there's a better  
4 way than that then we should definitely start looking  
5 into it but you know the, the other issue about, you  
6 know the efficiency, conservation those are very,  
7 very important and we need to also make sure that the  
8 private sector, the office building, you know the big  
9 department store they also got to be doing their part  
10 to help conserve energy and not leave the door open  
11 with the air condition running. Thank you, thank you  
12 Chair.

14 CHAIRPERSON TREYGER: Yeah, I, I got a  
15 little bit more nervous Council Member because, you  
16 know as part of the FIMA funds for the NYCHA impacted  
17 buildings that were hurt, hurt by Sandy they agreed  
18 to fund backup generators on the roofs of our NYCHA  
19 buildings and, and I, I don't think I heard anything  
20 about maintenance funds attached to those funds and  
21 you're telling me that, that will be necessary and  
22 so... I mean it makes sense because everything needs  
23 maintenance and that is not something I heard from  
24 NYCHA and knowing NYCHA and there's other... there's  
25 going to be cost with all these types of things and

2 so... yeah, I mean that is very concerning and so I  
3 take it that you have briefed the city about your  
4 recommendations or what you feel is... as far as these,  
5 these battery storage things, I mean has the city  
6 asked for your opinion about these... about these  
7 things... [cross-talk]

8 PATRICK MCHUGH: So, I would just what  
9 Anthony alluded to earlier we work with the city...  
10 [cross-talk]

11 CHAIRPERSON TREYGER: Right... [cross-talk]

12 PATRICK MCHUGH: ...in trying to get the  
13 battery manufacturers to be able to install the  
14 batteries that they develop into the buildings and  
15 meet all building code and fire code so right now  
16 they're... you know so we want to... it's a very dense  
17 city and we want to make sure and the, the city all,  
18 all players in the city want to make sure that we're  
19 putting something in that it is not a hazard to the  
20 people in, in the... in the buildings.

21 CHAIRPERSON TREYGER: But is there any...  
22 what is... what is... what are all of the push back  
23 factors, what are the concerns with these things?

24 PATRICK MCHUGH: So, one of the leading  
25 concerns is... there's other concern, leading... lithium

2 ion batteries, you know we, we had some bet... a lot of  
3 media attention with the... with the phones, right, so  
4 you saw those they would have... [cross-talk]

5 CHAIRPERSON TREYGER: ...uh-huh... [cross-  
6 talk]

7 PATRICK MCHUGH: ...not built properly or  
8 made in certain ways, they can... they can become  
9 combustible, you also saw it with some of the, the  
10 scooters, right, you had the scooters where you have  
11 the, the battery systems in them if not made properly  
12 or made a certain way can ignite and cause a fire.  
13 So, we want to make sure that the battery systems  
14 that are installed in buildings meet certain design  
15 criteria. The fire department if they are to catch  
16 fire it can fight the fire, you know those types of  
17 issues. So, we are working through those with all the  
18 city agencies to make sure everything that's put in  
19 is safe to the public.

20 CHAIRPERSON TREYGER: But have there been  
21 any manufactured batteries used in any city around  
22 the world so far that we're not seeing these types of  
23 incidents where there's some good reputable company  
24 or any... [cross-talk]

2 PATRICK MCHUGH: So, there are some, you  
3 know so, so that's what we're working through, what  
4 are those reputable manufacturers presently right now  
5 buildings in the city use batteries in their  
6 building, there, there are... there are customers who  
7 have lead at... you know a different type of chemistry,  
8 you know lead acid battery, they put those batteries  
9 in their basement and they use their batteries to  
10 help off, offset their energy costs and you know can  
11 be used in an outage situation and, and they use them  
12 for different situations. Now lead acid is the old  
13 battery system which is... you know which you... there's  
14 newer technology, much more dense amount of energy  
15 available but it brings in different issues and it's  
16 really right now what is the best chemistry to use in  
17 the future batteries in buildings and there's a lot  
18 of competing literature on what's the right thing to  
19 use at what cost.

20 KYLE KIMBALL: I would also say that the  
21 city has been a great partner with us in advancing on  
22 a number of different... you know through the process  
23 of Department of Buildings, through FDNY, they  
24 understand potential firefighting techniques as, as  
25 Patrick mentioned or off gassing in case there is a

2 fire. We, we, we partner with the city and done.. and  
3 private manufacturers and done a, a lot of testing at  
4 the request of... and sort of stress testing of the,  
5 the batteries at the request of Department of  
6 Buildings and FDNY so it's, it's, it's a conversation  
7 that's happening and that FDNY and Department of  
8 Buildings are taking very seriously as they should  
9 and... but there is no... I would not call... characterize  
10 it as anything of a slowdown just something being  
11 taken very seriously but also a recognition that this  
12 is a big part of the city's energy future.

13 CHAIRPERSON TREYGER: But it also tells  
14 me that, you know certainly we have to explore every,  
15 every concern and, and also explore every, every  
16 avenue of, of, you know again renewable sources that  
17 are safe and cost effective and good for the planet  
18 but I know for example this might have the potential  
19 to create new market where folks who are let's say  
20 producing or restoring energy can now in theory try  
21 to even sell that energy elsewhere, is that correct?

22 PATRICK MCHUGH: Uh-huh... [cross-talk]

23 CHAIRPERSON TREYGER: ...because I also  
24 know... I'm aware that there's certain... there's certain  
25 housing complexes that after super storm Sandy are

2 building kind of like generators on their... on their  
3 grounds and actually considering seeing if they could  
4 power not just their buildings but they could power  
5 nearby other buildings or, or hospitals, are you  
6 aware of that?

7 PATRICK MCHUGH: So, we're working on a  
8 number of initiatives, the state wanted initiatives...  
9 [cross-talk]

10 KYLE KIMBALL: Solar progress... [cross-  
11 talk]

12 PATRICK MCHUGH: Solar progress but also  
13 for the NY Prize is a statewide initiative where  
14 we're looking at building micro grids around the  
15 state where... in, in, in this condition of an outage  
16 that a local generator could combine... could come  
17 online and pick up a certain amount of blocks or  
18 people outside their own customer, you know their own  
19 building and we would design the system so that, that  
20 generator could come on and feed a certain population  
21 of customers.

22 CHAIRPERSON TREYGER: And is that  
23 happening in New York or are you're still in the  
24 exploration... [cross-talk]

2 PATRICK MCHUGH: So, that is... it's, it's  
3 happening so it started out with a, a request for  
4 proposals from, from, from people and those requests  
5 were... I don't know there was several hundred requests  
6 I think initially then it was a certain number that  
7 was selected to go to the next stage and then from  
8 that then there was more technical assessment,  
9 evaluation done and now we moved to the next stage  
10 where we're now more detailed assessment done of  
11 those so that, that is in progress right now. We have  
12 a couple of them being looked at around the city.

13 CHAIRPERSON TREYGER: Can you share  
14 where... [cross-talk]

15 PATRICK MCHUGH: I don't... I can share  
16 that with you, do you...

17 UNIDENTIFIED FEMALE: There's three  
18 projects that were awarded one million dollars...  
19 [cross-talk]

20 CHAIRPERSON TREYGER: If you could speak  
21 to the mic, I just want to... just introduce yourself.

22 PATRICK MCHUGH: Okay... [cross-talk]

23 UNIDENTIFIED FEMALE: There's three  
24 projects that have been awarded one million dollars  
25 each by NYSERDA to do detailed engineering and design

2 over the next course of the year as well as make the  
3 project essentially third party financeable  
4 essentially justify the business case for those  
5 projects and those three are Amtrak was one of them,  
6 they're looking at... [cross-talk]

7 CHAIRPERSON TREYGER: They need it...  
8 [cross-talk]

9 UNIDENTIFIED FEMALE: That's correct,  
10 they're looking at investments at Penn Station and...  
11 [cross-talk]

12 CHAIRPERSON TREYGER: They need it...  
13 [cross-talk]

14 UNIDENTIFIED FEMALE: Sunnyside Yards,  
15 Clarkson Avenue which is a project that NYPA and  
16 Burns Engineering is working on, that's looking at  
17 providing resilient energy to three hospitals that  
18 serve over one million patients per year and that's  
19 also in the BQ Dam zone and then also East Bronx  
20 which is... actually three hospitals in Clarkson Avenue  
21 and East Bronx is four hospitals; Weiler, Jacobi,  
22 Albert Center... Albert Center, Einstein College of  
23 Medicine and Calvary Hospital. The Clarkson Avenue  
24 hospitals are King County Hospital, Kingsborough  
25 Psychiatric Center and SUNY Downstate Medical Center.

2 The Amtrak project will provide also resilient energy  
3 in... at least in the current form to potentially two  
4 schools to serve as an evacuation shelters and the  
5 other projects also have community resiliency  
6 benefits as was part of the requirement for the  
7 NYSERDA New York Prize Program.

8 CHAIRPERSON TREYGER: Are, are you  
9 familiar... and thank you for that information and... but  
10 are you familiar also in Southern Brooklyn, Warbasse  
11 Houses that is building an elevated generation plant  
12 post Sandy that is producing energy that could be  
13 more than sufficient for their buildings, are you  
14 familiar with, with this project?

15 PATRICK MCHUGH: Not, not off hand.

16 CHAIRPERSON TREYGER: Okay, I'd like to  
17 make a follow up with you afterwards because they are  
18 looking to be partners in the community, you know  
19 beyond Warbasse and after Sandy they've learned a  
20 lot, invested a lot and they're building an elevated  
21 plant that could produce energy beyond just, just  
22 their buildings, I mean nearby is Coney Island  
23 Hospital for example which is a, a key hospital in  
24 our community.

2 PATRICK MCHUGH: So, again I, I heard of  
3 it, I don't know the details of it so you know I  
4 don't... I don't... more, more than what you're saying I  
5 don't know any more details right now about that so  
6 we could follow up on that.

7 CHAIRPERSON TREYGER: Okay, very good  
8 and... [cross-talk]

9 PATRICK MCHUGH: I would also just say  
10 one more thing with the batteries, we are... so not  
11 only are we looking for customers to install  
12 batteries as part of the BQDM program we're looking  
13 to install large utility scale, scale batteries at  
14 some of our facilities so we're looking at two 12  
15 megawatt hour batteries at two of our facilities in  
16 the BQDM area. So again just... again bring along the  
17 battery technology.

18 CHAIRPERSON TREYGER: Do my colleagues  
19 have a question, Council Member... [cross-talk]

20 COUNCIL MEMBER PERKINS: Just wanted...  
21 just wanted to quickly... the, the batteries they  
22 don't... they, they don't break down or explode or leak  
23 or any other kind of... [cross-talk]

24 PATRICK MCHUGH: So... [cross-talk]

2 COUNCIL MEMBER PERKINS: Are you aware...  
3 [cross-talk]

4 PATRICK MCHUGH: ... I mean... so, so, so  
5 the... so batteries will work like battery... you know  
6 it's just larger scale of the batteries you know,  
7 right, so batteries... [cross-talk]

8 COUNCIL MEMBER PERKINS: ...Right... [cross-  
9 talk]

10 PATRICK MCHUGH: ...these are rechargeable  
11 batteries so there's a lot of different chemistries  
12 out there, a lot of different technologies working at  
13 what's the best at the lowest cost but they, they  
14 over time they don't perform as well so there is a  
15 curve where they perform... produce... you know they're  
16 able to charge less and less but that's over years  
17 but the, the concept is, is that they're pretty much  
18 very low maintenance, you know you, you charge them  
19 at night and you discharge them during the day is  
20 pretty much how they would work, low maintenance  
21 item, there's no spinning machines and, and... you know  
22 moving parts, you know it's all chemistry moving so,  
23 so the, the, the typical maintenance of them again  
24 these haven't been mass deployed yet so again a poor  
25 manufacture could, could create a lot of problems but

2 with the concept it seems like it would be a very low  
3 maintenance and a, you know very helpful for the  
4 system.

5 COUNCIL MEMBER PERKINS: But I'm... what  
6 about risk, I'm just... any, any risk factors that need  
7 to be... like... you know... [cross-talk]

8 PATRICK MCHUGH: So, I think the risk is  
9 what we're working on with the city is... the, the risk  
10 would be, you know if they were to fail and how do  
11 they fail and what's, what's the risks and how do we  
12 deal with them. So... and that's, you know Department  
13 of Buildings, the Fire Department and ourselves very  
14 much engaged in fully understanding that as we move  
15 forward.

16 COUNCIL MEMBER PERKINS: But, but I'm  
17 trying to understand when do you... how do you  
18 determine how, how risky it is or not is what I'm  
19 saying, do you understand... [cross-talk]

20 KYLE KIMBALL: So, we've, we've... we can...  
21 I think we can share, I think it might be... I, I think  
22 it's a public study that was done that saw the  
23 incidences of failure very, very low... [cross-talk]

24 COUNCIL MEMBER PERKINS: ...good, uh-huh...  
25 [cross-talk]

2 KYLE KIMBALL: ...and I would say that our  
3 work with the Department of Buildings and FDNY...  
4 [cross-talk]

5 COUNCIL MEMBER PERKINS: So, when it's  
6 low at all how risky is... [cross-talk]

7 KYLE KIMBALL: I don't know the number  
8 that we can... we can share, I can share it... [cross-  
9 talk]

10 COUNCIL MEMBER PERKINS: Okay... [cross-  
11 talk]

12 KYLE KIMBALL: ...but it's, it's... it was  
13 enough for the FDNY to move on to, to not stop it  
14 there but to say okay so in the off chance that it  
15 does... there is a fire how do we actually fight those  
16 fires. So, it's moved on to the implementation stage  
17 of the study but we can... we can share that with you.

18 COUNCIL MEMBER PERKINS: But the Fire  
19 Department you said are using these batteries?

20 KYLE KIMBALL: No, they're, they're,  
21 they're just... we're working with them to understand  
22 how if they were to catch on fire how they would  
23 fight the fire.

24 COUNCIL MEMBER PERKINS: And... but who is  
25 using the batteries?

2 PATRICK MCHUGH: So, I, I had mentioned  
3 there are customers... [cross-talk]

4 COUNCIL MEMBER PERKINS: Uh-huh... [cross-  
5 talk]

6 PATRICK MCHUGH: ...I don't prefer to, you  
7 know there's different customers around the city who  
8 are using older technology batteries which is lead  
9 acid, the typical old technology batteries, the lead  
10 acid battery type of battery since the 1960's have  
11 been out there and you can build it in, in a  
12 chemistry lab, right and so... and people have been  
13 able to use those effectively, customers are built on  
14 demand charges, right, especially commercial  
15 customers, they... they're, they're demand how much  
16 they use it in the peak of their day impacts their  
17 cost so many have... not, not many but there are a  
18 number who, who have said, you know I could put a  
19 battery in, charge it at night and then when my  
20 demand comes up during the day I discharge my battery  
21 and then therefor my demand charges... the, the actual  
22 demand of this building is not this, it's kind of a  
23 flat... a flatter demand, which we would look to, you  
24 know overall the best system for the system we have  
25 this peak day, energy goes down at night, peaks

2 during the day, energy at night and if you could  
3 shave some of the peak during the day and move it to  
4 at night would, would help the system, it would help  
5 with a lot of the issues we've discussed today.

6 UNIDENTIFIED FEMALE: So, DCAST is  
7 piloting a series of battery projects is what... and  
8 then also there's a project that's underway at the  
9 Marcus Garvey Houses that's putting together a solar  
10 plus storage plus fuel cell micro grid that would  
11 serve that affordable housing complex. So, it is  
12 happening in the city but slowly given the issues  
13 that everybody has mentioned.

14 CHAIRPERSON TREYGER: Well and the  
15 question I would have is that if NYCHA is going to  
16 create these kinds of energy storage systems enough  
17 to fuel their buildings but is NYCHA in a position to  
18 then also sell that energy?

19 PATRICK MCHUGH: So, the market's the... so  
20 you can sell it into the market, right, so... you know  
21 people would have to evaluate the cost of that, you  
22 know so you're going to buy energy at night and try  
23 to sell it during the day so it's a different  
24 business model, most people aren't... sorry, most  
25 people... you know it's, it's a business model so I

2 don't know if NYCHA or, or people in general saying  
3 am I going to build the battery to sell into the  
4 market or am I just going to offset my peak demand  
5 and therefor I save money and I invest in a battery,  
6 I save money on my peak demand, it works for me and I  
7 also get the resiliency that if I lose power I got a  
8 battery backup.

9 CHAIRPERSON TREYGER: I mean look, this  
10 has to be carefully thought through but if, if, if  
11 this project has the potential to power up the NYCHA  
12 buildings adequately that's first and foremost and  
13 these... [cross-talk]

14 UNIDENTIFIED FEMALE: [off-mic]

15 CHAIRPERSON TREYGER: Oh, I'm sorry...  
16 [cross-talk]

17 UNIDENTIFIED FEMALE: ...[off-mic] a  
18 separate affordable housing... [cross-talk]

19 CHAIRPERSON TREYGER: ...it's a separate  
20 affordable... [cross-talk]

21 UNIDENTIFIED FEMALE: ...[off-mic] yeah...  
22 [cross-talk]

23 CHAIRPERSON TREYGER: ...housing project...  
24 [cross-talk]

2 UNIDENTIFIED FEMALE: ...[off-mic]... [cross-  
3 talk]

4 CHAIRPERSON TREYGER: But, but NYCHA in  
5 theory could apply this type of idea, I'm just  
6 thinking out loud and potentially I... it's something  
7 that I think that... look especially in this day and  
8 age you have to explore these types of options. Do  
9 any of... any, any other questions from my, my  
10 colleagues if not, you know there's, there's still  
11 quite a bit to follow up about and we look forward to  
12 continuing our partnership with Con Edison, thank you  
13 very much for, for your time.

14 PATRICK MCHUGH: Thank you.

15 CHAIRPERSON TREYGER: Alright, I'd like  
16 to call up the final panel. Richard Webster and John  
17 Cerveney. Okay, you may begin.

18 RICHARD WEBSTER: Hello, I'm Richard  
19 Webster from Riverkeeper. I first want to thank you  
20 for the opportunity to come here and provide some  
21 input of the community. We, we appreciate the  
22 important issues that you're considering and we're  
23 very pleased to offer some input for you. In January  
24 this year, Riverkeeper joined the state both Governor  
25 Cuomo and Eric Schneiderman when the AG entered into

1 an agreement with Entergy Corporation to close the  
2 Indian Point Nuclear Power plant in 2021. Entergy has  
3 already shortened its licensing request to the NRC to  
4 reflect this new closure date. Unfortunately, that  
5 doesn't mean that the safety problems that Indian  
6 Point's been having are over, there's been an endless  
7 stream of crisis faced by the plant over the last two  
8 years including an unprecedented, unprecedented  
9 approach of failed bolts in the core of reactor  
10 number two, a spate of unplanned shutdowns,  
11 radioactive leaks, fires, and explosions. Most  
12 recently just a couple of weeks ago Entergy's rosy  
13 forecasts that reactor three would not have the same  
14 problems with failed bolts as reactor two had proved  
15 false. New information showed that more bolts in  
16 reactor three had, had proved faulty and needed to be  
17 replaced. So, this is an ongoing safety problem, we  
18 got lucky for quite a while, there was some incidents  
19 but none of them resulted in a major problem. We  
20 finally got smart and decided to take away the source  
21 of the risk. In addition to a safety risk, Indian  
22 Point has a... huge impacts on Hudson River ecology  
23 through its cooling system and causes leaks of  
24 radioactive materials into the Hudson. So, the  
25

1  
2 closure not only removes a, a huge safety risk, it  
3 removes a, a large environmental impact but it  
4 creates some opportunities for us to pivot forward to  
5 affordable, reliable, resilient, and sustainable  
6 power for New York City. To look at this issue of, of  
7 replacement power which I think is... has been on your  
8 mind today NRDC the Natural Resource Defense Council  
9 and Riverkeeper have commissioned a series of reports  
10 from a... one of the nation's leading energy consulting  
11 firms, Synapse Energy Economics discussing the, the  
12 feasibility of closing Indian Point. We had a report  
13 in 2011 and 2012 and then most recently in February  
14 of this year we released a third study called Clean  
15 Energy for New York which is available on our  
16 website, everybody can read it, I would... I would urge  
17 you to have a look if you have concerns about this.  
18 This report is an expert finding that confirms that...  
19 it confirms that previous findings that Indian Point  
20 can close without negative impacts and in fact it  
21 shows that it's becoming easier and easier to close  
22 Indian Point because of the kind of developments that  
23 we've been talking about earlier today in this  
24 committee. We've got... wind and solar energy prices  
25 are, are going through the floor, power transmission

1 as we've heard has been improved and there's a  
2 flattening of demand for grid based power due for two  
3 factors. One is that there's energy efficiency coming  
4 in and the other is we've heard they were behind the  
5 meter of solar generation which is... and just to be  
6 clear with solar generation what's happening is on  
7 peak days because solar generates on peak days, it  
8 serves a peak loping function and so actually what  
9 that's been able to do contrary to some people's  
10 expectations is bring down the average price of, of  
11 energy because the prices peak up very high on those...  
12 on those high demand days. So, renewables have been  
13 a, a win, win and we're expecting more wins in the  
14 future. Indian Point generates about 10 percent of  
15 peak summer demand in the... in the New York City area.  
16 The report looked at six different replacement  
17 scenarios and showed that there are multiple ways in  
18 which the energy that Indian Point is currently  
19 generating or at least generates most of the time  
20 while it's not on, on a refueling outage or some kind  
21 of unplanned schedule... unscheduled closure can be  
22 made up through a, a variety of different strategies.  
23 One approach is the... bringing the hydro power and  
24 wind power from Canada through the Hudson Power  
25

1 Express high voltage pipeline that's ready to go but  
2 the question is, is there demand for it and I guess  
3 the, the market will tell us that but what the market  
4 signal is telling us now is that this transition away  
5 from Indian Point will not have any major impacts on  
6 our energy system. Since my time is done I will... I'll  
7 wrap up very rapidly. Basically, energy efficiency,  
8 we think there's more we can do there, it's already  
9 having an impact as we heard but we think we can... we  
10 can improve on energy efficiency. Energy efficiency  
11 has many virtues, it's cheap, it generates jobs, it's  
12 green and it more... most importantly perhaps the  
13 impacts are... the positive impacts are local. So, we  
14 get jobs in the city and we make sure that we don't  
15 have to bring in more energy from, from elsewhere.  
16 The rest of the, the testimony basically outlines why  
17 currently in New York State we're not doing quite as  
18 well as some other states and of course we, we  
19 believe that New York State should be a leader in  
20 everything so therefor we believe that we can... we can  
21 improve our energy efficiency by about... by about  
22 three times and if we do that we will realize many  
23 benefits and we, we urge this, this committee to, to  
24

2 push the administration to do that so thank you very  
3 much.

4 CHAIRPERSON TREYGER: Thank you, next  
5 and, and afterwards we'll have a chance to ask some Q  
6 and A but we thank you.

7 RICHARD WEBSTER: Okay, great, thank you.

8 JOHN CERVENY: Chairman Treyger, members  
9 of the committee pleased to be here today. My name is  
10 John Cerveney, I'm with the New York Battery and  
11 Energy Storage Technology Consortium or New York-  
12 BEST. We were formed in 2010 as an, an activity of  
13 New York State, they invested funds to create New  
14 York-BEST and to help to grow and catalyze the energy  
15 storage industry in the state and to establish the  
16 state as a global leader in energy storage. Our work  
17 is focused in four primary areas; we act as an  
18 authoritative resource on all things energy storage.  
19 We work to advance and accelerate the  
20 commercialization process for energy storage  
21 technologies. We educate policymakers and  
22 stakeholders about storage and we promote the world  
23 class intellectual and manufacturing resources in the  
24 state and help to provide access to the markets that  
25 are emerging as we speak. New York-BEST has about 160

1 member organizations that come from industry,  
2 academia, government, and the nonprofit sector, we  
3 work with them and with other interested stakeholders  
4 to achieve our mission. We invite interested  
5 organizations and, and individuals to join us in  
6 growing a successful and thriving storage industry in  
7 the state. As we've heard in previous, previous  
8 testimony today the, the electric grid in the state  
9 faces a number of challenges. New York households  
10 pay, pay well above the national average in annual  
11 energy costs and face some of the highest electricity  
12 rates in the country. The state's grid infrastructure  
13 is aging and the transmission industry and  
14 distribution systems are increasingly being stressed  
15 by new demands placed on the system. Events such as  
16 major storms and heat waves further exacerbate these  
17 vulnerabilities. In addition, the imperative to  
18 reduce greenhouse gas emissions and address the  
19 threat of climate change is driving the transition  
20 away from fossil fuel sources toward clean renewable  
21 energy. Thankfully, New York State and New York City  
22 have taken a number of steps to address these  
23 challenges. The State Energy Plan sets aggressive  
24 goals for reducing the state's greenhouse gas  
25

1 emissions, 40 percent by 2030 and 80 percent by 2050  
2 and generating 50 percent of the state's electricity  
3 from renewable sources by 2030. New York City is a  
4 world leader in your efforts to build a stronger,  
5 more sustainable, more resilient, and more equitable  
6 city as embodied in the plans together that comprise  
7 OneNYC. In 2016 and I'm telling this to the..  
8 preaching to the choir but the, the city committed to  
9 deployment of 100 megawatt hours of energy storage  
10 citywide by 2020 and in doing so became the first  
11 city in the country to set a, a deployment target for  
12 energy storage and we thank you for that. To quote  
13 the 2017 OneNYC update, "this target will help reduce  
14 reliance on the grid by making variable sources of  
15 energy production such as solar panels, usable for  
16 more of the day. Energy storage also helps increase  
17 the city's resiliency by providing backup energy when  
18 the grid is offline and can ease demand on a  
19 constrained grid while helping New Yorkers manage  
20 their energy bills." In addition, importantly the New  
21 York State Public Service Commission launched the  
22 "Reforming the Energy Vision" or REV initiative in  
23 2015 that is set to modernize and transform the  
24 state's electric grid by accelerating clean  
25

1 distributed energy resources, adopting new business  
2 models that incorporate technology and advancements  
3 and engage customers in energy choice while ensuring  
4 quality reliability and affordability. It has also  
5 been discussed significantly in this hearing, earlier  
6 this year news broke about the energy... Indian, Indian  
7 Point Nuclear Plant closing, we believe that there's  
8 a significant opportunity to supplement and  
9 strengthen the supply of energy using energy storage  
10 by deploying energy storage at various points along  
11 the grid both on the, the utility side of the meter  
12 and behind customer meters. So, there's a... one of the  
13 benefits of storage is it's, it's scalable and can be  
14 incremental so you can deploy a, a... the amount you  
15 need today and then change that amount in the future.  
16 We think the retirement of Indian Point provides New  
17 Yorkers another chance to define their energy future.  
18 New York has committed to being a leader on energy  
19 innovation and now is the time to broaden that vision  
20 to include flexible storage... or technologies like  
21 storage which in turn multiply the positive benefits  
22 of clean energy already in place without having...  
23 adding any harmful emissions. Clean energy companies  
24 stand ready to invest in New York and provide high  
25

2 tech, high paying local jobs. I'll wrap up there  
3 given the time but thank you for the opportunity to  
4 share these thoughts and I look forward to your  
5 questions.

6 CHAIRPERSON TREYGER: Thank you and in  
7 your testimony you mentioned that the Governor who is  
8 a long term proponent of, of, of the closure of  
9 Indian Point announced that the power plant could  
10 shut without increasing emissions or cost tax payers  
11 and without impacting the system's reliability and  
12 again I... you know we and council... many, many of us in  
13 the council support the closure of Indian Point in,  
14 in, in light of numerous concerns but what we heard  
15 today is that we're not clear yet on the impact as  
16 far as potential rate increases for, for New York  
17 City residents and as far as the system's reliability  
18 because one plant has not even started construction  
19 yet, it has permits we're hearing but has not... they  
20 haven't started building it yet so there is a  
21 potential for an impact in these areas, if you can  
22 comment on that.

23 RICHARD WEBSTER: Right, well I mean... I  
24 mean I have two things, operation Indian point is not  
25 a risk-free enterprise, right, we know that Indian

1 Point for sure is, is causing huge damage to the  
2 Hudson River, we're running the risk of a major  
3 nuclear accident. So, we have to compare risks of... in  
4 the future for risks that we're running now, it's  
5 not... the status quo is not a risk-free situation. If  
6 we look at the risks in the future what we've heard  
7 is that the... energy system depends primarily at the  
8 moment the price on, on the, the price of gas and  
9 it's not only the case, I mean people have tried to  
10 say well nuclear is cheap energy, it really isn't  
11 cheap energy. What we've seen is that nuclear plants  
12 if they don't have some sort of subsidy will not be  
13 able to compete in the... in the market right now  
14 because the price of other things has come down so  
15 much and so for the future what I would say is that  
16 we have quite a rosy future ahead of us happily on  
17 this particular point and there may be some other  
18 things but the outlook isn't quite so rosy but energy  
19 prices are... from, from renewables are coming down  
20 quite quickly and the... importantly the, the pricing  
21 of renewables is not for certain than the pricing of,  
22 of fossil fuel based generation. So, once we've  
23 installed renewable resources basically we've, we've  
24 sunk most of the cost, the, the, the... particularly

2 for solar, the, the, the maintenance is relatively  
3 low and so then it provides trouble free energy for a  
4 long time into the future in, in a very predictable  
5 and stable way and so I think as we transition from  
6 technologies like nuclear and fossil fuels to, to  
7 renewables we'll actually see a more stable and more  
8 predictable future.

9 CHAIRPERSON TREYGER: So... yeah and, and  
10 I, I concur that it just.. I think like the officials  
11 have to be very mindful that when they make certain  
12 declarations that this will not have any type of  
13 impacts for people, there are folks who literally  
14 live check to check, who literally.. and, and of  
15 course the status quo has a major cost to it as well  
16 and that's why we again we support.. at least I  
17 support, many of my colleagues support the closure of  
18 Indian Point but we need to be mindful of those folks  
19 who really who can least afford these types of  
20 impacts where literally people live check to check  
21 relying on funds to make sure there's dinner on the  
22 table every night and, and that's what I'm worried  
23 about and I, I again have to also reiterate that in  
24 my district for example and in many parts of the city  
25 as well we are anxiously, nervously awaiting what

2 FEMA decides with regards to the flood insure... flood  
3 zones of New York City that's going to have a  
4 significant impact on families, significant and what  
5 we're hearing from Washington actually is that they,  
6 they might even try to jack up the prices even more  
7 under the NFIEP program. So, when you... there's a  
8 cumulative impact that's why I say if, if it's not a  
9 natural storm that hits us or some climate change and  
10 all this it'll be a financial storm and then  
11 ultimately yes, we're protecting the planet which is  
12 number one, I, I agree 100 percent but we also have  
13 an obligation to make sure that these responsible  
14 transitions don't disproportionately hurt people that  
15 could least really afford these types of impacts.

16 RICHARD WEBSTER: Of, of course we  
17 absolutely agree with you and that's... and that's one  
18 of the reasons that we commissioned the series of  
19 reports from Energy Economic Consultants to look at  
20 the forecast for future energy prices and, and see  
21 that this really has a minimal effect on, on the  
22 future forecast and in fact future the future  
23 forecast some of them are down, some of them are a  
24 little bit up but we're hopeful that actually by the  
25 time it, it plays out what's been happening in the

2 marketplace is that renewables prices has been  
3 dropping faster than ever and faster than predicted  
4 and so what, what we're hoping and expecting is that  
5 there won't be a price spike from this and nobody's  
6 predicting that right now. So, I, I, I hear your  
7 concern but I think that, that right now we're,  
8 we're, we're confident that that won't happen because  
9 there are so many different ways of meeting the  
10 demand, it's not just... we're not just relying on one  
11 power plant being built in one place precisely  
12 because the energy's... it was an aggregated system it  
13 means that the energy can flow all around the place..  
14 [cross-talk]

15 CHAIRPERSON TREYGER: But, but would you  
16 agree that as of this moment right now we... there's  
17 been more significant talk about renewable sources of  
18 energy for the past decade or even more than a decade  
19 but there still is a major capacity issue with  
20 regards to powering up our city... [cross-talk]

21 JOHN CERVENY: If I can just... [cross-  
22 talk]

23 RICHARD WEBSTER: Go ahead... [cross-talk]

24 CHAIRPERSON TREYGER: Yes... [cross-talk]

2 JOHN CERVENY: ...make a point on that, I  
3 actually looked up the numbers as you were... [cross-  
4 talk]

5 CHAIRPERSON TREYGER: Please... [cross-  
6 talk]

7 JOHN CERVENY: ...you mentioned... [cross-  
8 talk]

9 CHAIRPERSON TREYGER: ...yes... [cross-talk]

10 JOHN CERVENY: ...made the comment earlier  
11 and I... [cross-talk]

12 CHAIRPERSON TREYGER: ...I love numbers,  
13 yes... [cross-talk]

14 JOHN CERVENY: ...in, in the US in 2015  
15 there were 7,500 megawatts of solar installed, which  
16 is a record year and it represented about 30 percent  
17 of the total capacity, new generating capacity in  
18 total in the country. 2016 there was 14,600 megawatts  
19 so really double 2015 again a record year for solar  
20 deployment and that now represents 39 percent of  
21 capacity which is greater than the next two  
22 categories which were solar and, and... or rather for  
23 wind and natural gas. So, it, it, it... there's a...  
24 there's a uptake in the rate of solar adoption that  
25 is really significant just in the last two years

2 that, that bodes well for the ability of solar to  
3 continue to meet demands going forward and we heard,  
4 you know the comments earlier from... actually from a  
5 New York-BEST board member, Patrick McHugh, that the  
6 growth in total demand, total growth on the load is  
7 relatively flat and that's true across the state and  
8 primarily... and mostly across the country, there are  
9 pockets of growth and there are pockets of growth  
10 within every utility footprint but the growth in peak  
11 demand continues to grow year over year and that's  
12 where a technology like storage can really play a  
13 tremendous role. So, you've heard about the, you know  
14 kind of annual... or daily cycle of demand, low demand,  
15 high demand, low demand. If you have enough storage  
16 deployed throughout the system you actually can save  
17 a lot of money on the system level cost of all of the  
18 poles and wires and transformers that it takes to  
19 serve those hottest few hours on the hottest few days  
20 every year. The entire system is size and built to,  
21 to lift... to, you know deliver that very short  
22 duration hottest peak on the hottest days during the  
23 heat... the three-day heat wave. So, if you have  
24 storage technologies deployed appropriately you can  
25 really take a bite out of that and, and in fact the

2 public service commission that is part of this REV  
3 proceeding calculated that the top 100 hours in New  
4 York State every year cost rate payers between 1.2  
5 and 1.7 billion dollars annually. So, it's a... it's a  
6 really significant cost to serve those hottest few  
7 hours.

8 CHAIRPERSON TREYGER: So, would you agree  
9 that there's also... there's mixed reviews with regards  
10 to putting solar panels on all roofs because like for  
11 example I, I read that in Bermuda for example it  
12 doesn't rain that much so they kind of use their  
13 roofs to find ways to retain whatever water does come  
14 in to provide water for their... for their homes and  
15 also in case of New York City for example when rain  
16 comes down or if it's a major rain event or... you know  
17 the water will just come right off as, as far as  
18 retention of the water it's going to slide right off  
19 and hit, hit the pavement so have you heard about the  
20 mixed reaction to converting all roofs with, with  
21 solar panels?

22 JOHN CERVENY: Well certainly there's  
23 challenges in deploying solar, not every site is, is  
24 eligible... [cross-talk]

25 CHAIRPERSON TREYGER: Right... [cross-talk]

2 JOHN CERVENY: ...you know or appropriate,  
3 shading issues are usually a, a big factor but you  
4 can... you can mitigate that in some ways through this  
5 community distributed generation activity that's  
6 going on in the state, community solar activity and  
7 that's a tremendous way for people to buy into solar  
8 projects that can be sited in a place where it's  
9 appropriate and they still get the benefit and have  
10 contributed directly to, you know deployment of more  
11 solar. So, whether it can fit on their rooftop  
12 because they're shaded by a large building or not  
13 they can still have the, the direct benefit of, of  
14 solar.

15 CHAIRPERSON TREYGER: Yeah, I mean... look,  
16 I mean it's going to be a combination of things, it's  
17 not one size fits all for everything and... [cross-  
18 talk]

19 JOHN CERVENY: Absolutely... [cross-talk]

20 CHAIRPERSON TREYGER: ...the, the last,  
21 last question I'll, I'll have is just with regards to  
22 building human capacity for, for these initiatives  
23 and measures, is, is your organization working with  
24 for example like the public school system or have  
25 been... enlisted to work with the public school system

2 to examine our curriculums to examine whether or... for  
3 example I mentioned before earlier today that  
4 there's, there's a high school in Southern Brooklyn  
5 that had a room where kids are still working on  
6 carburetors for cars which I think will probably be  
7 obsolete a couple decades from now if not sooner so  
8 I'm just thinking how are we... how's industry working  
9 with our school system to equip the next generation  
10 to be the ones building these things and not shipping  
11 them overseas?

12 JOHN CERVENY: That's clearly part of our  
13 mission, we do a fair amount of work really at the  
14 community college level because that's where a lot of  
15 these training programs reside and so we've done work  
16 in, in Western New York in the capital region and we  
17 actually are partners with... well part... not... well with  
18 city university on a project in, in the city. So,  
19 we've, we've attempted to spread the word and, and  
20 work to build curriculum modules that can be  
21 replicated and used across the... [cross-talk]

22 CHAIRPERSON TREYGER: If I might... [cross-  
23 talk]

24 JOHN CERVENY: ...across the state... [cross-  
25 talk]

2 CHAIRPERSON TREYGER: ...suggest I, I think  
3 we're... I think we're starting to late when you just  
4 work with the college system, you know I think that  
5 this is something that can be introduced earlier,  
6 earlier... in earlier grades, some, some of our  
7 residents... there's, there's a financial factor as why  
8 they might not reach college for, for some of our  
9 city residents so I, I, I would like to certainly  
10 work with your group about working with the DOE and,  
11 and our education department on how we can introduce  
12 this at the earliest grades possible because... for  
13 example elementary school kids are, are working on a  
14 Lego program and if you think about the type of skill  
15 set you need to construct these type of things they,  
16 they apply to other things down the road. So, I, I  
17 just think that we need to think a little bit broader  
18 on that and I'd like to follow up with you... [cross-  
19 talk]

20 JOHN CERVENY: Sure... [cross-talk]

21 CHAIRPERSON TREYGER: ...on, on, on that  
22 item...

23 JOHN CERVENY: ...I would... I would like to  
24 do that... [cross-talk]

2 CHAIRPERSON TREYGER: Oh my colleague,  
3 Council Member Margaret Chin has a question.

4 JOHN CERVENY: Yes...

5 COUNCIL MEMBER CHIN: Well just... I mean  
6 with the New York... New York-BEST, okay, that sounds  
7 great. So... [cross-talk]

8 JOHN CERVENY: Everything we do is best.

9 COUNCIL MEMBER CHIN: Good, this is the  
10 first time I've heard of you guys so you've got to  
11 like to figure a way of really getting out there and  
12 this is the first time we heard about energy storage,  
13 storage so, I mean we know about data storage but  
14 this is the first time we hear about energy storage.  
15 So, it's like really how do you... how can we help to  
16 get the word out there and get people really  
17 interested and excited about it besides our public  
18 school but our, you know our neighborhood, our  
19 community board, I don't know do you work with Con  
20 Ed?

21 JOHN CERVENY: We do, very closely and..  
22 [cross-talk]

23 COUNCIL MEMBER CHIN: Okay... [cross-talk]

24 JOHN CERVENY: ...a lot of the work that  
25 Patrick mentioned earlier about the, the

2 conversations with the Department of Buildings and  
3 with the Fire Department of New York we were around  
4 the table as well. So, we brought in kind of the  
5 industry perspective into those conversations and  
6 helped to actually end up part of our mission we run  
7 a testing lab that we, we built in Rochester that's a  
8 battery test facility and the testing that was done  
9 for FDNY was done under contract there by the  
10 operator of that lab, a company called DNV GL. So,  
11 we, we work very hard to, you know find out what the  
12 barriers to market entry are, it's... clearly getting  
13 approval for siting is a... is a fundamental, if you  
14 can't get approval to have it sited the project  
15 doesn't exist. So, we've spent a fair amount of time  
16 on that as an organization and as an industry group.  
17 In terms of... [cross-talk]

18 COUNCIL MEMBER CHIN: Are you working  
19 with EDC and the, the Mayor's Office of Resiliency?

20 JOHN CERVENY: Yes, yeah, we've, we've  
21 certainly had conversations with them over the years  
22 as well. I think there's always more that can be done  
23 but the challenge is, is bandwidth and, and the  
24 ability to, to support, you know all, all of the, the  
25 possible activities. We're certainly interested and,

2 and happy to engage into... you know send people to  
3 meetings and to share information. I've spent a lot  
4 of time in New York, I live upstate but I've been  
5 down here a lot to, to engage with various groups  
6 and, and work with companies who are trying to site  
7 projects and buildings that kind of thing. So,  
8 there's... you know there's a number of us that, that  
9 do this kind of outreach and would be happy to follow  
10 up.

11 COUNCIL MEMBER CHIN: Are you also  
12 getting support from the state, the state governor, I  
13 mean tell us about energy storage and... [cross-talk]

14 JOHN CERVENY: Yeah, very much so..  
15 [cross-talk]

16 COUNCIL MEMBER CHIN: ...I mean... [cross-  
17 talk]

18 JOHN CERVENY: ...in, in fact it was an  
19 initial investment from New York State through  
20 NYSERDA that created New York-BEST back in 2010 and  
21 then set aside dedicated funding to help support  
22 energy storage related research development and  
23 deployment activities. So, so we were the  
24 beneficiaries of, of some state funding early on  
25 which is no longer a major... the... not... no longer the

2 majority of our funding we, we have other sources now  
3 that keep us alive.

4 COUNCIL MEMBER CHIN: Good, I mean I look  
5 forward to working with you and really hearing more  
6 about how, how can we do this, thank you.

7 JOHN CERVENY: Good, thank you.

8 CHAIRPERSON TREYGER: Okay, thank you,  
9 yeah, I mean there's a lot of... a lot of opportunities  
10 and, and areas that we need to further explore and  
11 time is of the essence more, more, more than... more  
12 for... more than just one reason so thank you both for  
13 your advocacy and your work today.

14 RICHARD WEBSTER: Thanks very much, thank  
15 you... [cross-talk]

16 JOHN CERVENY: Sure.

17 CHAIRPERSON TREYGER: And is that it? And  
18 with that our hearing is adjourned.

19 [gavel]

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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

May 11, 2017