

CITY COUNCIL
CITY OF NEW YORK

-----X

TRANSCRIPT OF THE MINUTES

of the

COMMITTEE ON ENVIRONMENTAL PROTECTION
COMMITTEE ON WATERFRONTS

-----X

December 16, 2011

Start: 1:20 p.m.

Recess: 6:20 p.m.

HELD AT: Committee Room
250 Broadway, 16th Floor

B E F O R E:

JAMES F. GENNARO
MICHAEL S. NELSON
Chairpersons

COUNCIL MEMBERS:

James F. Gennaro
Michael C. Nelson
Elizabeth S. Crowley
G. Oliver Koppell
Peter F. Vallone, Jr.
Brad S. Lander
Stephen T. Levin
Eric Ulrich
Gale A. Brewer

A P P E A R A N C E S

David Bragdon
Director
Mayor's Office of Long-Term Planning and
Sustainability

Howard Slatkin
Director of Sustainability
NYC Department of City Planning

Kelly McKinney
Deputy Commissioner for Preparedness and Planning
NYC Office of Emergency Management

Dr. Cynthia Rosenzweig
Senior Research Scientist
Center for Climate System Research
Columbia University

Eddie Bautista
Executive Director
NYC Environmental Justice Alliance

Juan Camilo Osorio
Policy Analyst
NYC Environmental Justice Alliance

Dr. Malcolm Bowman
Stony Brook University

Dr. Douglas Hill
Stony Brook University

Dr. Lisa DiCaprio
New York University

Buck Moorhead
Co-founder
NYH20.org

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

Becky Schneider
On behalf of
Roland Lewis
President
Metropolitan Waterfront Alliance

Robert Trentlyon
Community Board 4 Manhattan

Paul Reale
Founder/CEO
Green Allowance

Denise Katzman
NYH20.org

Mav Moorhead
NYH20.org

Bruce Rosen
Democracy for New York City

Pamela Wolff
Member
Community Board 4

Stephanie Low
Sierra Club Atlantic Chapter

Claire Donohue
Co-founder
Sane Energy Project

CHAIRPERSON GENNARO: Everybody ready? Good day, I'm Councilman Jim Gennaro and Chair of the Committee on Environmental Protection. Today's oversight hearing is on climate change impacts and mitigation measures in New York City.

I'll keep my statement brief. I want to hear from all the good people that we have here today. For more than ten years, the Committee on Environmental Protection has examined climate change impacts and sought to reduce greenhouse gas emissions locally.

I was the sponsor of Local Law 22 of 2008, the New York City Climate Protection Act, mandating that city government reduce its greenhouse gas emissions 30 percent from the 2006 baseline level, by the year 2017, and directing that citywide greenhouse gas emissions be reduced 30 percent from a 2005 baseline level, by 2030.

Yet, last month, according to the U.S. Department of Energy annual report on energy-related CO2 emissions, global greenhouse gases jumped by the biggest amount on record in 2010-- shame on us--with the U.S. being the second

largest source of greenhouse gas emissions, in the world.

According to the DOE's carbon dioxide information analysis, the Center at Oakridge National Lab, the latest figures put global CO2 emissions higher than the worst case scenario described by the Intergovernmental Panel on Climate Change in 2007.

I have a couple of pages of my statement to go, but I'm going to dispense with that, because just reading that first page makes it all more urgent that we get to work and not listening to Jim Gennaro talk up here.

I'm very grateful that I'm partnering with the Committee on Waterfronts, chaired by my good friend Mike Nelson. It's always great to work with Mike. He's done many great things with the Committee on Waterfronts. This seemed like a natural that we should collaborate. Plus, he and I just wanted to hang out, like on Friday afternoon and be enlightened by the good things that you all have to say.

We're going to be hearing from the Administration. We've got David Bragdon, who

1 we're very grateful to have as the head of the
2 Office of Long-Term Planning and Sustainability.
3 There are so many great things that the Bloomberg
4 administration is doing in partnership with the
5 Council to try to implement the full vision of
6 PlaNYC, the Mayor's landmark vision for how we can
7 green the city and by extension green the country
8 and the world. We'd like to think that we have a
9 lot to offer here through our Office of Long-Term
10 Planning and Sustainability.
11

12 The Council has worked very well
13 with the Office of Long-Term Planning and
14 Sustainability and with the Bloomberg
15 administration to do good things. We're very
16 grateful that David is here. We've got many
17 expert witnesses from around the world, from my
18 alma mater SUNY Stony Brook, which is now Stony
19 Brook University. In my day, it was SUNY Stony
20 Brook. Now it has a new brand.

21 Many good people here from my
22 committee. We have Council Member Peter Vallone
23 and Council Member Liz Crowley. I want to thank
24 the staff for putting together this hearing. It
25 was a lot of work to get this done.

There is probably a situation where we don't have enough room for everyone who wants to be at this hearing. It's my understanding we have some people down in the lobby. I'd like to ask the sergeant and staff to kind of confirm that. If it's the case there are people downstairs, Bill, if you could check that, who can't get in here until people leave, then I would ask people once they've done their business to make way for others who are standing in the lobby trying to get in. Bill, if you can confirm that for me, then we would ask the people to do that, to cycle in and out, so everyone gets a chance to be heard.

With that said I'd like to turn it over to my good friend and highly respected colleague Mike Nelson, to make an opening statement. It's really a pleasure to work with you today, Mike.

CHAIRPERSON NELSON: Thank you, same here, Jim. I appreciate it. Good afternoon and welcome to this joint oversight hearing on climate change impacts and mitigation measures in New York City.

Sea levels have already risen three inches since 1983, as many in this room are aware of. The hundreds of miles of coastline in New York City make it particularly vulnerable to more frequent and intense storms and sea level rise.

The New York City Panel on Climate Change was convened in August of 2008, by Mayor Mike Bloomberg, to advise on issues related to climate change and adaptation. According to the panel, by the 2080s, at the time my grandkids will be about my age, to put it into perspective, the city can expect the air temperature up 4 to 7.5 degrees Fahrenheit; the sea level to rise about 12 to 23 inches; 37 to 64 days a year with the temperature over 90 degrees Fahrenheit; and a 1 in 100 year flood to occur instead every 15 to 35 years.

While mitigation actions to reduce greenhouse gas emissions are important, they will not completely prevent climate change. Therefore, adaptation measures need to be taken to address both short-term and long-term risks.

PlaNYC is an agenda to prepare for the future growth of the city by strengthening our

economy, planning and for fighting climate change and enhancing the quality of life for all New Yorkers. The plan was originally released in 2007 and updated last spring to include recommendations of the panel.

Finally, the actions that the city has taken thus far to proactively address climate change and incorporate its effects into short and long-term planning is commendable. The committees hope to learn the progress of the city's current mitigation and adaptation measures and what improvements may be needed to the city's current plan.

Thank you. And with that, I'll turn it back to my friend Jim.

CHAIRPERSON GENNARO: Thank you, Mike. I great appreciate that. For me, this hearing is going to be about listening to the good plans of the administration. I call them good plans because I'm a member of the Mayor's Sustainability Advisory Committee. I'm proud to be a part of that great effort. We've got two years and 15 days left or whatever, before we all walk out, and we want to make sure that we could

1
2 do everything we possibly can, and maybe refine
3 some aspects the plan. If need be, maybe
4 legislate something or whatever. Certainly, we're
5 going to have a robust discussion today and hear
6 about the city's very, very good plans and how,
7 perhaps, we can even make them a little better.

8 With that said, it's my pleasure to
9 call forward David Bragdon and people who will be
10 sitting on the panel with him, also from the
11 Bloomberg administration, Kelly McKinney from OEM,
12 Howard Slatkin from the Department of City
13 Planning.

14 One great thing about the Bloomberg
15 administration is so many agencies are actually
16 environmental agencies. Speaking of City
17 Planning, I sat with Amanda Burden last week and
18 we talked about all of their green code revisions
19 and zoning resolution, and OEM is a major player
20 in keeping us all not only environmentally safe
21 but in public safety and with regard to
22 emergencies. We have Peter Vallone, Jr., here,
23 who is certainly no stranger to OEM, and happy to
24 have the Mayor's green team with us here today.

25 COUNCIL MEMBER: [off mic]

CHAIRPERSON GENNARO: Yes, Peter is--we're all kind of playing hearing musical chairs today. I've got two other hearings going on right now that I'm supposed to be at. One is actually a vote. My staff is figuring out how I can reach my hand into the next room and make a vote. Very pleased and proud to have you in here, and David, it's really great to work with you and your good team. We look forward to hearing the good news you have for us today. We know that you'll leave folks here to listen to some of the good testimony that is going to follow. Thanks very much.

We're going to dismiss with swearing of the witnesses. I feel like I'm in a very good mood today and everyone is in a--you know, so we're not going to do that. It's the holidays. We're not swearing people during the holidays. It's, like, how rude is that.

So, with that said, very pleased to have you here, David, and your team. I would just ask you to state your name for the record and proceed with your good testimony.

DAVID BRAGDON: Great. Thank you

1 very much, Chair Gennaro, Chair Nelson. It's a
2 pleasure to be here. It's David Bragdon; I'm
3 Director of Long-Term Planning and Sustainability
4 for the City of New York. I'm joined by Howard
5 Slatkin, who's Director of Sustainability for the
6 Department of City Planning, as well as Kelly
7 McKinney, as you identified, being the Assistant
8 Commissioner for Planning and Preparedness at the
9 Office of Emergency Management.
10

11 We appreciate the chance to be
12 hear, to talk both about the causes of climate
13 change and what we're doing to reduce our
14 contributions, and the other half of this then
15 being what we're doing to prepare for its effects
16 on us. Those are the primary motivators actually
17 behind PlaNYC, which the Chair referenced, from
18 2007, which set us on a path to reduce citywide
19 greenhouse gas emissions 30 percent by 2030, and
20 also increase the resilience of our communities'
21 natural systems and infrastructure to the risks of
22 climate change.

23 So let me start with our
24 contributions and everything that we're doing
25 through PlaNYC and elsewhere to reduce those. We

start with--

CHAIRPERSON GENNARO: [interposing]
David, I'm just going to jump in for a minute. I
just want to ask the sergeant to take a look at
the temperature. Is it hot in here? Anybody else
hot in here?

FEMALE VOICE: [off mic] Yes.

CHAIRPERSON GENNARO: It's a little
too--I mean we're talking about global warming,
but what it is, like, method acting here? It's
just a little too much. So by the power vested in
me, I'm making this a jackets-optional hearing,
but shirts required.

DAVID BRAGDON: New Yorkers start
with a very low per capita carbon footprint
compared to other cities in the nation. We're
about a third and that's primarily due to the
robust public transportation system that we have.
But our ambitious goal is to shrink that by 30
percent. That's not just our intention, but
thanks to the Chair having written the legislation
that he referenced, Local Law 22, also in the law,
followed up by an Executive Order.

That legislation also requires us

1
2 to track our progress. We do an annual assessment
3 in terms of greenhouse gas inventory. We do that
4 every September and report to you.

5 Our greenhouse gas emissions are
6 primarily the result of fossil fuels being burned
7 to heat, light, cool, operate buildings, elevators
8 and so roughly 75 percent of our greenhouse gas
9 emissions are related to those activities of
10 heating, cooling and powering, and about 20
11 percent due to transportation. Three percent are
12 the result of the solid waste systems, not just
13 the operations of it but also the decomposition of
14 what we're sending to landfills elsewhere.

15 As we've been tracking this since
16 2005, those emissions have been reduced by 12
17 percent. That is largely the result of re-
18 powering and changes in the fuel mix being used to
19 create the electricity being used here.

20 Now, while that fuel mix, it's a
21 major factor and it's accountable for about
22 halfway toward our goal, due to those factors our
23 electricity sources are, to a great extent, beyond
24 our control. They're subject to federal and state
25 regulations and permitting. So those factors,

1
2 being beyond our control, such as the potential
3 decommissioning of Indian Point, for example,
4 which is relatively low carbon, we need to really
5 make a very strong effort in the areas that we do
6 control, the things that are in our ability to
7 shape.

8 Along those lines, PlaNYC includes
9 37 different initiatives that directly reduce the
10 city's greenhouse gas emissions. Let me just
11 summarize what many of those are.

12 I mentioned existing buildings
13 being a key effort. We've worked very closely
14 with the City Council. In fact, just last week
15 you passed three more bills pertaining to this and
16 another one very close behind that. We worked
17 with you and the Speaker to create the Green,
18 Greater Buildings Plan, which passed two years ago
19 this month. It's the most comprehensive set of
20 efficiency laws on the books, currently anywhere
21 in the country.

22 As it kicks in, it will reduce the
23 emissions by 5 percent, a very large chunk toward
24 our goal. Also, reducing citywide energy costs
25 paid by private parties by \$700 million annually,

and create roughly 17,800 jobs, construction-related jobs for the retrofits.

Going forward, to address energy use in new construction, we continue to work with Speaker Quinn on the Green Codes Task Force recommendations, over 100 different recommendations that the Council and we jointly helped put together.

The Green Codes Task Force has 50 different code proposals which would increase energy efficiency in buildings. Twenty-nine of those have already been enacted, again, most of those due to the work of this Council, things that have come through the Council.

The remaining proposals, which will be coming forth in the coming months, the two years and 15 days that the Chair referenced, if we're successful with those, they are estimated to reduce citywide emissions 7-10 percent, which would be equivalent to making Miami carbon neutral. So we look forward to working with you on those code revisions.

On Monday, the Department of City Planning--this was last Monday--represented by Mr.

1 Slatkin here, began the public review process for
2 other legislation that'll come to you by way of
3 the Planning Commission and borough presidents,
4 the Zone Green text amendment to the Zoning Code.
5 The goal there is to remove zoning obstacles that
6 currently inhibit building owners from doing
7 things that improve their buildings in ways that
8 are environmentally sound and reduce carbon
9 emissions.
10

11 We are also, while using those
12 regulatory tools we are using the financial tools
13 at our disposal. For example, \$37 million in
14 federal stimulus funding to create the New York
15 City Energy Efficiency Corporation to create loan
16 products for property owners who want to do energy
17 efficiency retrofits.

18 On the heating side and petroleum,
19 the regulations the Mayor signed last spring,
20 which will phase out the use of heavy heating
21 oils, will also reduce greenhouse gas emissions
22 and provide significant air quality and public
23 health benefits.

24 Let me talk a minute about the
25 city's own portfolio of buildings, which are

significant. The city's investments in energy efficiency upgrades to its own buildings were laid out in the long-term plan to reduce energy consumption and greenhouse gas emissions of municipal buildings and operations. Those are starting to show results over time. Greenhouse gas emission from city government facilities and operations are now below the Fiscal Year 2006 base year level, and the current annual reductions are on track to achieve that goal, which is a 30 percent reduction by 2017.

Under the leadership of the Department of Citywide Administrative Services, the city has completed 129 different building retrofits since 2008, and those have reduced greenhouse gas emissions from government buildings by 16,000 metric tons and saved the city, saved the taxpayer almost \$7 million annually in energy costs. Now, we have another 114 projects that are in design and construction.

DCAS also measures its progress. As we go along, we benchmarked energy use in 2,790 different city-owned buildings this year, made those results available on the website, as part of

1
2 a very comprehensive report, detailing information
3 on all New York City government buildings, 10,000
4 square feet or larger.

5 On the transportation side, in
6 terms of the city's fleet, we've attempted to
7 reduce emissions there. We've added 5,973
8 alternative fuel vehicles to the fleet, including
9 422 electric vehicles. It's now the largest
10 municipal fleet--fleet. Clean fleet, too, but clean
11 fleet--we believe in that too, pedestrian rights--
12 clean fleet in the nation.

13 Solid waste, again I mentioned as
14 being accountable for 3 percent. We are working
15 to reduce the amount of solid waste we export to
16 landfills because it decomposes and emits methane,
17 which is a very harmful greenhouse gas, as well as
18 to make our solid waste management system more
19 efficient by shifting garbage from long haul
20 trucks to rail and barge. And again, some of this
21 predated PlaNYC. That was actually a product of
22 the SWMP, the solid waste management plan that the
23 Council worked with the Administration and the
24 communities on to shift. We now have 30 percent
25 of the solid waste moving out of the city by rail

and barge rather than by long distance trucks.

Finally, public transportation is really an essential component of any strategy. Our strategy to reduce greenhouse gases is the major reason why New Yorkers already emit far less carbon per capita than residents of other American cities. So everything that we do to increase access to public transportation, everything that we do to make walking and biking safer, all of those things reduce the burning of fossil fuels by automobiles.

So in that sense, the current financial instability of the MTA and any threat to the MTA's ability to expand and to maintain its service for the future population growth, in effect it poses a risk actually to our greenhouse gas reduction strategy as well.

Just like the MTA financing, there are other state and federal policies that are beyond our control but that we need to weigh in on and that are important.

State and federal energy policies in particular really will affect us in our progress toward our goals. For example, if

1
2 Congress were to pass a carbon tax or foreign oil
3 import fee, anything that Congress might do that
4 would reduce fossil fuel use nationwide, as well
5 as in New York, that would help us meet our goal,
6 as well as national goals.

7 Conversely, federal or state
8 decisions that discourage lower carbon energy
9 sources like nuclear or natural gas, that could
10 lead to more burning of coal. That would, for
11 reasons beyond our borders, increase the carbon
12 intensity of New York's electricity supply and
13 that would send our per capita emissions up.

14 So now that I've described our
15 efforts and the other factors related to reducing
16 our contributions to climate change, let me turn
17 to what the city is doing to prepare for the
18 effects of climate change, which are bound to
19 occur. We need to do both of these things and
20 PlaNYC moves on both of those tracks.

21 Even if we, as a city or as a
22 nation or if everybody in the world could
23 magically cease all of our emissions tomorrow, the
24 science is irrefutable that enough atmospheric
25 change has already occurred that will alter our

climate and affect future weather patterns, and we need to be responsible for addressing that. In other words, we need to increase the city's climate resilience, which is defined as our ability to withstand and recover from extreme events and environmental changes.

New York City has always faced heat waves, snowstorms, high winds, tropical storms, storm surges, lightning, torrential downpours. But as the climate changes, those events will become more frequent and more severe.

So, as we increase our resilience to not only those current conditions but future climate risks, we need to be guided by a very clear and full understanding of the risks we face and the costs and benefits of various potential options. Using a risk-based approach, built on hard science, will allow us to pursue and implement the most effective initiatives to protect our city and its residents. There is no one single initiative, no one magic solution. It will be a multitude of things that we'll have to do.

As the Chair mentioned, in 2008,

1
2 Mayor Bloomberg convened the New York City Panel
3 on Climate Change. That was composed of leading
4 scientists, social scientists, academics, risk
5 management experts. I believe some of them are
6 probably here in the room. They advised the city
7 on climate change.

8 The NPC projected that by mid-
9 century, New York City's average temperatures will
10 rise by 3 to 5 degrees Fahrenheit, sea levels
11 could rise by more than 2 feet and by the end of
12 the century, the city's climate may be more
13 similar to North Carolina than it is to present
14 day New York City. And while New Yorkers
15 currently experience an average of 14 days a year
16 with temperatures over 90 degrees Fahrenheit, by
17 the 2080s, it could be more than 60 days.

18 So, in response, PlaNYC, the most
19 recent update in April of 2011, laid out a five-
20 point approach to increasing the city's climate
21 resilience. Let me describe the five elements of
22 that approach.

23 First is increasing our knowledge
24 and understanding of climate risks so that we have
25 a good scientific basis for our decision making.

Secondly, is to change the design and operation of our built and natural environments, whether it's public or private, to account for those current and future risks.

Third, to evaluate and take action on the public health risks that are related to climate change.

Fourth: increasing the city's preparedness for extreme climate events.

Finally, and also very importantly, working with communities to increase their resilience.

There is no--

CHAIRPERSON GENNARO: [interposing]
David, when I was back there playing with the thermostat, some folks in the back just wanted you to speak a little more directly into the microphone. They're having a little trouble hearing back there.

DAVID BRAGDON: Sure. There is no one single one-size-fits-all answer to the risks of climate change, because those risks are multiple and varied. That's why the Administration has chosen to take this multi-front

1
2 approach, which was cited by the National
3 Academies of Science as America's Climate Choices
4 Committee as, quote, "one of the most
5 comprehensive approaches so far to adaptation in
6 the United States."

7 So let me now give you some of the
8 details of each of those categories, or examples
9 of things in each of those.

10 In that first category of assessing
11 risks, we are working to develop accurate
12 knowledge of the current exposure. The Federal
13 Emergency Management Agency, FEMA, their flood
14 insurance rate maps, known as FIRMs, F-I-R-M,
15 determine which properties must participate in the
16 National Flood Insurance program and where new
17 buildings must comply with flood-proofing
18 standards.

19 These flood maps have not been
20 significantly revised since 1983. So we're now
21 working with FEMA to update those FIRMs. The
22 updated maps will be released by FEMA in draft
23 form, for public review and comment, in 2013.
24 They're using data that we supply as a city.
25 That's our local match. That will now reflect the

changes to our shoreline, built environment and sea levels, all of which have changed since 1983.

But the FIRMs, as conventionally produced only incorporate historic information. They look backwards, and they don't reflect the impacts of potential future sea level rise. So we're working with a number of academic institutions to develop flood maps that will be publicly available, to incorporate those sea level rise projections to be used for planning purposes. That'll help government agencies, private companies and communities plan with much more information about sea level rise.

In that second category I mentioned, of altering the design and operation of our city and facilities, we know that our resilience to coastal flooding is a critical concern for a city with 520 miles of waterfront. We also know our densely populated city doesn't have the option of picking up and moving to higher ground.

So our solutions, again they're going to be multiple, they're going to be varied, they're going to reflect the complex nature of the

1
2 threat and the different costs and benefits that
3 we need to weigh, of various numerous approaches.
4 We need to consider both structural and
5 nonstructural measures to protect buildings and
6 shorelines, whether it's from erosion to prevent
7 flooding or to reduce wave and tidal action. It
8 may be different phenomena in different places.

9 Working with the Department of City
10 Planning, the U.S. Army Corps of Engineers, and
11 several academic partners, we're evaluating a wide
12 variety of coastal protection strategies, from
13 wave attenuators and soft edges to storm surge
14 barriers, to determine how and where each could
15 play a role on New York's extensive and varied
16 waterfront, at the appropriate proportion of cost
17 and benefit. Reflecting our commitment to a fact-
18 based, science-drive approach to climate change,
19 we're not presupposing the outcomes of this or
20 other studies that are underway.

21 Meantime, we are also redesigning
22 existing infrastructure and future infrastructure
23 standards to reflect the risks. For example, to
24 ensure that climate change is incorporated into
25 the design and operation of the city's critical

1
2 infrastructure, we launched the New York City
3 Climate Change Adaptation Task Force in 2008,
4 which is 40 different city, state, federal
5 agencies, private entities that operate or
6 regulate critical infrastructure. Things like
7 power plants, rail lines, solid waste transfer
8 stations.

9 The task force's mission is to
10 assess how climate change could impact our
11 infrastructure and to develop measures that those
12 owners can use to increase the resilience of their
13 facilities and the public that they serve.

14 The task force identified more than
15 100 types of transportation, energy, water, sewer,
16 solid waste, telecommunications and natural
17 infrastructure that climate change could impact.
18 The task force will use this initial assessment to
19 develop coordinated strategies to increase the
20 resilience of that infrastructure.

21 Those strategies include changes to
22 standard capital and maintenance processes, design
23 standards. Those will be released next year in a
24 task force assessment and report that we hope
25 those infrastructure owners will then put to work.

In the meantime, we're not waiting. In advance of the task force report, several city projects are already being built that address climate risk and that's taken into account during design. Parks, such as the Brooklyn Bridge Park and Governor's Island includes shoreline treatment such as riprap and salt-resistant plantings that can accommodate flooding. The entire Willets Point development site in Queens is being elevated out of the flood plain. Several wastewater treatment plants include flood gates and plans to raise critical equipment above future flood heights.

To better manage rainfall, which the NPC projects will increase by 5-10 percent by the end of the century, the Department of Environmental Protection is investing \$1.5 billion as part of the NYC Green Infrastructure Plan, which will capture or detain stormwater before it can enter and overwhelm the sewer system, causing CSO phenomenon.

In the air, our air temperatures can be more than 7 degrees Fahrenheit warmer than in neighboring counties, due to the urban heat

island effect, which is the phenomenon under which heat is absorbed by dark surfaces, increasing surface and air temperatures, particularly at night. So, to cool the city, we are increasing our vegetated surface area by planting one million more trees, constructing green infrastructure and incentivizing the installation of green roofs.

A white or cool roof that reflects much of the sun's energy and reduces air temperatures and the energy required to air condition the building. Cool roofs can lower air pollution and greenhouse gas emissions by reducing electricity demand. They also save building owners and tenants money through reduced energy bills.

Through the NYC Cool Roofs program, we've coated more than two million square feet of roofs, largely through the efforts of NYC Service volunteers, and we're expanding that effort to coat an additional two million square feet of roofs with cool coating by 2013. We'll also be pursuing a cool roof requirement for existing buildings, resulting in all flat roofs in the city having a cool coating by 2030. That, again, would

be legislation we'd be working with you on.

As new buildings are constructed, we can ensure that they are able to better withstand flooding, temperature extremes and other conditions by updating other local laws and zoning regulations. Our current Building Code requires that new buildings in the FEMA 1 in 100 year flood zone elevate occupied space above the FEMA designated flood level, the base flood elevation. Significantly lower federal flood insurance rates are available to buildings that further raise this space by one or two feet, an approach known as freeboard.

We currently require freeboard for critical buildings in flood zones, such as hospitals, utility facilities, public safety facilities and schools. More extensive use of freeboard can help property owners manage risk, but it also has the potential to change the character of buildings and the streetscape. So the Department of City Planning is conducting a study of the urban design and streetscape implications of freeboard to ensure that we can maintain the city's active street life and vibrant

character while enhancing our resilience.

On the basis of that analysis, we'll explore further amendments to the zoning resolution to encourage better management of flood risks. We'll also pursue amendments to the Building Code to require freeboard for a wider range of buildings, to reduce risks associated with sea level rise and more intense coastal storms.

New York City's waterfront revitalization program establishes policies for the development and use of the city's waterfront. So, we are incorporating consideration of climate change within the policies of the WRP, which will be released in draft form for public comment early next year.

Effects of climate change, including rising temperatures and declining air quality have the potential to significantly affect New Yorkers' health citywide. This is not simply, obviously, a coastal issue. It's citywide. Recognizing this, the Department of Health and Mental Hygiene launched a program in 2010, federally funded, to assess the impacts of climate

change on public health, including impacts to our public health infrastructure.

Through this program, we'll be evaluating the public health impacts of climate-related events, such as heat waves, for example. Identify opportunities and gaps in adapting to a changing climate. Outline strategies for fostering climate resilience, particularly among vulnerable parts of the population. Devise outreach strategies to protect individuals and communities from the public health impacts of climate change.

Our goal is to provide information that describes the actions and resources that can protect people from the health impacts that are coming with climate change. That will build on the city's existing efforts to protect New Yorkers from climate-related events, again such as extreme heat or coastal storms.

Recognizing that New York City faces climate-related risks today that are likely to get worse, the Office of Environmental Management, represented here by Ms. McKinney today, has plans in place to guide New York's

response to weather emergencies, including plans for coastal storms, extreme heat, flash floods, and winter weather. As we saw during Hurricane Irene, these plans are well-developed, practiced, and executed. Each plan describes a coordinated, flexible response to the hazardous weather event, defines agency roles and responsibilities, and guides agencies through key decisions and actions to mitigate effects on people, critical infrastructure, and city operations.

In addition to response plans, the New York City Natural Hazard Mitigation Plan, released in 2009, provides a hazard vulnerability assessment, identifies long-term mitigation strategies, and ensures the City's eligibility for mitigation-related grants from FEMA. OEM will be updating the Natural Hazard Mitigation Plan at the end of 2013 and will include climate change as a hazard assessed under the plan.

Citizen preparedness is a key element of our efforts and is essential to the resilience of our city. Through the Ready New York program, the Office of Emergency Management educates New Yorkers about preparing for

emergencies and about personal preparedness. In the past year, OEM distributed approximately 415,000 Ready New York guides and gave a total of 243 presentations. Guides are available in up to 23 languages and many are also available in Braille and audio format.

In closing, the effects of climate change will bring new challenges to our city and require that our communities are well informed and prepared to accommodate and respond to climate change effects. So we will incorporate those risks into all of these outreach efforts that I've been talking about and continue to engage New Yorkers to enhance their resilience to extreme events.

We will also create an online portal and other materials that will include the latest NPCC climate projections, flood maps incorporating sea level rise projections, and tools to increase the climate resilience of homes and businesses.

Reducing the risks associated with climate change will not be achieved through any single plan or action, it must be achieved through

1 informed decision making and variety of
2 investments that are responsive to the latest
3 scientific information and a clear understanding
4 of the costs and benefits of different approaches.
5

6 Thank you very much for the time
7 and for the opportunity to articulate the
8 Bloomberg Administration's climate efforts, both
9 in terms of reducing our contributions to it and
10 also in terms of preparing for its effects. My
11 colleague and I are happy to address any questions
12 that you may have. Thank you.

13 CHAIRPERSON GENNARO: Thank you,
14 Director Bragdon. I really appreciate you being
15 here today, giving us this comprehensive
16 presentation of all the good work that you and
17 other city agencies, in cooperation with the
18 Council, have been able to put forward.

19 As you say, in your second to last
20 paragraph, what we want to accomplish must be
21 achieved through informed decision making and
22 investments that are responsive to the latest
23 scientific information and a thorough
24 understanding of the costs and benefits. That's
25 what you've done and that gives us guideposts that

we can use to go forward. I thank you for that.

Let me just recognize some Council Members that have come in the interim. Council Members Ulrich, Levin, Lander Brewer. We're grateful to have everybody with us. Anyone who wishes to ask questions of this panel can signal that to the counsel to the committee and we can commence with that.

[Pause]

CHAIRPERSON GENNARO: Mike and I are just working things out here. I've got to run right next door to take a vote. I certainly have questions and comments that I wish to pose, as soon as I cast my vote next door. In the meantime, Council Member Brewer has been asked to be recognized for questions. I'm happy to recognize Council Member Brewer. Did you indicate, Gale, that you had questions?

COUNCIL MEMBER BREWER: Yes.

CHAIRPERSON GENNARO: Okay, great.

COUNCIL MEMBER BREWER: I was just trying to read the whole thing because we've been next door doing something else.

CHAIRPERSON GENNARO: Yes, too much

going on today.

COUNCIL MEMBER BREWER: Yes.

CHAIRPERSON NELSON: Due to holidays, so we're sort of bunching up.

COUNCIL MEMBER BREWER: It has nothing to do with the holidays, it just has to do with life.

CHAIRPERSON GENNARO: I'll be right back.

CHAIRPERSON NELSON: How dare you contradict it.

COUNCIL MEMBER BREWER: Sorry, Michael Nelson.

CHAIRPERSON GENNARO: We recognize Council Member Brewer.

COUNCIL MEMBER BREWER: Oh no. I mean this is my ignorance. The City Council has passed a lot of green measures. You've been doing a lot of work. In the neighborhoods, this is what is of concern to me, how do we know what percentage of all of these great ideas and policies are being implemented that do address the overall concern?

Let me be specific. The Parks

Committee had a hearing recently, and due to budget cuts, it's hard to get the stumps out and the trees in. I'm being sort of general. And then, of course, we all want the myriad of many wonderful topics that Long-Term Planning has listed. I assume that on your website a lot of this is discussed.

I'm just trying to see, on the ground how do we implement, with budget challenges, some of those amazing opportunities that you know policy wise need to be implemented? I mean I go around my neighborhood and I am a tree hugger, I will admit it. I try so hard to get more trees in but the stumps are there. I could go on and on. I think we all could. The same thing with the buildings and so on.

So I'm just wondering, implement, how do you work with the agencies to do it? How should we be working with the agencies? Are there so many budget challenges that some of these things are going to be on hold?

DAVID BRAGDON: Council Member Brewer, it's a great question. I think one of the things that distinguishes PlaNYC in terms of it

1
2 being a national model is that it's a combination
3 of a long range plan with its vision fixed on the
4 year 2030, while simultaneously identifying very
5 specific short-term milestones that are steps
6 along the path to 2030.

7 The update of PlaNYC that we
8 released in April identifies 132 different
9 initiatives, and associated with each of those 132
10 are milestones that we've undertaken to achieve by
11 the end of 2013. Each April we are bound, by the
12 laws that you have passed and that we happily
13 embrace, to report on that progress each April.
14 So in April of 2012, we'll be issuing a report
15 that shows the progress we are making. We'll be
16 frank about the areas where we've lagged due to
17 the capital constraints that you're very familiar
18 with, because you're the budgetary authority for
19 the city.

20 So for example, we're proud of the
21 fact that we've now reached the half million trees
22 just in the last couple of months. We feel like
23 we're on track with that. The Schoolyards to
24 Playground initiative, quite honestly at one time
25 we--

COUNCIL MEMBER BREWER:

[interposing] That was my idea, just so you know.

DAVID BRAGDON: Exactly. There's a reason I mention it then. You may remember we once aspired to do 258. We've had to say due to the budgetary realities we think maybe it's going to be more like 230 in this mayor's term, if fiscal conditions. We want to go back to that 258, and again that's the value of knowing that we'll have successors and we want them to stay on that path to the year 2030.

So I think the short answer to your question of how we know how we're doing is reporting annually on each of the metrics that we've identified so that we can show how many buildings have been benchmarked. That's the point of the benchmarking program. How are we doing with energy consumption, how much further have we gone with our energy efficiency work.

COUNCIL MEMBER BREWER: One last question is when we negotiate ULURPs, which we do quite often, two issues. One is I must admit we always say we want the maximum in terms of the greening of the building, whatever LEED it is, and

1
2 I think LEED keeps changing as to what it exactly
3 means, Gold, Silver, Bronze, whatever. We don't
4 get it and it's very frustrating. Owners always
5 say, oh, it costs too much, blah, blah. I don't
6 hear you weighing in at City Planning to state
7 this must be the most maximum green building. It
8 has to keep up with the Durst or something like
9 that. That's not what happens. So I'm just
10 wondering in terms of the buildings, are you able
11 to do that or is that too controversial to be able
12 to say to Amanda Burden "this building must be as
13 green as possible." Or does it end up in the
14 negotiation as part of the negotiation that goes
15 on? That's what I find, the latter.

16 DAVID BRAGDON: Council Member
17 Brewer, I think some of the green text amendments
18 that Chair Burden championed Monday will actually
19 make it easier and more likely that more property
20 owners will do green things.

21 COUNCIL MEMBER BREWER: They don't
22 do it unless they have to.

23 DAVID BRAGDON: I'll also defer to
24 my colleague, Mr. Slatkin, in terms of the details
25 of that proposal.

COUNCIL MEMBER BREWER: Unless they're a Durst.

DAVID BRAGDON: When you say the word ULURP, my eyes turn to Howard.

COUNCIL MEMBER BREWER: It's a little button on the back of that thing.

HOWARD SLATKIN: Thank you.

CHAIRPERSON GENNARO: What I would also is that you state your name for the record before you start with your answer.

HOWARD SLATKIN: Sure. I'm Howard Slatkin, Director of Sustainability for the Department of City Planning. I want to thank Council Member Brewer for the question. It's an issue that we very much care deeply about at City Planning. That's why we've recently rolled out the zone green text amendment that David has referred to here.

Individual projects oft go through an environmental review process and some of them highlight particular environmental performance issues and we seek to address those wherever possible within those projects. So there are many projects that have made their way through City

1
2 Planning that have, for instance, the Western Rail
3 Yards is one project that committed to extremely
4 high standards.

5 We are, also, aware that in New
6 York City LEED is a great standard. We think it's
7 a fabulous thing for development to be seeking to
8 achieve. But also within New York City's context
9 we have our own sort of special circumstances.
10 Many of the factors that would earn you LEED--that
11 are required to earn your LEED, you have by virtue
12 of being in New York City. So we think it's
13 important to look very closely at some of the
14 details.

15 This is one of the reasons that the
16 Green Codes Task Force, which was convened by the
17 Mayor and the Speaker, combed through all of the
18 city's zoning and building code regulations in
19 order to identify what are the key things that we
20 want to really be encouraging buildings to do,
21 either through new requirements or through removal
22 of existing impediments.

23 COUNCIL MEMBER BREWER: The as of
24 rights will have to participate in this also?
25 Obviously, we hate them. We like the ULURP ones

1
2 because we have some say in the community. But
3 the as-of rights ones will have to conform also?

4 HOWARD SLATKIN: With all of the
5 items that we're talking about with improvements
6 to code or other regulations, the idea is that
7 they should apply to all buildings. You know we
8 only capture a very small share of buildings that
9 go through the discretionary review process in
10 ULURP. We need to address all our buildings, and
11 so we want to find every avenue to do that.

12 COUNCIL MEMBER BREWER: Mr. Chair,
13 I could ask more, but I'm sure there are other
14 questions. Go ahead. I'm done for now.

15 CHAIRPERSON GENNARO: Thank you.
16 I'll just kind of personally weigh in on this
17 colloquy that's been going on with regard to what
18 City Planning has done with the green text
19 amendments. I mentioned at the outset that I sat
20 with Amanda last week. This is really going to be
21 terrific, this is really going to spur people,
22 really open the opportunity for people to do a lot
23 more green things.

24 I will mention that New York City
25 is completely in the forefront regarding not just

1
2 looking for new buildings and major renovations to
3 kind of be like the green building stuff that we
4 do, but we're looking at the existing stock of
5 buildings. Like David Bragdon said, we worked
6 with the Administration to do the whole retrofit
7 retro commissioning and benchmarking which, you
8 know, looking at the exiting sort of stock of
9 buildings, most of which are going to be here 100
10 years from now.

11 Our city, no city can just sort of
12 new construct our way towards where we need to be.
13 We have to take the existing stock of buildings
14 and make them as green as possible. No one has
15 done a better job at that than us. With the green
16 text amendment and everything, people are
17 naturally going to want to do these things because
18 it just makes economic sense to do so. They'll
19 have the opportunity because there won't be these
20 zoning impediments any longer to these things. I
21 feel very good about that.

22 But Gale makes a point about we've
23 got to push the envelope every way we possibly
24 can. As long as Gale Brewer is on the Council,
25 that is certainly going to happen. I thank Gale

1
2 for her questions. It's my pleasure to call on my
3 colleague and great environmentalist Brad Lander.

4 Steve, do you also have some
5 questions, too?

6 COUNCIL MEMBER LEVIN: I'll ask
7 after Brad.

8 CHAIRPERSON GENNARO: Okay, sorry.

9 COUNCIL MEMBER LANDER: Thank you,
10 Mr. Chairman. Thanks to the three of you for
11 being here and for your leadership on these
12 issues. I thought your testimony was great. I'm
13 a big supporter, of course, of the efforts we've
14 taken in PlaNYC and Greener Greater Buildings.
15 I've had a little chance to start looking at the
16 zone green amendment and I think they're very
17 strong.

18 I also appreciate, in your
19 testimony today, you're highlighting some broader
20 issues that need to be raised. We need federal
21 policy, like a carbon tax or something. I mean
22 the loss of this issue from the federal radar
23 screen is--you know, you can explain it with
24 what's happened politically in recent years, but
25 leadership has to be there.

Also, I just want to call out and underline your statement on MTA financing. While I broadly supported the deal reached in Albany on progressive tax structure, this little noticed and too little commented change in the payroll tax, taking away dedicated revenue for the MTA on a vague promise that Albany will make it up to the MTA, which we know isn't going to happen, is of great concern to me. We've already cut buses and how we can continue to cut funding to public transit at this time stuns me. So I appreciate your mention of that.

I do want to ask a few questions that I think are similar in nature to Gale's. The first, for Howard, I'm excited about Zone Green, and I'm real excited about the Waterfront Plan. But I do think, especially when we talk about sea level rise, a lot of people ask me in my district, you know it's wonderful there's PlaNYC and I even accept, people will say, and I certainly do, that we want to be densifying New York City because we'd rather have people living in multi-family buildings in New York City than sprawling out into the countryside.

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

11
12
13
14
15
16
17

17

18

19
20
21
22
23
24
25

1 waterfront area and near the waterfront area. The
2 benefits, we believe, I think as you alluded to
3 this point, the benefits of capturing development
4 for the economic growth of New York City for the
5 overall environmental betterment of the broader
6 community by enabling people to live in our
7 transit-oriented low carbon footprint city is an
8 incredibly important mitigation tool in our work.
9

10 This does not mean that we are not
11 serious about and do not need to look very
12 seriously at the issues of climate change and
13 climate resilience, coastal sea level rise and
14 flooding risks. I think as David alluded to in
15 our broader work program, we are very focused on
16 working together with our fellow agencies in order
17 to identify what are the various ways to address
18 this, both on a building scale, on a larger scale,
19 through structural and nonstructural means.

20 In writing the recent comprehensive
21 Waterfront Plan Vision 2020, we've incorporated
22 for the first time consideration of climate change
23 into these issues. The Waterfront Revitalization
24 program, which is now in the process, we are now
25 in the process of drafting revisions and we're

going to be out sharing the draft revisions in the public very shortly, incorporates consideration of climate resilience in the review of discretionary actions through the City Planning Commission.

So we believe that we are taking real steps in order to better incorporate these types of considerations in the future.

COUNCIL MEMBER LANDER: I'll leave to my colleague from the Williamsburg waterfront the questions of whether actually the infrastructure on our waterfront is adequate to make it the focus of our development.

I guess I just want to push a little more. Those are all ways in which we are doing better at thinking about the buildings that we're building and how they can reduce their carbon footprint and how they can be thoughtful in response to sea level rise. But I didn't hear we have an analysis of whether the places we are proposing denser development are smart to be proposing denser, given their location relative to sea level rise.

So is that part of the analysis when we're thinking about where to grow more

1
2 densely in the first place? It's not a simple
3 thing to weigh. I mean I think there's value to
4 promoting denser development in New York City, for
5 the reasons that we've outlined. And there's an
6 analysis of concern about location, and I guess I
7 haven't seen that in the rezoning EIS or in Vision
8 2020. Where is the thinking about how to weigh
9 those things against each other?

10 HOWARD SLATKIN: You're correct
11 that there are no easy answers to these issues. I
12 think that one of the important things to consider
13 is that we already have throughout New York City,
14 people living on and near the waterfront in the
15 coastal area. We already have over 200,000 people
16 living in the 1 in 100 year flood zone and nearly
17 500,000 living in the 1 in 500 year flood zone.

18 We have to work on the resilience
19 of these existing communities as well as the
20 future communities. The idea of new development
21 in areas that have by and large already been
22 developed one way or another, is one that we have
23 to consider. We only have a finite number of
24 areas within the city where we believe we are able
25 to grow.

1
2 COUNCIL MEMBER LANDER: So is there
3 an analysis of how many more people will be in
4 those flood zones as a result of anticipated
5 development from the rezonings that the
6 Administration has moved forward?

7 HOWARD SLATKIN: I don't have an
8 analysis with me but we--

9 COUNCIL MEMBER LANDER:
10 [interposing] We have one?

11 HOWARD SLATKIN: We do look at all
12 these things. We have quantified this as part of
13 our work on Vision 2020.

14 COUNCIL MEMBER LANDER: Okay. So I
15 guess maybe just let me ask as a follow-up item,
16 if we could get an understanding of how many more
17 people are in Zones 1, 2 and 3 or anticipated to
18 be in Zones 1, 2 and 3 as a result of the
19 rezonings that the Administration has moved
20 forward or--I guess mostly has moved forward
21 rather than is contemplating. I think that would
22 be very helpful. Again, I think it's a hard
23 question. It's not clear to me that we're
24 actually gathering the data and analyzing it. We
25 ought to know and we ought to have a rationale

1
2 that the carbon reduction impacts of doing it are
3 bigger than the risks of adding more tens or
4 hundreds of thousands of people to those zones.
5 So I'd really appreciate that follow-up.

6 I was encouraged to see in the
7 testimony that there is a group of people kind of
8 looking at the sort of infrastructure questions
9 about altering the design and operation of the
10 city and its facilities to anticipate coastal
11 flooding. I guess my first question, maybe this
12 is for Mr. Bragdon, is what's the timetable of
13 coming out with a report with that analysis?

14 DAVID BRAGDON: Council Member
15 Lander, that's the task force that is composed of
16 the different agencies that own and operate the
17 infrastructure that we'll be convening next year.
18 I'll believe it'll have some drafts later on in
19 the year.

20 COUNCIL MEMBER LANDER: So we'll
21 see something in 2012?

22 DAVID BRAGDON: That's correct.

23 COUNCIL MEMBER LANDER: Okay. Now,
24 I wonder, you know I only see Europe from afar,
25 but I know on the Thames and in the Netherlands

1
2 there are flood storm gates. Are proposals of
3 that magnitude, which are obviously ambitious and
4 I assume would cost many billions of dollars,
5 being looked at by this task force? Are we
6 gaining a sense of what it would take to do that,
7 whether it's at all realistic or sensible, what
8 the cost and impacts would be?

9 DAVID BRAGDON: Council Member
10 Lander that is one of the approaches that will be
11 evaluated. That's not the same task force. The
12 task force I was referencing earlier is the task
13 force that consists of the agencies that own
14 infrastructure on the land.

15 In terms of evaluating
16 installations, yes, that will be evaluated.
17 That's a different group, related with the Army
18 Corps of Engineers. You're quite right, those are
19 very expensive. Where they have occurred
20 elsewhere in the world, it's generally with the
21 support of the national governments. They're
22 generally not something that a municipality, even
23 one of this size is able to bear. It would also
24 need to be evaluated in terms of the overall costs
25 and benefits. We have a complex estuarial system

here. There is no one single entrance to our harbor. We have variety of ways that waters flow.

We can also take some lessons from Irene, for example, that while that was a threat that came from the sea, ultimately much of the damage inflicted on the city was from the extreme rainfall that accompanied it. So flooding coming down from Westchester--

COUNCIL MEMBER LANDER:

[interposing] We need a dome you're saying, as well as gates.

DAVID BRAGDON: Yeah, exactly. So we could have spent an enormous amount of money trying to guard against that danger from the sea and then still been whacked from behind from the rainfall that came the other direction.

COUNCIL MEMBER LANDER: So I'm done. I just wonder, could you give me a timetable on us seeing some analysis or recommendations on this effort?

DAVID BRAGDON: Frankly, that's on a much longer timeframe than looking at our own infrastructure, in part because it's a partnership with the Army Corps of Engineers. So some of that

1
2 evaluation, at least subsequent stages of that
3 actually requires an act of Congress that we go--
4 and I don't say act of Congress as I know we're
5 all dubious about Congress these days, but in fact
6 these are things that Congress does enable
7 regularly. Army Corps of Engineers, you know life
8 goes on regardless of the partisan deadlock. So
9 it is something that we're actively pursuing in
10 partnership with the delegation and with the Army
11 Corps of Engineers.

12 The district corps are very good
13 partners on this and obviously federal involvement
14 would be essential. It's not something that's
15 likely to happen in the next six months.

16 COUNCIL MEMBER LANDER: Thank you,
17 Mr. Chairman. Thank you.

18 CHAIRPERSON GENNARO: Thank you,
19 Council Member Lander. I recognize Council Member
20 Levin.

21 COUNCIL MEMBER LEVIN: Thank you,
22 Mr. Chairman. Thank you, Mr. Bragdon and Mr.
23 Slatkin and everyone testifying. I just wanted to
24 ask two questions. First one having to do, you
25 mentioned the extreme rainfall that we experienced

1
2 in Irene. What steps are we taking in terms of
3 managing CSOs and kind of managing that extreme
4 rainfall as it relates to combined sewer overflows
5 in our harbors and in our tidal estuary the East
6 River and the Hudson River, et cetera?

7 DAVID BRAGDON: Thank you for the
8 question. I would say the most visible and new
9 approach coming out of PlaNYC has been actualized
10 as a \$1.5 million proposal for the green
11 infrastructure.

12 CHAIRPERSON GENNARO: Billion.

13 DAVID BRAGDON: Billion, with a B,
14 that starts to supplement our traditional gray
15 infrastructure approach in terms of handling and
16 treating stormwater with a green infrastructure
17 approach to attempt to infiltrate and have more
18 water evaporate before it becomes a CSO event.

19 So that's recently being evaluated
20 by the state. We're optimistic about the ability
21 to go forward with that. In fact, we already are
22 going forward with elements through DEP's current
23 capital plan. Then simultaneously, significant
24 upgrades in terms of the gray infrastructure, if
25 you will, the sewage treatment plants.

1
2 So there are actually a number of
3 reasons why we're doing this. Dealing with the
4 increased rainfall is just one of the benefits
5 that we get from it.

6 COUNCIL MEMBER LEVIN: I'm sorry.
7 Could you detail a little bit more about some of
8 these green infrastructure projects that we're
9 talking about?

10 DAVID BRAGDON: Sure. I can give
11 you an example. In terms of the old system being
12 while rain falls on the pavement, do we engineer
13 things to move that water as quickly as possible
14 to a catch basin where it immediately goes into
15 the storm sewer pipe, which during extreme events
16 then overflows into the sanitary sewer pipe.

17 An example of the difference in
18 terms of green infrastructure would be expanded
19 tree pits. It would be using part of the
20 streetscape with vegetation so that rather than
21 that water speeding down the gutter and going into
22 the storm drain, it actually infiltrates into the
23 ground that's accompanied with vegetation and tree
24 planting. So that would be an example of green
25 infrastructure.

1
2 COUNCIL MEMBER LEVIN: Following up
3 on Council Member Brewer's point, we need the
4 trees to be actually in the tree pits instead of
5 just the stumps.

6 COUNCIL MEMBER BREWER: Yes, thank
7 you.

8 COUNCIL MEMBER LEVIN: One
9 question, just as Council Member Lander brought
10 up, with regard to particularly Williamsburg-Green
11 Point rezoning in 2005, which is one of the
12 largest waterfront rezonings, if not the largest,
13 that we've done in the city. It's my thought that
14 at this point it's almost 2012. It's seven years
15 since we did this rezoning. We know more now than
16 we knew then. That rezoning, in terms of
17 development, is far from realized. There's really
18 only two developments that were--and it kind of
19 got caught up in the economic picture and that's
20 why some of these projects have not gotten off the
21 ground.

22 Again, we know so much more now
23 than we did then, and certainly that rezoning was
24 started planning in probably 2002-2003. Is there
25 a willingness to kind of look at--I mean certainly

1 I don't know of any real environmental
2 requirements that were placed upon those
3 developments. Those were very large, very dense
4 developments and all up and down the waterfront.
5 Because they haven't been realized yet, they
6 haven't even begun in a lot of instances, are we
7 looking at kind of going back and seeing what may
8 be appropriate, what measures may be appropriate
9 to impose? I mean since, in fact, it's not a fait
10 accompli yet. I mean we have a chance to go in
11 and actually make some changes there.

13 HOWARD SLATKIN: Thanks for the
14 question, Council Member Levin. The Green Point-
15 Williamsburg rezoning is one area where we do
16 obviously anticipate future redevelopment of
17 underutilized sites, clearly. How that should be
18 done and the standards to which new development
19 should be built is actually an issue that we're
20 looking at definitely more broadly than that.

21 One of the studies that we are
22 undertaking right now, actually, as part of our
23 work, as part of a bi-state regional consortium,
24 the New York-Connecticut Sustainable Communities
25 Consortium. New York City and the Department of

City Planning are leading an study of what we call freeboard and the urban design implications of freeboard.

So today, buildings are required by FEMA and by building code which uses the FEMA standards to build to a minimum base flood elevation. Buildings may, and actually are encouraged, through the National Flood Insurance program, by discounted premiums, to build to a more cautious standard than that, to elevate by one, two, however many feet, to elevate all the usable space in the building somewhat higher in order to do that.

What the department is looking at right now is what the implications of that are in terms of urban design and streetscape, the public realm, when buildings are elevated another foot or two above grade, how do we make sure that we maintain the same quality of street life and streetscape that we have everywhere.

There is also an effort to look at code standards and whether those code standards are sufficient for future risks in order to implement stricter flood standards. There will

1
2 also be the release of the new FEMA maps which
3 will provide much better data in terms of what the
4 actual topography of the city is, based on the
5 city's own data.

6 So these are all ways that--I
7 should add there are more. There is also
8 resilient landscape design. Because if some of
9 the waterfront areas are temporarily inundated in
10 flood events, we want to make sure that those open
11 spaces survive and are usable. We need to have
12 salt tolerant plantings and trees throughout those
13 areas a well.

14 So there are a wide variety of
15 things that we think can be done in order to
16 improve the resilience of these coastal
17 developments.

18 COUNCIL MEMBER LEVIN: But beyond--

19 CHAIRPERSON GENNARO: [interposing]
20 We're going to have to start kind of moving things
21 along here. We've got like sheets that will keep
22 us here until midnight. I just want to put that
23 fact on the table and just sort of ask for brief
24 questions and brief answers.

25 COUNCIL MEMBER LEVIN: Thank you,

1 Mr. Chairman. I'll just make one further point.
2 Beyond talking about potentials for flood
3 planning, the broader sustainability picture, I
4 think I would strongly encourage City Planning
5 because this rezoning allows for an enormous
6 amount of yet to be actualized development that we
7 go back and we look at the rezoning, what was
8 written into the rezoning in 2005 and actually try
9 to revisit that.
10

11 It's been said before that zoning
12 is not written into stone. It is malleable. So I
13 think that it would be incumbent upon City
14 Planning, because we know a lot more now, because,
15 you know, the situations have changed since 2005.
16 We know more. I would love to work with City
17 Planning and the Chairs of the two committees here
18 and Council Member Lander and Council Member
19 Brewer and others, and Council Member Crowley, to
20 really look at how we can do a better job there
21 than what is currently there.

22 Thank you very much, Mr. Chairman.

23 Thank you.

24 CHAIRPERSON GENNARO: Thank you,
25 Steve. I recognize Council Member Crowley.

1
2 COUNCIL MEMBER CROWLEY: Thank you,
3 Mr. Chair. Good afternoon, Mr. Bragdon. Thank
4 you for the updated plan. I haven't had a chance
5 to look at it, other than just the time here
6 today. However, I, like most of my colleagues,
7 want what's best for the city, a greener, greater
8 city. I have a concern about the plans to start
9 moving more solid waste on rail, partly because
10 many of the neighborhoods I represent, and not
11 just for my district but a lot of Queens, there's
12 a rail that goes through. Some of it's Long
13 Island Railroad, the other is owned by CSX, a
14 private corporation. There was no plan.

15 First, all these cars of solid
16 waste are being moved by locomotives that are old
17 and dirty in Queens. I mean other boroughs,
18 they're not as dirty. I know that there are plans
19 to make greener engines but there was no community
20 benefits agreement put together by the impact.
21 Rails were not used much at all for generations.
22 Now the communities have been woken up, and some
23 in the middle of the night, with idling engines,
24 with solid waste that is not always, like,
25 smelling the way it should and I guess not in the

1 way that it could be contained. It's not often
2 contained in the best way.

3 What's disconcerting is that it
4 could have been approached in a way where the
5 community could have gotten itself prepared for
6 what was going to happen, which didn't happen in
7 many of the neighborhoods. Now, with the
8 anticipation of more waste moving through
9 community, I really think that the Mayor's Office
10 needs to meet with the communities and put
11 together a plan. Have you heard about this
12 problem at all?

13 CHAIRPERSON GENNARO: Let me just
14 jump in before you answer, David. Notwithstanding
15 the fact that this is a parochial but very
16 important question, not directly on today's topic,
17 I'm certainly going to give Liz a little bit of
18 latitude here, like I gave the guys from Brooklyn
19 about their project and stuff like that, but we
20 have to get out of the parochial at some point.
21 But certainly, she's got a good point and I want
22 to give her a little latitude on that. I would
23 ask you to answer--

24 COUNCIL MEMBER CROWLEY:
25

1 [interposing] And also, Chair, there's 40 percent
2 of the garbage coming through some neighborhoods
3 in Queens, 40 percent of the city's municipal
4 waste from other boroughs.
5

6 CHAIRPERSON GENNARO: Which is why
7 I want to give you a little latitude on this
8 question.

9 COUNCIL MEMBER CROWLEY:
10 Environmentally impacts, not only by the garbage
11 but the types of locomotives. I understand other
12 boroughs like the Bronx have all green engines,
13 but Queens does not just yet.

14 CHAIRPERSON GENNARO: Right. I
15 didn't mean to pooh-pooh the question. I got a
16 bunch of slips here and I just wanted to give you
17 latitude to kind of put this on the record and
18 start a process that could lead to a good result
19 for Liz and her good constituents.

20 DAVID BRAGDON: Chair Gennaro,
21 thank you for that guidance. Council Member
22 Crowley, I'll try to be brief while doing justice
23 to your question. Yes, absolutely, of course, we
24 have heard of the situation. One of the premises
25 of the Solid Waste Management Plan was to reduce

the impact, particularly of transportation of solid waste on communities and the number of trucks.

So trying to consolidate some of that onto rail, in terms of reducing the truck traffic is overall a benefit, but clearly has some concentrated impacts.

Good news, this week, the green locomotives I think now are coming to Queens. A grant recently came through from the Environmental Protection Agency. So we do what we can to reduce it.

That being said, and that's not to pass the buck, but the fact of life is that railroad operation is a federally regulated thing. Railroad law was written in the 1880s when the railroads controlled the state legislatures. There are limits to what local communities, including local governments can do about tracks that were there, you know 100 years before any of us were born.

That being said, we're going to do what we can under the Solid Waste Management Plan to reduce that impact on communities. One of the

key points--

COUNCIL MEMBER CROWLEY:

[interposing] I agree. What has been the most frustrating part about working with my community and the neighboring communities about this particular plan is that it is the city that is moving the goods. I mean we are contracting out. So I think it'd be best if we meet together. Because of the impact and we're saving money as a city by moving municipal waste on rail, well then this community, you know a lot of these rails are underground. They could be covered. More parkland could be created and then it could turn out to be an overall benefit. We'll meet and discuss more about it.

DAVID BRAGDON: Yes, be happy to meet with you. With respect for the Chair's time, I'll just put on the record that we'd be happy to follow up with you.

CHAIRPERSON GENNARO: Thank you, Council Member Crowley. I want to say for the record, Liz, and I want to be your ally in this. In no way, shape, or form, we don't want to give this any kind of short shrift. We should talk

1
2 about how we can do that better. Thank you,
3 Council Member Crowley.

4 Out of respect for the many people
5 that have yet to testify, I'm going to keep my
6 questions and comments to an absolute minimum.
7 Why don't I kind of cut directly to the chase in
8 that your statement contains many references to
9 things that have to be done in concert with the
10 Council, local laws that have to be created to
11 make sure that these good initiatives see the
12 light of day in like a post-Bloomberg
13 administration world. I would be very happy to
14 engage you in putting together a prioritized list
15 of stuff that has to get moved.

16 As we turn the corner and we're
17 less than two years and counting, we have to get
18 things in the queue. I think not only on climate
19 change generally but in all of the aspects of
20 PlaNYC. It's kind of like the day is upon us.
21 There are other things that are not environmental
22 that have to legislate through the Council. I'm
23 not happy about that. We should just do
24 environmental legislation, if it were up to me. I
25 don't really mean that. But we have to do some

1
2 triage and figure out what needs to get done and
3 leave behind like a body of local law that the
4 next administration and next council will have to
5 do, otherwise they'll have to change those laws.

6 Future administrations may not want
7 to do some of this stuff, so we have to leave them
8 post-it notes in the way of local laws that they
9 have to do this. Anything that sort of comes to
10 mind with regard to what you've set forth here as
11 like the top two or three local laws that we need
12 to make happen, you know if you could speak to
13 that for a moment.

14 DAVID BRAGDON: Sure, thank you,
15 Chair Gennaro. We do look forward to continuing
16 to work with you. The three bills that you passed
17 last week, there's the asphalt, there's the
18 concrete wash up. For example, there's a bill on
19 emissions from carpets that's in the hopper.

20 CHAIRPERSON GENNARO: Right.

21 DAVID BRAGDON: I think the Mayor
22 is going to be signing all of those on December
23 27th. So that's a good chance for us to maybe
24 revisit where we're going to go over the next two
25 years. We have a good list. We've been working

1 with your staff and the Speaker's staff
2 particularly on the green codes legislation.
3 We've tried to prioritize those in terms of their
4 greatest impact. So anything that you can do to
5 keep that calendar going, we'll keep working with
6 you to put things in the hopper. We're certainly
7 aware of the clock ticking as well.

8
9 CHAIRPERSON GENNARO: Right. We
10 just have such a good thing going with Mayor
11 Bloomberg, with Speaker Quinn, with this
12 committee, with your shop, it would be a real
13 shame if we didn't leave quite a tome for the next
14 folks to kind of page through and figure out how
15 they're going to complete.

16 Many more things that I wanted to
17 kind of talk about, but in view of the time, I'm
18 going to have to pass on that. We've got many,
19 many good witnesses and I have all of your phone
20 numbers should I need to get to you. So let me
21 end where I began and thank you for being here,
22 thanking you for your good work. I really relish
23 the opportunity to figure out what we can reduce
24 to law between now and then. I look forward to
25 the good comments that are going to be forthcoming

1
2 in this hearing. I wish you Godspeed in this
3 holiday season. Thanks very much for being here.

4 DAVID BRAGDON: Thank you.

5 CHAIRPERSON GENNARO: You bet. The
6 next witness, and we're so happy and proud to have
7 her, is Dr. Cynthia Rosenzweig from Columbia
8 University. Being a scientist myself, sometimes
9 it's the case that I'm like the scientist in the
10 room, you know just because I have a bachelor's
11 degree in geology. I am not the scientist in the
12 room today with you and the good gentleman from
13 Stony Brook and other people who are titans in
14 this science. We really appreciate the
15 opportunity to have you here today.

16 Let me just take the opportunity to
17 give a little bit of the lineup that we have. We
18 have Dr. Rosenzweig, Eddie Bautista and the New
19 York City Environmental Justice Alliance are on
20 deck, and to continue with the baseball analogy,
21 and then we have represents of Stony Brook and
22 NYU, who will be on a panel, the two Stony Brook
23 professors and the one NYU professor.

24 So, Cynthia and then Eddie and
25 Stony Brook and NYU and we have many more panels

1 after that. But that's sort of like the
2 foreseeable future. With that said, Dr.
3 Rosenzweig, we're very honored and proud to have
4 you. It's not every day we get someone like you
5 to come and testify before our little committee,
6 or little committees. I'm tempted to put my
7 jacket back on again, but I'm just going to leave
8 it off.

10 DR. CYNTHIA ROSENZWEIG: Don't do
11 that.

12 CHAIRPERSON GENNARO: I'm not going
13 to do that. With that said, we're grateful to
14 have you. I ask you to state your name for the
15 record and proceed with your good testimony.

16 DR. CYNTHIA ROSENZWEIG: Thank you
17 very much.

18 CHAIRPERSON GENNARO: You bet.

19 DR. CYNTHIA ROSENZWEIG: Council
20 Members and Chairs, for the opportunity to testify
21 before the committees. I'm Dr. Cynthia
22 Rosenzweig. I'm testifying today as a Senior
23 Research Scientist at the Center for Climate
24 Systems Research of Columbia University.

25 I'm also testifying as the co-

1 leader of the New York City Panel on Climate
2 Change. You probably are aware of the report that
3 we--

4
5 CHAIRPERSON GENNARO: [interposing]
6 Who doesn't have that? Everybody has that.

7 DR. CYNTHIA ROSENZWEIG: We hope
8 everyone has that.

9 CHAIRPERSON GENNARO: I've got the
10 DVD actually.

11 DR. CYNTHIA ROSENZWEIG: Very good.
12 And it's on the web on the PlaNYC website. I'm
13 also testifying today as the co-principle
14 investigator of a new report on climate change and
15 New York State, which was just published last
16 month, in November. This is what's being shown on
17 the screen now. It's called "Responding to
18 Climate Change in New York State: The ClimAID
19 Integrated Assessment for Effective Climate Change
20 Adaptation."

21 We brought some copies of the
22 synthesis report for the Council Members. What I
23 did for the testimony is to search through this
24 600-page report, covering 8 sectors across the
25 entire state. What we did was we--

CHAIRPERSON GENNARO: [interposing]
The one that was produced last month?

DR. CYNTHIA ROSENZWEIG: That's right. What we did for the testimony is pull out the New York City relevant information.

CHAIRPERSON GENNARO: Okay.

DR. CYNTHIA ROSENZWEIG: So just in the next 10-15 minutes or so, short time, 10 minutes or so, I'm going to highlight some of the key findings about the New York City region from the ClimAID assessment. So with that, let's go to the next one.

The ClimAID assessment really is one of the first climate change reports that addressed equity and environmental justice issues throughout all the sectors and regions. What we found was that climate change risks, vulnerabilities and capacities to adapt are uneven across regions, sectors, households, individuals and social groups. I think there's going to be some further testimony about this on this panel.

The ClimAID assessment found very clearly that, as you can see from this map, that New York City has a high proportion of people

below the poverty line and that people under these circumstances are more vulnerable to changing climate conditions.

For example, and I'm going to read you just a couple of sentences from the testimony and from the ClimAID report. Low income and elderly populations, especially in urban areas, are particularly vulnerable to disruption. For example, in transportation services, limiting their ability to get to work or evacuate during emergencies and extreme weather events.

Going further, identifying yet another highly vulnerable group to climate change. Transport interruptions take a particular toll on working women, who tend to have less spare time because of child and family care and on average earn less than men. The issue of gender impacts of climate change is just now coming to the fore, not only in this country but internationally as well.

Let's go to the next slide. When we looked at the various economic sectors across the state, we identified, the ClimAID assessment, which was done by a team of 30 researchers from

1 across the state, in conjunction with many
2 different stakeholder groups. We found that the
3 coastal zone, because of its relative exposure and
4 vulnerability to storms and the concentration of
5 residences, businesses and infrastructure on the
6 shore, what has been discussed in the panel so
7 far, will experience the greatest economic impact
8 of any single region in the state. Much of, not
9 all but much of the coastal zone of New York State
10 resides in New York City and the New York City
11 metropolitan region.
12

13 Next please. In terms of the
14 climate projections, and I think that Council
15 Member Nelson summarized these as well, the state
16 was divided into seven climate regions. These are
17 the climate projections for the New York City
18 metropolitan region. These are showing the time
19 trajectories. Showing on the left are the
20 steadily increasing projected temperatures, which
21 by the 2080's is projected to increase 4 to 7.5
22 degrees Fahrenheit.

23 In terms of precipitation, as has
24 also been mentioned, the majority of the global
25 climate models that we use to downscale for the

1 regional projections show an increase in rainfall.
2 This has significant potential impacts on flooding
3 for the New York City region. Now, there's also
4 the potential for lower precipitation. There's a
5 lot of uncertainty, particularly on the
6 precipitation projections.
7

8 Regardless, there is still the
9 potential for late summer droughts in the New York
10 City region and throughout all of New York State,
11 which could affect water supplies, in particular
12 late summer/early fall. So while the projections
13 are showing mostly on the plus side of
14 precipitation risks and vulnerabilities, we always
15 have to remember with higher temperatures, we can
16 get greater evapotranspiration and the potential
17 for droughts as well.

18 Next. That leads, of course, into-
19 -so taking all the three major projections for the
20 New York City region, the ClimAID assessment found
21 that higher temperatures and increased heat waves
22 have the potential to increase the fatigue of
23 materials in the water, energy, transportation and
24 telecommunications infrastructure, which is so
25 concentrated here in the city.

It can affect drinking water supply, as I just mentioned, increase electricity demand for cooling, which has a direct impact on efforts to mitigate climate change. With higher temperatures, people need, not only want but need to be cooler. If we use air conditioning in that regard, we are then increasing greenhouse gas emissions through the use of fossil fuels to power those air conditioners. So that's a double whammy there. Also, cause more heat-related deaths, and we have a whole slide on the health effects, as the last slide of the presentation of the testimony.

I talked about the increased frequency of heavy downpours. This, again, has the potential to affect drinking water supply and wastewater treatment here, because on the water supply side, increased turbidity which the DEP is already dealing with having episodes in which those heavy downpours are washing more sediments into our reservoirs.

Also, flooding key rail lines, roadways and transportation hubs, and just before Councilwoman Crowley leaves, that could very much

1
2 affect what you were just talking about, about the
3 rail lines in your district. So I just wanted to
4 highlight that for you.

5 Sea level rise and coastal flooding
6 have the potential, as we all know this is a major
7 vulnerability for the city. Increase the
8 vulnerability of energy facilities located in
9 coastal areas, flood transportation and
10 telecommunications facilities, these are the
11 infrastructure side. We all know that we have
12 dense population and many low income, not just our
13 high valued real estate right near here in lower
14 Manhattan, but many lower income groups in many of
15 the outer boroughs who are living in the flood
16 zones and in the increasing flood zones that have
17 been identified by both the NPCC report and the
18 ClimAID reports.

19 Next please, Dan. Turning
20 specifically to the water resources: first of all,
21 the issue of the heavy downpours is not just
22 something that is projected for the future. It
23 has already been documented that heavy downpours
24 have increased over the past 50 years. This trend
25 is projected to continue, causing an increase in

1
2 localized flash flooding, particular in urban
3 areas where we don't yet have as much of that
4 porous pavement that David Bragdon was talking
5 about in place.

6 Flooding also has the potential to
7 increase pollutants in the water supply and
8 inundate the wastewater treatment plants, as you
9 see in the top right and other vulnerable
10 development within the flood plains. So you can
11 see why we say that the coastal issues are
12 particularly challenging for the New York region.

13 This is the subject of the next
14 slide. Sea level rise will greatly amplify risks
15 to coastal populations and will lead to permanent
16 inundations of some low lying areas. More
17 frequent flooding by storm surges and that is even
18 if the storms don't change. There's still a lot
19 of uncertainty about what will happen to the
20 storms themselves, in particular hurricanes.

21 But, because when you have a higher
22 sea level rise, even if you have the storm of the
23 same magnitude, the same strength coming by, that
24 higher sea level rise will allow the flooding to
25 go further inland. Those areas are projected, in

both the NPCC and the ClimAID reports. Increased beach erosion is another effect there.

Our urban ecology is another very key aspect of vulnerability. What this slide is highlighting, that sea level rise may become the dominant stressor action on vulnerable salt marshes. We have a lot of stressors on our salt marshes already and sea level rise is adding to the pressure.

Next please. Energy, so critical to the functioning of our city. The energy team in the ClimAID assessment found that climate change is likely to exacerbate existing risks rather than create new ones for this very important sector. So, for example, climate change and higher temperatures is expected to increase peak demands, the urban heat island, increase, as we talked about previously, the need for air conditioning. Another example is the effects of high temperatures on things like transformers and distribution lines which tend, for example the lines tend to sag under higher temperatures.

So what the ClimAID team found was that particularly also the extreme short-term

weather events and the changes in the demand with higher temperatures are particularly important to the energy industry. Those heat waves that are projected to come with the higher temperatures are going to be a challenge to our energy sector to prevent the risks of more brownouts and blackouts.

Transportation, again, a critical life blood here in New York City. What these graphs are showing, and this is some really great work that was led by Claus Jacob [phonetic], who was a member of the NPCC report as well. That sea level rise, in combination with coastal storm surge has the ability to severely damage transportation systems in New York, particularly those in New York City and surrounding metropolitan region. Since most of the systems are located at low elevations and some in the tunnels are below sea level already.

So this is a very critical part that we working with MTA and other transportation agencies to develop the resiliency in these vital systems with these projections, to take on board these projections in their planning processes.

This is the last slide. We wanted

1
2 to end with the key findings of the public health
3 sector. Because, again, while of course New York
4 City is its transportation systems and key
5 infrastructure and energy, et cetera, it always
6 will be its people and the citizens who are here.
7 The health team in ClimAID brought forward with
8 implications for New York City that the demand for
9 health services and the need for public health
10 surveillance and monitoring will increase as
11 climate continues to change.

12 That is why it's great that the New
13 York City Department of Health is already working
14 with the Federal Department of Health to go
15 further to develop and to answer these needs.

16 Heat-related illness and death are
17 projected to increase. A preliminary study by Pat
18 Kinney and his team found it's on the order, by
19 the end of the century, to have 800 to 1,000 more
20 heat-related additional deaths. They're projected
21 to increase.

22 While cold-related deaths--we
23 always to think, well, something in the winter,
24 how will warmer temperatures affect the winter as
25 well and not just the summer. They are projected

to decrease. However, those that increase in the summer heat-related deaths are projected to outweigh reductions in cold-related deaths here in our region. That's not the case in every region in the country and across the world.

Finally, the final health effect that I want to highlight today is that cardiovascular and respiratory related illness and death will be affected by worsening air quality, including more smog, which is exacerbated by increased temperatures, move the chemical reactions further to smog and ozone, and an increase in wildfires with the potential for fire-related sediment and particulates in air coming to New York City.

It changes in pollen. Pollen is projected to increase. And something ClimAID--I think this last one, final point, is the potential for increased molds. Remember the projection for increased precipitation is for more dampness, more water around and then that does bring the potential for mold, which has health effects.

I won't go through what the bottom graphs are showing, increases over time that we're

1
2 already viewing asthma rates, including in New
3 York City. New York City has high, we all know
4 this, hospital discharge rates from asthma
5 already. The one on the right is about showing
6 that New York also, and we all know this as well,
7 has high levels for positive West Nile virus tests
8 in mosquitoes.

9 So you can see that the issues that
10 we are dealing with already in public health in
11 New York City, many of them are projected to be
12 exacerbated by the changing conditions.

13 I thank you for the opportunity.

14 CHAIRPERSON GENNARO: Thank you,
15 Doctor. Thank you. I really appreciate this
16 comprehensive presentation on the scope of the
17 problem and potential ricochets we face if we
18 don't take serious action, which gets me to my
19 question regarding your position on the New York
20 City Panel for Climate Change. You've scoped the
21 problem. I have no questions regarding the
22 presentation. This hearing is all about the
23 city's response to the problem. Certainly, the
24 city wants to get a handle on it.

25 DR. CYNTHIA ROSENZWEIG: Right.

CHAIRPERSON GENNARO: Which I think the NPCC has done. In terms of the action plan, how satisfied are you that the city as an entity is doing everything that it can do? And if you can weave into that an answer, just shed a little daylight on how the NPCC interacts with the Office of Long-Term Planning in sort of like a policy way, or whether the NPCC is really there to kind of like scope the problem, and like Long-Term Planning says okay I've got the problem and Long-Term Planning is going to fix the problem. Is the NPCC there to not only scope the problem but also scope out an action plan? If so, do you think the action plan is sufficient to get the job done?

DR. CYNTHIA ROSENZWEIG: Thank you for the question.

CHAIRPERSON GENNARO: Sure.

DR. CYNTHIA ROSENZWEIG: I think New York City has a great structure for really taking climate change action on board. There needs to be, and I'm coming from speaking not just from my experience here in New York City but we work with cities all over the country and all over the world. Climate change, as you all know,

1
2 because you're grappling with it, is a very
3 complex issue.

4 CHAIRPERSON GENNARO: Try to do the
5 best you can in trying to--

6 DR. CYNTHIA ROSENZWEIG:
7 [interposing] Yes, I will.

8 CHAIRPERSON GENNARO: Rather than
9 what needs to be just like what is the city
10 planning on doing and is that enough.

11 DR. CYNTHIA ROSENZWEIG: Yes, okay.

12 CHAIRPERSON GENNARO: You know, so
13 we want to get out of the realm of like wouldn't
14 it be nice.

15 DR. CYNTHIA ROSENZWEIG: No, I'm
16 not saying that.

17 CHAIRPERSON GENNARO: We want to
18 leave that realm.

19 DR. CYNTHIA ROSENZWEIG: I'm
20 commenting on what is already here. Climate
21 change in urban areas needs a coordinating body.
22 That is what Office of Long-Term Planning and
23 Sustainability provides. Then from that
24 coordinating body, two bodies on the adaptation
25 side were created. One was the Adaptation Task

Force, which is all the agencies and private organizations that run these massive infrastructure. Because this is good government in action, because every single one of those 40 couldn't be figuring out what am I going to do about climate change, it has to be a concerted action.

What I do believe that Mayor Bloomberg and the office did that was good, in terms of the New York City Panel on Climate Change is that it created a body of the experts to provide. It's like the facts and nothing but the facts. Because sometimes the facts are things that maybe they don't want to hear, but we have to tell them.

So by having the coordinating body, the actors and the experts, so we don't make policy recommendations per se--

CHAIRPERSON GENNARO: [interposing]
We is the NPCC?

DR. CYNTHIA ROSENZWEIG: The NPCC does not make policy recommendations per se, but we provide the needed knowledge and analysis and evaluation of, first of all, the climate change

1
2 projections and also one of the third workbook in
3 the back here, is on climate protection levels,
4 which was doing initial on scoping the changes in
5 regulations.

6 Here's my recommendation to the
7 Council, as the co-chair of NPCC.

8 CHAIRPERSON GENNARO: Please.

9 DR. CYNTHIA ROSENZWEIG: It may
10 sound self-serving but it doesn't have to be the
11 exact me or us--

12 CHAIRPERSON GENNARO: [interposing]
13 Yeah, don't worry about it. I'm like very self-
14 serving all the time. I admire it in others.

15 DR. CYNTHIA ROSENZWEIG: It needs
16 to be ongoing. We need, in climate change, to go
17 beyond any kind of on-off study. This needs to be
18 the first NPCC report. If the City Council could
19 say this needs to be updated once during every
20 administration, and you know, it can draw in the
21 scientists, and I want highlight Malcolm Bowman,
22 who was a member as well, who's here.

23 CHAIRPERSON GENNARO: You've got to
24 talk right into it.

25 DR. CYNTHIA ROSENZWEIG: Sorry.

1
2 It's the ongoing process that New York City is
3 doing right. I urge you to continue setting up
4 the structures that will allow the continuing
5 development of the resilient city.

6 CHAIRPERSON GENNARO: We certainly
7 appreciate the recommendation on that. This is
8 what this hearing is all about, is figuring out
9 what we can do here from the Council side to set
10 in place some course of action that future
11 councils and future administrations particularly
12 have to take. We're term limited but you're not.
13 So that's what we would like to see.

14 DR. CYNTHIA ROSENZWEIG: This way,
15 New York City will always have the best science to
16 make the policy decisions on.

17 CHAIRPERSON GENNARO: Right. As
18 the author as was mentioned of the Climate
19 Protection Act, I have a particular interest in
20 making sure that that law has a vehicle, has all
21 the booster rockets it needs to get to where it
22 needs to go. So that's a very concrete
23 recommendation regarding legislating that. We've
24 already legislated that the Office of Long-Term
25 Planning has to exist. We've put all the

1
2 milestones in regarding the Climate Protection
3 Act. We've got the ability to do the emissions
4 inventory and all of that. Keeping the NPCC like
5 a fully functioning entity is not something that
6 has a legislative mandate that's associated with.

7 DR. CYNTHIA ROSENZWEIG: Not yet.

8 CHAIRPERSON GENNARO: So that would
9 be a good idea, Bill, right, okay. That's really
10 terrific. I'm happy to recognize Council Member
11 Brewer for questions.

12 COUNCIL MEMBER BREWER: Thank you.
13 I have two questions that due to time constraints
14 we didn't have time for. They're really specific.
15 One is electric vehicles, when we were in Tel
16 Aviv, everybody can plug in and everybody is
17 moving around in an electric vehicle. I don't
18 know if it makes sense here, so that's my
19 question, number one.

20 Number two is we are under the gun,
21 correctly, to get rid of No. 6 oil and Manhattan
22 has a lot of it. We want to get rid of it. So I
23 have met with every single management firm that
24 owns or manages in my district. I feel like I've
25 called every number possible. We are tracing

1 through what I call the Isabel Silverman list at
2 the Environmental Defense Fund, but I know it has
3 another name, but the listing of who's got 2, 4,
4 et cetera. So my question is does it make sense
5 for buildings to go to 2 or to electric or to
6 something else? I think there's only one
7 biodiesel. Somebody screamed at me and said Gale,
8 everybody should go to biodiesel. I'm asking,
9 what do we do with the buildings and what do we do
10 with the electric?
11

12 DR. CYNTHIA ROSENZWEIG: I am not
13 an expert on the mitigation side, on your specific
14 questions. Thank you very much for the questions,
15 Councilwoman Brewer. I refer you to the energy
16 specialists led by Steve Hammer, in the ClimAID
17 report, who will be able to, and I will pass your
18 questions on to him, and he will be able to answer
19 your specific questions on those.

20 What I will say, as coming from the
21 impacts and adaptation side is that there is
22 tremendous need for mitigating greenhouse gas
23 emissions. So it's up to all of us to figure out
24 what is the most effective, efficient low cost way
25 of doing those for the city. I know OLTPS is

working on many of those issues as well. So I refer you both to OLTPS and also to our ClimAID team on energy.

COUNCIL MEMBER BREWER: All right, thank you.

CHAIRPERSON GENNARO: Thank you, Dr. Rosenzweig. It's really been a great opportunity to meet you and get the benefit of your views and sort of most important get a very concrete legislative recommendation that I look forward to acting on at our earliest convenience. It'll be like the Rosenzweig Bill or something like that or whatever, you know.

DR. CYNTHIA ROSENZWEIG: Thank you very much.

CHAIRPERSON GENNARO: I don't even have a bill, but you may have one.

DR. CYNTHIA ROSENZWEIG: Thank you, Councilman Gennaro.

CHAIRPERSON GENNARO: Thank you very much, Doctor.

DR. CYNTHIA ROSENZWEIG: Thank you.

CHAIRPERSON GENNARO: Happy holidays.

DR. CYNTHIA ROSENZWEIG: And to
you.

CHAIRPERSON GENNARO: Yes. And
then keeping in our order, New York City
Environmental Justice Alliance, Eddie Bautista,
Juan Camilo--I can't make out the rest of the
name.

JUAN CAMILO OSORIO: Osorio.

CHAIRPERSON GENNARO: Yes, okay.
And as we mentioned, in the next panel, Malcolm
Bowman and Douglas Hill from my alma mater Stony
Brook and Professor Lisa DiCaprio, it looks like
from NYU. That'll be the next panel. We greatly
appreciate everyone's patience. This is a topic
that everyone wants to really be heard on. We
thank people for that.

Just a little bit of housekeeping
regarding the damage I've wreaked on the climate
in this room. I just note to the sergeant, Nick,
I should always stick with what you do. The room
was hot and I made it too cold and now I've made
it too hot. I think we should set it on 74 and I
go to the thermostat, you should hit me, okay. 74
is good. 73?

EDDIE BAUTISTA: You're asking the wrong crowd, Councilman.

CHAIRPERSON GENNARO: Okay, 72 that's it. With that said--not a voting issue, but I made it a little hot again. My mistake with that, I say we're moving right along. Eddie, your credentials are legion with regard to the environment. You work with the Mayor's Office. You work with--let me not take up the rest of the day giving you all the accolades that you richly deserve. We're grateful to have you here today. With that said, we welcome you and the New York Environmental Justice Alliance being here to give your point of view. We look forward to your brief presentation. You have to state your name for the record, as you well know, and proceed.

EDDIE BAUTISTA: Thank you, Chair Gennaro, and Chair Nelson, I'm sure he'll be back, and the Council Members and committee members. My name is Eddie Bautista. I'm the Executive Director of the New York City Environmental Justice Alliance. I'm joined by my colleague Juan Camilo Osorio, who is a Policy Analyst with the Environmental Justice Alliance.

We want to congratulate both committees on the stellar work over the years and for holding not just this administration's but every other administration's feet to the fire over the years.

We appreciate the opportunity to come and testify. We're here to share from an environmental justice or a climate justice perspective what climate change means specifically for low income communities and communities of color. I'm tempted to say we're here not to, you know, testify in opposition to climate change, but I'll stop right there.

So the Environmental Justice Alliance is a citywide coalition of community-based organizations. We were founded 20 years ago. We've been working on essentially a range of policy issues from our inception, against the disproportionate siting and burdens of environmental impacts in communities of color as well as the inequitable enforcement of environmental laws and fair community development practices.

To give you an example, the next

1
2 slide is just one example of one of the things
3 we've work with or on and in partnership,
4 obviously, with the City Council. This was
5 mentioned several times today, the issue of solid
6 waste management.

7 That slide that's up shows the
8 clusters of land-based waste transfer stations in
9 New York City. Something in the range of 75-80
10 percent of New York City solid waste has
11 historically, at least for the last 20 years, have
12 been concentrated in a handful of communities of
13 color: South Bronx, Williamsburg, Green Point,
14 Newtown Creek, heading into Bushwick, Southeast
15 Queens, Red Hook Sunset Park, north short of
16 Staten Island.

17 What we, again are grateful for
18 with the City Council is working with the
19 administration on a significant infrastructure
20 shift from a truck based to a rail and marine
21 based method of waste export, which equitably
22 distributes those burdens and hopefully reduces a
23 significant amount of truck traffic that have been
24 hammering communities for decades.

25 As Councilwoman Crowley had

1 mentioned, there are aspects of this plan that
2 need fine tuning. Some of these impacts, while
3 the attempt is to try to equitably distribute them
4 we should be really aiming to minimizing impacts.

5
6 To that end, before I turn to
7 climate change, I just want to make one last
8 pitch. There is a growing chorus from communities
9 of color and some of the Council Members, in fact
10 even in this room, to finish the job of the Solid
11 Waste Management Plan. The job is unfinished,
12 obviously if we don't increase recycling rates,
13 but specifically in terms of waste export
14 infrastructure, if we don't shut down, reduce the
15 capacity of land-based waste transfer stations, as
16 we bring online marine and rail based export, then
17 all we've done is increase capacity in the same
18 communities that already have the truck based
19 stations.

20 So we know there's a capacity
21 reduction conversation happening in the Council
22 and we really urge you guys to finish the job.
23 Because everybody wants to go to the party but
24 nobody wants to stay around to clean up afterwards
25 and this is the cleanup.

Moving on to climate change, the next slide please. We're looking specifically at a couple of city policies that are outdated that--

CHAIRPERSON GENNARO: [interposing]
Let me just state at the outset, when I had to leave the room briefly, I did see Tish James because there is a Sanitation Committee going on, and she certainly has a great interest in your views. She brought this topic up. She said I know you're talking about solid waste stuff. She certainly has this in her scope and thank you for reinforcing it here today.

EDDIE BAUTISTA: Absolutely. So, onward and upward or downward or whatever. So one of the things that we identified, in fact in the 90s when the city last updated its Waterfront Revitalization program, were WRP or Waterfront Plan categories called significant maritime and industrial areas or SMIA's. Significant maritime industrial areas are a subset of the city's working waterfront. The SMIA's are concentrated in six communities. No coincidence, the same communities impacted by the transfer stations and power plants and so. They are the South Bronx,

Newtown Creek, which is both the Brooklyn and Queens side, heading from the Queens and Brooklyn entrance to the Newtown Creek all the way to Bushwick, the Brooklyn Navy Yard, Red Hook, Sunset Park and the north shore of Queens.

The slide that is up shows not just the significant maritime industrial areas, but what we did was we did an overlay of the significant maritime industrial areas on what we now know that we didn't know in the 90s, which are storm surge zones.

So the slide that is up shows you, according to the New York State Office of Emergency Management, projections from category 1 hurricanes to category 4. Category 1 being winds of--Juan Camilo, I can't read the slide from here, is it 75-90 miles per hour--to the worst case scenario which is category 4 which was--just to give you a sense of scale, when Irene hit, Irene as it was hitting New York devolved from a category 1 to a tropical storm. Had it maintained the speed that it was anticipated to hit New York, it would have been a category 1 hurricane.

So one of the things that's

1
2 instructive about this slide is what we didn't
3 know in the 90s that we now know is that not only
4 is this notion which is significant maritime
5 industrial areas promotes the notion of clustering
6 and concentrating heavy industrial uses and toxic
7 chemical storage. That combined with storm surge
8 vulnerability is exactly the wrong policy to have
9 in a climate changing world. The last thing you
10 want is that kind of concentration smack dab in
11 the path of storm surges.

12 So what you see here is for the
13 first time our ability to be able to overlay
14 significant maritime industrial areas, which are
15 predominately in environmental justice
16 communities, with their storm surge vulnerability.

17 Next slide. One of the things that
18 we've done, and I think at this point I'm going to
19 turn this over to my colleague Juan Camilo Osorio.
20 One of the things we've been doing over the last
21 year has been looking at all the public databases
22 of all the different city, state and federal
23 agencies that have any sort of environmental
24 oversight responsibilities and had been
25 relentlessly trying to map these toxic exposures

1
2 in this different city and state and federal
3 databases with these significant maritime
4 industrial areas. We found some pretty troubling
5 maps. I'll turn it over to Juan Camilo.

6 JUAN CAMILO OSORIO: Thank you,
7 Eddie. So what are the threats? Today, we want
8 to share with the committee three examples of the
9 type of--

10 CHAIRPERSON GENNARO: [interposing]
11 Please state your name for the record.

12 JUAN CAMILO OSORIO: My name is
13 Juan Camilo Osorio. I'm a policy analyst for the
14 New York City Environmental Justice Alliance.

15 As I was saying, today, we want to
16 share with the committee three examples of the
17 type of facilities handling hazardous substances
18 that can become a threat in the event of a
19 hurricane storm surge.

20 First, the New York State
21 Department of Environmental Conservation superfund
22 class 2 sites. These are sites that have been
23 documented to pose a significant threat to public
24 health and the environment and require immediate
25 action.

Number two, the New York State Department of Environmental Conservation active chemical bulk and major oil storage facilities. These are facilities storing toxic chemicals and have the capacity to hold up to 400,000 gallons of oil.

Third, the U.S. Environmental Protection Agency facilities reported the Emergency Planning and Community Right to Know Act, which are facilities that report substances in the toxic release inventory, and this is the main federal database to inform communities on toxic chemicals.

In more detail, this map shows you the location of the state regulated class 2 superfund sites. From the 43 sites in New York City, you can see the 8 green dots on this map, which show sites that are both vulnerable to storm surge and with a half a mile buffer to the Newtown Creek SMIA. From the types of businesses that are included in this category, we found a metal manufacturer where the presence of--sorry.

EDDIE BAUTISTA: [interposing]
Trichloroethylene.

JUAN CAMILO OSORIO: Thank you.

Has been documented, and this is a carcinogen where there may be no safe levels of exposure for humans. This map shows you the facilities regulated by the State DEC under the Bulk Storage Facilities program. In pink, you see the chemical bulk storage and in light blue, you see the major oil storage facilities.

From the 171 sites in New York City, 18 of these sites are both vulnerable to storm surge and located within a half a mile buffer to the South Bronx SMIA. Within the type of businesses that are included in this category, we found a bulk petroleum station and terminal where the presence of naphthalene has been documented and yet this is a second example of a carcinogen. In this case, it can be absorbed through the skin, affecting vision, kidneys and the liver.

This third example shows you the location of facilities under the EPA Emergency Planning and Community Right to Know Act. From the 234 facilities in New York City, 17 of those are both located within storm surge zones and

within half a mile buffer to the Sunset Park SMIA.

Under the type of businesses that are present in this category, we found a fossil fuel electric power generator where the presence of n-hexane has been documented. Yet, this is a third example of a toxic hazardous substance that in high exposure can lead to death.

With this, I'm going to pass it back to Eddie, who will continue.

EDDIE BAUTISTA: So we're going to wrap through very quickly the next couple of slides. These are the overlay citywide of SMIA as they pertain to communities of color, low income communities and uninsured populations. This one is of communities of color. As you can see from the map, or maybe you can't, but what it attempts to portray is that 5.5 million people of color live--of the 5.5 million people of color, the majority of New York City, 2.8 million live within a half mile buffer of the SMIA storm surge zones.

The next one is low income populations. Of the total 3 million low income population in New York, 1.6 million live in areas

1
2 subjected to hurricane storm surges, and 283,000
3 live within a half mile of the SMIA's.

4 This next slide shows uninsured
5 populations. Now, the problem with this data,
6 it's collected by the Department of Health but
7 based on United Hospital Fund figures. So those
8 are notoriously larger than census tracts. But
9 you'll see from this that it coincides the SMIA's
10 with large proportions of uninsured populations in
11 New York.

12 So what does this all mean? I mean
13 if you look back, for example, what happened with
14 Irene, which again became a tropical storm and not
15 a hurricane, if you look at some of the images
16 that you see up on the slide now, they will show
17 you before and after in Red Hook and Gowanus, what
18 a regular street and then what it looked like,
19 again not with storm surges, these are just
20 flooding that occurred during Irene in Red Hook
21 and Gowanus. So you see this as a flooding
22 impact, imagine what it would have meant if these
23 floods and storm surges had come into contact with
24 some of the facilities that we have identified.

25 Next slide. I think the bottom

line is that the Waterfront Revitalization Program is one of two policy areas we believe are ripe for reform. One of the things that we've been working with the Bloomberg administration on--and we're hopeful that they're going to embrace some of these reforms--is to look at climate change impacts and coastal vulnerability and mandate the safe and responsible use of hazardous materials and toxic chemicals.

It's tricky because we support and need manufacturing zones. We rely on those zones, obviously for employment reasons, but your job shouldn't kill you. So we need to ensure that as we balance environmental protection and economic opportunity, we do so safely.

Next two quick slides. For example, this is a map of the city's M3 and M2 zones. One of the things that we discovered is that even if we got every single reform measure that we advocate for on the Waterfront Revitalization Plan that only affects new applications. It does nothing for all of the existing uses. WRP is for discretionary actions, right.

1
2 So what does it mean in terms of
3 the existing, and this is something that I know is
4 near and dear to Council Member Lander's heart,
5 the notion of performance standards and the zoning
6 resolution. The zoning resolution was adopted in
7 1961. The performance standards that currently
8 are used to oversee use groups in these zones have
9 not changed since 1961. The performance standards
10 predate the nation's Environmental Clean Air Clean
11 Water and RCRA regulations. They're hopelessly
12 outdated.

13 What you see here, for example, is
14 the kind of multiple city agency responsibilities,
15 whether it's noise, vibration, smoke, there is a
16 myriad of different agencies with different
17 responsibilities and none of this has to do with
18 performance standards which only the Department of
19 City Planning has enforcement ability for. This
20 is crying for the kind of coordination that I
21 think Cynthia was talking about that this Council
22 has specialized in forcing previous
23 administrations to--you know, we need to break
24 agencies out of these silos and try to come up
25 with a way that we're enforcing environmental laws

and make the performance standards that are now 50 years out of date, make them a 21st century paradigm.

I'll stop there.

CHAIRPERSON GENNARO: Thank you, Mr. Bautista. It sounds funny to say Mr. Bautista.

EDDIE BAUTISTA: Please don't.

CHAIRPERSON GENNARO: Okay, Eddie. You very articulately scoped out the problem. We certainly appreciate that. You talked about, you segue from talking about the problem to what are some possible, I guess, mechanisms for crafting solutions, like the Waterfront Revitalization Program, inclusion of performance standards with the Department of City Planning.

As I sit here, knowledgeable about the problem but not so knowledgeable on what we can do to fix it, other than what you've kind of put forward here. I'm me, I'm the chairman of this committee and I want to come out of this with some kind of to-do list. What do you want me to do?

EDDIE BAUTISTA: It's the holiday

season, so--

[Crosstalk]

EDDIE BAUTISTA: --I'm going to take advantage of the offer.

CHAIRPERSON GENNARO: Sure.

EDDIE BAUTISTA: I mean I think part of the problem that we find--

CHAIRPERSON GENNARO: [interposing] I'm not saying I'm going to do it, you know, but, you know.

EDDIE BAUTISTA: I understand. Here's the thing, I think that part of what the Office of Long-Term Planning has been doing well and that this Council has been doing for a long time is breaking down silos. This world is not designed in silos and that's not how we live.

I think part of the problem is we need to be able to get our hands around how to manage and how to reduce vulnerabilities in these communities. We have to do so in a way that doesn't just assign one city agency enforcement capacity when they don't even have enforcement personnel, which is the Department of City Planning.

1
2 So what can the Council do? I mean
3 I think part of the problem is that this
4 challenges some of the Council's own structure in
5 terms of figuring out how to get an answer to
6 this. I mean ideally the staff from Environmental
7 Protection, Waterfront and the Land Use people
8 need to get together and figure out how do you
9 look at the issue of performance standards that
10 are now 50 years old and bring them up to date to
11 a 21st century set of needs, and work with the
12 administration.

13 I mean, we expect to be meeting
14 with the Mayor's Office to talk about--and we have
15 a whole lot more slides, so don't think we're
16 going to--but the point is that our expectation is
17 that they understand that this is a problem, but
18 they need to work in partnership with the City
19 Council. So once you have the right staff people,
20 we're happy to come in and share and not make
21 everybody crazy because performance standards and
22 zoning makes people nuts. But we're happy to talk
23 through it with your staffs.

24 CHAIRPERSON GENNARO: Certainly,
25 because having these oversight hearings, while I

1
2 like legislative hearings because you really feel
3 like you're getting something done, having these
4 oversight hearings, you're just looking for
5 fodder. You kind of get a sense of what needs to
6 be done. I'd like to kind of turn today's
7 proceedings into some kind of legislative
8 proceeding in this or some other committee. So
9 didn't just come here to be educated, I came here
10 to try to be a solution catalyzer.

11 We've got the recommendations that
12 you made at the end of the statement here. I'd be
13 grateful for the opportunity to find out from you
14 what my specific committee could do to try to
15 affect a positive change whether it's through
16 legislation or any other vector and how I could be
17 helpful and how Mike and Brad or whatever could
18 kind of help to achieve some of the good goals
19 that you've put forward.

20 This is on the record, you're here,
21 and you're meeting with the administration. Just
22 please let us know what I can do to help. I'm
23 happy to recognize Brad Lander for a question or a
24 comment.

25 COUNCIL MEMBER LANDER: Thank you,

Mr. Chairman. Thank you, Eddie for being here.

As always, I'm eager to see all the slides.

I just want to call out, I mean one thing that I'm working on that really comes from the work that you and NEJAC have done and I think this bears underlining as related to the testimony is to update and improve the city's Fair Share system. We had a good hearing back in the spring and then we followed it up, wanting to get some data, we FOIL'd a whole bunch of Fair Share statements. I think we're still waiting. We have a few.

I think it's very clear that our Fair Share system is not doing what it was structured to do and that has a bunch of impacts. One is that we site things in racially and discriminatory way. But part of the idea of Fair Share is not only to be more fair, it's that when you put things more fairly in neighborhoods based on race and income, you wind up with a broader consensus for mitigation and you start doing real planning to figure out how to reduce impacts and how to design things in ways that have lower impacts and you start planning for those

1
2 reductions.

3 What's great about the Solid Waste
4 Management Plan is it's a plan to achieve those
5 things and that's just not how we approach this
6 set of stuff. So I appreciate that. I'm going to
7 continue, Mr. Chairman, pushing for reform of Fair
8 Share, which really comes out of NEJAC's work.

9 I guess the one question I would
10 just ask, and you and I have talked about this
11 before, and I continue to grapple with it, your
12 work on the SMIA's and the storm surge zones is
13 compelling. At the same time, there is positive
14 environmental value in our working waterfront, in
15 having heating oil come in on ships rather than on
16 trucks and having goods come in on ships rather
17 than on trucks. And of course, the truck routes
18 are also through low income communities of color.

19 So how do we balance the
20 environmental value of strengthening and
21 preserving the working waterfront and needing to
22 preserve some areas where that can happen with the
23 analysis that you have of the challenges presented
24 by it.

25 EDDIE BAUTISTA: Totally right.

I'll start with the last one first. Thank you for reminding. I just want to make it crystal clear that we've never advocated to get rid of, to rezone from manufacturing to residential. Just look at what happened to the Williamsburg waterfront and see why we never did that.

Our challenge as a society is to try to figure out how to make manufacturing green manufacturing. Like how to make sure that we're-- so, for example, among the recommendations we shared with the city, in terms of WRP reform is let's find ways to ensure that at the hard edges of the waterfront that there are softer edges so if there's a storm surge that there's more ability to blunt and absorb the impacts of that.

You know, we need to find out more about what the exact chemical exposures are in these buildings and figure out if there's a regulatory framework that's insufficient, as we believe they are. Then we have to figure out a way to work with manufacturers so they can make their products and their processes as resilient as possible. We're not interested in closing down these businesses, and we also realize that the

1
2 City of New York, this isn't just a New York City
3 problem. The state has skin in the game and the
4 feds need to kick up.

5 So from our perspective, we believe
6 that in order to make businesses more resilient,
7 we need a multi-governmental, multi-sector
8 approach to both give them the tools that they
9 need to upgrade so that they're hitting green
10 manufacturing standards while at the same time not
11 driving anybody out of business.

12 I will say one final thing. I
13 think what you said about Fair Share is exactly
14 right. I think that part of the problem is that
15 so long as some communities historically have been
16 seen as marginal enough where it doesn't matter
17 what goes in those communities, then that's the
18 road to the lowest hanging just nasty fruit in
19 terms of the siting of facilities.

20 Once these facilities, everyone has
21 to deal with them, it's amazing how quickly
22 standards get imposed and how all of the sudden
23 practices--and I think that's part of the problem
24 is that the canaries in the coal mine can't take
25 this anymore.

1
2 If as a society we're focused on
3 Fair Share, it's not about distributing bad
4 impacts, it's distributing responsibility so that
5 once even well heeled communities have these
6 infrastructure challenges, they do so in such a
7 way that the infrastructure is as community
8 friendly as possible.

9 I welcome and thank you for the
10 work you're doing on Fair Share because we believe
11 that that--so long as no community is disposable
12 we're going to be better as a society at doing
13 this stuff.

14 COUNCIL MEMBER LANDER: Thank you.

15 CHAIRPERSON GENNARO: Thank you,
16 Council Member Lander. As long as we have you,
17 Eddie and the Environmental Justice Alliance, it's
18 hard to imagine that many, many communities in
19 this city don't have a better advocate than your
20 organization for your in-depth knowledge of how
21 government works and what we can do to make a
22 difference. It's one thing to have passion. Lots
23 of people have passion, but people have to ability
24 to kind of focus on real world solutions and make
25 them happen and that's what you and this good

organization are all about. I thank both of you for being here today. We'll continue to talk about this. Happy holidays to you.

EDDIE BAUTISTA: Happy holidays.

CHAIRPERSON GENNARO: All the best to Elizabeth.

EDDIE BAUTISTA: Thank you, Councilman.

CHAIRPERSON GENNARO: You bet. It gives me great pleasure to call forward the next panel. Professor Malcolm Bowman from Stony Brook University, Professor Douglas Hill from Stony Brook University, Professor Lisa DiCaprio from NYU Sustainability. It is my hope that the good professors from Stony Brook don't have access to my academic transcript. You don't have access to that, do you? Okay, I would hope not.

So we have the statements here that are being given out. If we could have a little bit of quiet in the room, these are folks from my alma mater here. I really appreciate the opportunity to have you here. What we'll do is we'll work my left to my right. So, Professor Bowman, I guess we'll start with you. Do we have

statements from everyone here? Great. So it's a pleasure to have all of you here today. Thank you for your patience. I would ask each of you, when you speak, state your name for the record and proceed with your statement. I'll wait until the panel is done before I pose questions and comments to the panel. Once again, thanks for being here.

DR. MALCOLM BOWMAN: Thank you, Mr. Chairman. My name is Malcolm Bowman. I'm a Professor of Oceanography and Environmental Science at the State University at Stony Brook. No, I do not have any long-term records, but it's amazing other students of mine who've raised up to positions of high authority remember that C grade that they got in oceanography many years ago. So I think you're exempt from that.

CHAIRPERSON GENNARO: Okay.

DR. I have worked in studying the marine science of the New York area, including New York Harbor, Long Island Sound, the coastal ocean, the rivers around New York City for 40 years now. I've also been very interested in water quality issues and how the tides, the currents flush out the pollutants that we treat and release into the

1
2 rivers around the city. My background is in
3 physics and engineering.

4 CHAIRPERSON GENNARO: Professor, I
5 need to interrupt for a second. Hey, Nick, could
6 we just close the door and get a little quiet for
7 Professor Bowman please? Let's just close the
8 door. If there's quiet without closing the door,
9 then so be it. I do want it quiet. Thank you,
10 Nick. Okay, great. Please proceed.

11 DR. MALCOLM BOWMAN: I'm the head
12 of the Stony Brook Storm Surge Research group. We
13 are very interested in storm surge science of
14 doing the best science there is and understanding
15 the various types of storms that impact the New
16 York area, including hurricanes, winter
17 nor'easters. Each storm has its own signature,
18 its own characteristic. The effects of every
19 storm is different, but it's important that we
20 understand as best we can what are the most
21 menacing, the most dangerous types of storms we
22 have in this area.

23 We have a prediction system. We
24 can predict storm arrivals two or three days into
25 the future. We have a website that makes those

1
2 predictions. It is used by Emergency Management
3 Offices on Long Island and also in the metro
4 region, as well as the National Weather Service.
5 So we're trying to provide the results of our
6 science to those communities.

7 I have also two daughters that live
8 in Brooklyn and three grandchildren. I'm very
9 interested in the plight of those 3 million people
10 in the outer boroughs that are at risk from storm
11 surges. We just heard from Mr. Bautista. I think
12 that is a situation we have to be very aware of.

13 My colleague to my left, Dr. Hill,
14 you'll hear from in a minute, and I organized a
15 conference in 2009 called "Against the Deluge:
16 Storm Surge Barriers to Protect New York City."
17 This was sponsored by the American Society of
18 Civil Engineering and the New York Academy of
19 Sciences. The proceedings of that conference are
20 almost finished and will be going to press soon.
21 That makes a lot of getting the scientific and the
22 engineering communities together to look at what
23 are the possibilities of protecting our city.

24 Whenever I get into these kind of
25 conversations, I always have to ask the audience

1 the question: what is our time horizon? Because
2 if we're just talking about the next 25 years, the
3 kind of solutions that are realistic and
4 affordable are very different from the problems,
5 say what is the city going to be like, what is the
6 climate going to be like 50 years, 75 years from
7 now and even 150 years from now.

8
9 It's very hard for people who are
10 fighting in the trenches to keep our fair city
11 safe and clean and healthy, you know, to think
12 that far ahead. But that's our job in the
13 university is to try and have a look far ahead and
14 look for solutions that will protect our city as
15 long as humanly possible, because this climate
16 change is not going to go away. It's not going to
17 go away in 2080, 2100, it's just going to get
18 worse.

19 So it's a depressing thing to think
20 about but we want to use the best tools we can get
21 to make the city as safe for as long as we
22 possibly can.

23 So we're talking about issues here,
24 of course, that have enormous consequences for the
25 viability of New York City and how long we can

1 keep the city safe in the present way of life.
2
3 Now this little report I have, it's more like a
4 class lecture, but Mr. Bautista just showed us
5 this Figure 1, which is really a picture of the
6 regions at risk from storm surges from hurricanes,
7 particularly hurricanes, categories 1 through 4.

8 It's very interesting, we've been
9 talking about Hurricane Irene today and that
10 looked like that was going to be a real doozer. I
11 think Mayor Bloomberg made the right decision to
12 recommend the evacuation of the outer boroughs.
13 But we must remember also that our same afternoon
14 the subways were shut down, the buses were shut
15 down. So the question remains, how do people
16 evacuate from those outer boroughs and where do
17 they go and who wants them and for how long are we
18 talking about.

19 So these are all big issues and
20 it's a tough call to make by the Mayor but I think
21 he did make the right one. You know, you can be
22 accused of making the wrong decision if it didn't
23 work out the way we anticipated.

24 My colleague on my left, Douglas
25 Hill has been championing the concept of storm

1
2 surge barriers for many years. Figure 2 in my
3 report lists where they to be built, where might
4 these be located, Upper East River, Verrazano
5 Narrows and behind Staten Island at Perth Amboy.
6 So we're really talking about planning for the
7 future. I was very pleased to see Mr. Bragdon
8 state here today that storm surge barriers are on
9 the agenda. I would give him an A grade for that
10 in my Climate Science 101 course.

11 But then he said almost after that
12 then it's not going to be on the agenda for the
13 next six months or so. I would have to give him a
14 C for that because if you look around at what has
15 happened in the past, if you look at the Long
16 Island Express, this was a hurricane that shot
17 through, hit Long Island in 1938, it drowned 700
18 people, carried on to New England, destroyed
19 55,000 homes, punched through the Shinnecock
20 Inlet.

21 Following that, that precipitated
22 the cities of Stamford, Connecticut, Providence,
23 Rhode Island and New Bedford, Massachusetts in
24 hardening their coastlines and building barriers
25 to protect their cities.

In 1953, there was a massive storm in England and in the Netherlands, drowning 7,000 people. That precipitated the City of London building the Thames barrier across the river to protect that city. It led the Dutch to build this ambitious delta project where half their country is below sea level.

The same thing that's been happening in St. Petersburg, Russia, a beautiful city some of you may have been to, and in many ways is similar to New York City. It's smaller but it's built on a river delta. Believe it or not, New York City is built on a river delta, the delta of the Hudson River. St. Petersburg has been flood many times at the eastern end of the Baltic Sea.

During the Soviet era, they started building a ring road system, a barrier system which is shown in my Figure 3. I'm sorry; I don't have any slides. It's worth taking a look at. Near the end of the Soviet era, however, they ran out of money. The project was stopped. It stayed half built for many years. Now the EU has been funding the completion of those barriers. It

1
2 should be finished in a year soon. So that ring
3 of protection will protect the City of St.
4 Petersburg.

5 Further developments in our
6 thinking about storm surge barriers for New York
7 City has been the abiding concern that I've had
8 for many years is that the original three barriers
9 that we had proposed, while it protects the
10 Manhattan and the business district, the East
11 River communities up to, say, Throgs Neck, it does
12 nothing for the outer boroughs. It does nothing
13 for the south shore of Long Island, northern New
14 Jersey, Kennedy Airport and so forth.

15 So I've been investigating the
16 possibility of what we call an outer barrier
17 system, which runs from Far Rockaways across to
18 Sandy Hook, New Jersey. This could double not
19 only as a barrier system during storms, keeping
20 those surges out of the city altogether, but it
21 could curl around with an extended system to
22 protect Kennedy Airport. So that's something
23 we're looking at.

24 When this report from the
25 conference that Doug organized two years ago,

"Against the Deluge" comes out, you'll see some conceptual plans that major engineering firms in New York City have put their hand to, to come up with some conceptual ideas.

If you look on page five, just to finish up, it seems to me that what we do or we don't do can sort of fit into three basic categories. One I call A, is the--it sounds mean--but the "do nothing" approach. The do nothing approach is based on a wait and see attitude by coastal planners, in the hope that nothing catastrophic will happen on their watch.

Many risk analyses and cost benefit studies are completed, but in the end, insufficient political will or funds are available to proceed with raising large amounts of money to build regional coastal defenses as opposed to local for catastrophic storm surge events that may, in fact, never happen.

This is the most common scenario for nations without a strong traditional commitment of spending federal monies for the regional coastal protection against natural hazards.

Now, I'm pleased to see that I think in New York City we're moving out of that "do nothing" kind of stick your head in the sand approach and we're moving aggressively into stage B.

Stage B I call the "iterative approach," also known as resilience. Now, the iterative, Pamela here thinks that palliative is a better term than iterative. This centers on fixing problems on a case by case basis as they arise, e.g., patching up and strengthening leaky seawalls, modifying transportation routes, raising airport runways and building new seawalls around facilities, raising subway entrances and ventilation shafts prone to flooding, protecting other underground infrastructure related to energy and communications, pumping out backed up sewers, et cetera.

This approach is analogous to patching up potholes on the highway. The basic roadway is in good condition, but weak spots showing sign of wear and upheaval due to adverse weather, keep popping up and must be repaired to eliminate or minimize safety hazards. This method

1
2 is the most responsive to relatively modest
3 amounts of municipal funds becoming available from
4 time to time which must be spent or be lost from
5 the budget.

6 So I think that's the era we're now
7 in. You know, let's improve the resilience of the
8 city, and that's very important. What I hope
9 today is to interest you in looking even further,
10 because it's in our future, folks, what I call the
11 regional approach.

12 At times, the iterative approach
13 may become large scale in nature. For example,
14 the Dutch have been busily reclaiming and
15 protecting their lowlands for centuries by
16 creating an intricate network of dikes surround
17 low lying tracts of land known as polders, then
18 pumping out the sea and turning the land into
19 useful pasture and even cities.

20 Amsterdam, the capital city of The
21 Netherlands, whose urban area is home to 1.2
22 million residents, in places is built on land as
23 much as 18 feet below sea level. One half of the
24 country's land area is now reclaimed from the sea.
25 Now, fortunately, we're not in that situation, but

1
2 New Orleans is. It took a catastrophe to get New
3 Orleans to build those new barriers that have just
4 been completed, to try and keep those surges out
5 of Lake Pontchartrain.

6 To finish up, I find and Mr.
7 Chairman, you want to know what can be done in the
8 city; I hope you can encourage Mr. Bragdon to
9 encourage engineering firms, environmental groups,
10 and community groups to think a bit further down
11 the road than we currently are, to think about the
12 long-term. Look 50 years ahead.

13 It's beyond our lifetime but what
14 kind of city do we want our children and our
15 grandchildren to inherit. So we must be doing
16 that. We're not talking about huge amounts of
17 money here. We're not talking about pouring
18 concrete. We're talking about the studies that
19 are necessary to extend the work that we've done
20 and involve the engineering communities.

21 The final thing is that I see
22 myself as sort of straddling both the science and
23 engineering communities and the environmental
24 communities, but there's a huge sort of void
25 between the two groups and it's unhealthy. We've

all got to work together on these problems. Anything we can do to foster more communication and interaction between these different communities, the better. Thank you.

CHAIRPERSON GENNARO: Thank you so much, Professor Bowman. I can't wait to get back to you with questions and comments. We'll hear from Professors Hill and DiCaprio and then we'll have that exchange. Thank you. Professor Hill, please state your name for the record and proceed with your testimony.

DR. DOUGLAS HILL: Thank you. I'm a consulting engineer and an adjunct lecturer at the School of Marine and Atmospheric Sciences at Stony Brook University.

As Malcolm has pointed out, the idea of building storm surge barriers has been around for some time now. The case for it is pretty well documented. We did a study in 2004 at Stony Brook, using one of these models, hydrologic, meteorological model to demonstrate that the three barrier system, one across the Narrows, one at the upper end of the East River and one at the mouth of the Arthur Kill would,

indeed, protect the city from storm surges.

Two years ago, 2009, we held this conference sponsored by sections of the American Society of Civil Engineers and the New York Academy of Sciences at which four major engineering firms designed these barriers, the conceptual designs. So we have them for the four locations, the original three and the idea of a gateway barrier extending from Sandy Hook to Rockaway. But that's about where it stands.

There is another possibility with regard to the use of these storm surge barriers, which is what I would like to bring up. That is in addition to protecting the city from periodic devastating storm surges, over the next many decades, maybe a century, they could be used to limit sea level rise. I mean we not only have the threat of severe storm surges, we're facing sort of creeping crisis of the sea level rising.

According to the most recent estimates done by Cynthia Rosenzweig's people up there, the sea level will be about two feet higher by the 2080s. It might be four feet higher due to the melting ice caps. Nobody really knows. But

as that occurs, there is going to be more and more a problem of flooding, routine low level flooding of the coast. I mean I thought the presentation about the disadvantaged communities on the coastline is just exactly what we need to be protected against.

So what you could do with these barriers, they could be operated also daily as tide gates. In other words, when the tide is low and it starts to rise, they could be closed so that the rising sea level does not penetrate inside the barrier areas. Then when it drops down again, they could be opened to let the water evacuate from the city.

That would work until the present level of low water reaches the present level of high water, which is about five feet at the Narrows. That's many decades. So that seems to me that it's worth evaluating this idea because it would, of course, strengthen the case for storm surge barriers but also it would affect their design. I mean somebody is going to be designing these one of these days. Whether you design them simply for periodic severe storm surges or for

daily operation would make a difference in their design.

So my main message is that somebody ought to do that study. It can be done for something like \$100,000 by an academic institution. The models exist to do it. Somebody just needs to support it.

I would also like to add a word on the subject of resilience before I finish here. We keep hearing about how resilience is what we're trying to do here. That's okay for most things, but as far as coastal flooding, resilience is defined as the ability to withstand and recover from extreme events. It's defined that way, right?

So in effect, that is by definition saying that New York City is planning to be flooded. Right? If resilience is the only standard, New York City is in fact planning to be flooded. So there should be sort of a change in the orientation as far as coastal flooding is concerned. We should be concerned about protection and resilience. Certainly there are some communities where resilience is the best you

can do, but much of the inner city, as Malcolm has described, can be protected. That's what we should be aiming to do, protecting these people. Thank you.

CHAIRPERSON GENNARO: Thank you very much, Professor Hill. I'm really grateful for your presentation. I'll be coming back to you with questions as well. Thank you. Professor DiCaprio, do we have a statement for you?

DR. LISA DICAPRIO: I actually revised it. So I'll submit it.

CHAIRPERSON GENNARO: Great. Please proceed.

DR. LISA DICAPRIO: My name is Lisa DiCaprio. I'm a professor of social sciences and New York University and a member of the NYU Sustainability Task Force.

Cities like New York City can and must assume a leading role in climate change, adaptation and mitigation, which requires a promotion of energy efficiency and conservation and renewable forms of energy. We cannot afford climate change, which is placing at risk the infrastructure of our cities and imperiling New

York State's commercial and residential property, agriculture and tourism industry.

Extreme weather, heat waves, droughts, torrential rains and accompanying storm surges caused by climate change is increasingly becoming the norm throughout the world, including New York State.

The lethal nature of our reliance on fossil fuels is evident. The impact of human activity is now determining the fate of our planet.

Earlier this year, scientists at the Stockholm Resilience Center identified nine planetary boundaries: climate change, stratospheric ozone, land use change, fresh water use, biological diversity, ocean acidification, nitrogen and phosphorous inputs to the biosphere and oceans, aerosol loading and chemical pollution.

According to these scientists, three of these boundaries may have already been crossed: climate change, biological diversity and nitrogen input to the biosphere. We are now in a planetary state of emergency. Every day that we

continue to rely on fossil fuels for our energy needs brings us closer to irreversible climate change tipping points.

What does this mean for New York City? Five recent studies outline the challenges that New York City faces in the present and in the future. One, "MTA Adaptations to Climate Change: A Categorical Imperative," 2008.

Two, "Climate Change Adaptations in New York City: Building a Risk Management Response," the 2010 report on the New York City Panel on Climate Change that was convened by Mayor Bloomberg in 2008.

Three, Heidi Cullen, "The Weather of the Future: Heat Waves, Extreme Storms and other Scenes from a Climate Change Planet," published in 2011, which includes a chapter on New York City.

Four, "Climate Change and Cities: First Assessment Report of the Climate Change Research Network," published in 2011, which focuses on global cities and climate change.

Five, most recently, "Responding to Climate Change in New York State," published in

November 2011, on which Professor Cynthia Rosenzweig presented today, which details how climate change is transforming New York State's ecology and economy.

The climate change risks to New York City, identified by these studies are heat waves, sea level rise and storm surge and floods. With specific reference to New York City's infrastructure, we are being warned that anything below 10 feet is vulnerable to flooding during major storm events. Infrastructure at risk include the Christopher Street subway station, almost 15 feet below sea level; the New York entrance to the Holland Tunnel, 9.5 feet below sea level; and the LaGuardia Airport, 6.8 feet above sea level. The New York City Panel on Climate Change 2010 report concluded New York City should begin to adapt to climate change today.

As there is virtually no possibility of national legislation or an international agreement on greenhouse gas emissions in the near future, cities and state governments must assume leadership in stopping climate change. Here, I'd like to propose seven

measures for climate change mitigation in New York City.

First, a recognition that our carbon footprint in New York City is not limited to the greenhouse gas emissions produced in New York City but also encompasses our patterns of consumption. I think this is an important point that has not been made so far today.

This means, for example, an expansion of the commitment to reduce New York City consumption of rainforest hardwood and recognition of global connections and the essential role of rainforests in absorbing carbon emissions.

Two: an expansion of New York City green procurement policies. An expansion, we have procurement policies, guidelines, but an expansion of these policies which can contribute to economies of scale.

Three: also, an expansion with regard to procurement policies, procurement of locally produced food in schools and government offices. So three aspects of procurement policies that recognize that our carbon footprint is larger

than greenhouse gas emissions produced in New York City.

With respect to energy, a public education campaign around climate change, energy efficiency and conservation and renewable energy. This campaign could begin with the students and employees at all New York City public schools and colleges and all the employees in New York City government offices. This would be the beginning of a public education campaign.

Two: also with regard to energy, a reduction, rather than the planned expansion of the use of natural gas in New York City. While natural gas is being promoted as the fossil fuel of choice, recent studies have shown that the greenhouse gas footprint of hydrofracked gas when considered over its entire lifecycle is actually larger than that of coal and oil. Natural gas is not a bridge to the future, but rather undermines the conversion from fossil fuels to renewable forms of energy.

And here it's important, a question that was brought up earlier in terms of building conversion, that from 6 to 4 and then to 2,

1
2 natural gas is not the only option. We can have
3 dual firing burners that would allow for burning
4 of oil and gas and would hold open the option of
5 alternatives in the future. So I raise that
6 question that we should not use natural gas to
7 reduce greenhouse gas emissions as a means because
8 we must consider the impact of that outside of New
9 York City.

10 In other words, if we only look at
11 reducing greenhouse gas emissions with regard to
12 the burning of natural gas, which we know is,
13 quote, cleaner than oil or coal, we are not
14 considering the lifecycle impact of natural gas.
15 New York City is affected by global warming in
16 general. So if we use hydrofracked gas, we're
17 actually contributing to global warming. I think
18 that larger and broader perspective is necessary
19 when we consider greenhouse gas inventories.
20 Again, it's the lifecycle assessment, not only of
21 our energy, our food and procurement of materials.

22 Public hearings could be organized
23 by the City Council to map out New York City's
24 potential for renewable energy. I was here for
25 the hearing on the Solar Jobs Act. I would

encourage expanding hearings to bring together experts, designers, architects, engineers, to look at how we can map out New York City's renewable energy potential. Based on the expertise provided at these hearings, a citywide plan could be drawn up to actualize the potential.

For example, increases in subsidies for solar power installations on residential and commercial property. New York City could also mandate the installation of solar power and wind turbines on all appropriate city property, including public schools and CUNY colleges.

In this final hour of climate change consequences, we can no longer allow our energy policies to be determined by market prices and the interests of the fossil fuel industries. Thank you.

[Applause]

CHAIRPERSON GENNARO: Thank you. A great panel and I hardly know where to begin. Let me begin with you, Professor DiCaprio. With regard to frack gas, I think my position is well known. But this sort of carries over to the other two witnesses. We have a state administration now

1
2 that will stop at nothing to release the Saudi
3 Arabia of natural gas and to convert all that
4 carbon that's trapped in that black shale. They
5 cannot wait to transfer it to the atmosphere and
6 they're going to call this progress. From
7 Governor Cuomo on down, they brag about how they
8 can't wait for this good day to happen.

9 When you bother them with the whole
10 notion that we should do any kind of science, to
11 kind of look at what we're doing before we plunge,
12 you know we're faced with the reality that the
13 science being done by the state now, they're using
14 all their scientific power to debunk real science
15 which is put forward.

16 When the report comes out about
17 Wyoming and DEC scrambles about "that's not us,"
18 it's not that--so I've got bad news for everybody
19 on this panel. If only we had a state government
20 and a federal government that had the remotest
21 interest in real science to do anything. That
22 just plain old doesn't exist. So we're left with
23 New York City trying to do what it can to sort of
24 pushback. It's a sad scenario, but we will
25 continue to do what we can. Thank you for your

support on the fracking issue.

Let me just place a question to Professors Bowman and Hill, a couple of them. This concept for the barriers and this has been put forward and it's going to be released in detail form in the proceedings from the conference that came out. So we'll have it. We'll have this is what it is, this is what it looks like, this is kind of what it would be to put together, this is the rudiments of what it would cost. We could do it in such a way that it could be built upon for the future or whatever.

So all this is coming out. That's coming out soon, is that right? You've got to talk right into the microphone, otherwise it's not going to be recorded. This is being taped and then it's going to be recorded. This is being taped and then it's going to be transcribed.

DR. MALCOLM BOWMAN: Doug and I are the co-editors of this report.

CHAIRPERSON GENNARO: Right.

DR. MALCOLM BOWMAN: So it is a comprehensive investigation which covers all of those aspects you just mentioned. I think Doug

and I have to push the Society of Civil Engineers to get that out in 2012.

CHAIRPERSON GENNARO: Which is good. So I got that. I want staff to pay very close attention to, I mean I'm sure staff always pays attention to what the chairman is saying, but I mean particularly so now.

We've got that coming out in 2012. Now, there were people, presumably, from the Office of Long-Term Planning and other people involved in city government that were part of these proceedings that happened in 2009? I'm trying to figure out--

DR. MALCOLM BOWMAN: [interposing] Doug can tell you exactly. We had contributions from the Office of Emergency Management.

CHAIRPERSON GENNARO: Okay.

DR. DOUGLAS HILL: The Corps of Engineers was represented.

CHAIRPERSON GENNARO: Boule and those guys, right?

DR. DOUGLAS HILL: Pre-Boule.

CHAIRPERSON GENNARO: Okay.

DR. MALCOLM BOWMAN: I've got to

1
2 know Boule quite well. In fact, he comes out once
3 a year to talk to my class on environmental
4 issues.

5 CHAIRPERSON GENNARO: I see.

6 DR. MALCOLM BOWMAN: He is actually
7 coming to the end of his three-year term. He's
8 been an outstanding young--

9 CHAIRPERSON GENNARO: [interposing]
10 Yeah, he's a good guy.

11 DR. MALCOLM BOWMAN: --colonel and
12 with advanced degrees in civil engineering--

13 CHAIRPERSON GENNARO: [interposing]
14 Yeah, he's a very cool guy.

15 DR. MALCOLM BOWMAN: --and water
16 hydraulics and so forth. So I'll be sorry to see
17 him move on. So we have to find ways of building
18 bridges with the next.

19 CHAIRPERSON GENNARO: He also went
20 to school with Paul Rush who does all the
21 watershed stuff for the City DEP. They're both
22 West Point guys.

23 DR. MALCOLM BOWMAN: So I think we
24 have a big challenge--sorry, you're asking the
25 questions.

CHAIRPERSON GENNARO: What I'm trying to get at here is has the Office of Long-Term Planning and Sustainability commented or had any interaction with this proposal? What kind of colloquy, if any, have you or any of the people who participated in these proceedings had with them? Or do we get a sense at all of where they are with the barrier concept as part of their adaptation strategy? Is there any barrier talk going on with them?

DR. MALCOLM BOWMAN: It's staring to get on the agenda.

CHAIRPERSON GENNARO: Professor, you've got to talk right into the mic again.

DR. MALCOLM BOWMAN: Doug wants to--it starting to get on the agenda, as Mr. Bragdon said. What he said today was actually progress because up until now--

CHAIRPERSON GENNARO: [interposing] Right, because you did mention that he said that.

DR. MALCOLM BOWMAN: It's been kind of dismissive and it's too farfetched, too expensive, you know--

CHAIRPERSON GENNARO: [interposing]

Right.

DR. MALCOLM BOWMAN: But to me,
that's just looking not far enough ahead.

CHAIRPERSON GENNARO: Right.

DR. MALCOLM BOWMAN: And if you
look at the--

CHAIRPERSON GENNARO: [interposing]
Let me just jump in now for a second.

DR. MALCOLM BOWMAN: Go ahead.

CHAIRPERSON GENNARO: I'm sorry I'm
kind of disjointed.

DR. MALCOLM BOWMAN: No.

CHAIRPERSON GENNARO: I'm trying to
do my best and I'm going to keep on putting things
on the pile. Has anything like this ever been
accomplished? I think you mentioned some kind of
words to this effect in your statement, by a
government that doesn't have a tradition of
national investment in this? Like when you see
these things happen, it's almost always because
the national government has made a commitment to
it and the national government sees the need to
make sure that these things happen in the
vulnerable areas, everyone all around the country

helps pay for it. I mean, do you get localities that kind of shoulder the load for these kinds of things in any of the examples that you cite? Not that I'm trying to get out of this, I'm just trying to get a sense of it.

DR. MALCOLM BOWMAN: No, I understand. Doug, what is the New England experience that I mentioned? Who paid for that? Do you know?

DR. DOUGLAS HILL: That was done by the Corps of Engineers. I think you could look to Cedar Rapids, Iowa. Two or three years ago they had severe flooding. The city came up with a plan of where they needed levees.

CHAIRPERSON GENNARO: Right.

DR. DOUGLAS HILL: And I think it's still on the drawing board. I mean I have to be somewhat less optimistic than Malcolm here on the subject of the Corps of Engineers. Colonel Boule spoke at a panel in which I was involved last fall and he laid out the schedule for their proceedings for doing these things.

The first two years is spent on what they call reconnaissance. They've been doing

1
2 a reconnaissance study of what to do about the
3 south shore of Long Island since about 1970. The
4 next two years is something else. I've forgotten
5 what it is, but it's not anybody putting a pencil
6 on a piece of paper and a drawing board.

7 So I personally believe that it's
8 important for the city to develop a parallel path
9 if anything is going to happen on this.

10 The experience in Europe is that
11 from the time of the catastrophes that Malcolm
12 mentioned, the 1953, it was 20-30 years, not
13 before they were built but before they were
14 started to being built. That's what's involved
15 here. First, you have to get somebody to believe
16 in it. Then you have to get legislation to go
17 with it. Then you have to get the funding. Then
18 you have to have the design and then you have to
19 have the hearings.

20 CHAIRPERSON GENNARO: Right.

21 DR. DOUGLAS HILL: Then you have to
22 fight the lawsuits and so on and so forth. The
23 important thing is to get this thing started. I
24 think that's what the city really should be trying
25 to do. When I hear Bragdon say that six months

from now maybe they'll start something with the Corps of Engineers, you know, forget about it. It's not going to be in my lifetime.

DR. MALCOLM BOWMAN: [off mic] Six months.

DR. DOUGLAS HILL: What that really means, yes.

CHAIRPERSON GENNARO: Let me get a sense of what's something that would go across New York or what would that look like. Would it be like an earthen structure, would it be like a metal structure? What would it resemble?

DR. DOUGLAS HILL: The one across the Narrows would consist of a series of gates which drop into place. It's a structure with a concrete seal underneath it. And in the center for large ships, there would be gates that open and close, such as they have in Rotterdam.

The one across the gateway--

CHAIRPERSON GENNARO: [interposing] So it's an underwater dam, so to speak.

DR. DOUGLAS HILL: It's a dam in suspension, right.

DR. MALCOLM BOWMAN: The

foundation.

DR. DOUGLAS HILL: Yes, the foundation would block the lower part of the harbor, which actually would be a benefit because we have this problem with the salt wedge moving up the Hudson River.

CHAIRPERSON GENNARO: Sure, of course.

DR. DOUGLAS HILL: And threatening New York City's emergency water supply. So blocking the salt wedge would actually be a good thing.

It worries me when somebody say dam, because of all of the unfortunate connotations that it has. The one across the gateway would be rocks.

CHAIRPERSON GENNARO: The gateway.

DR. DOUGLAS HILL: That's the one that runs from Sandy Hook to Rockaway.

CHAIRPERSON GENNARO: Okay, right.

DR. DOUGLAS HILL: It would have two openings where there are navigation channels--

CHAIRPERSON GENNARO: [interposing]
So it'd be like a huge jetty.

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

DR. DOUGLAS HILL: Yeah, right.

The openings would have gates--

CHAIRPERSON GENNARO: [interposing]

Would it be like a jetty? There's like jetty, you know there's these different terms--

DR. DOUGLAS HILL: [interposing]

Right, it's like that, piles of rocks.

CHAIRPERSON GENNARO: Right.

DR. MALCOLM BOWMAN: Actually, it

would have to be a combination of jetties and openings. I mean you don't want--

CHAIRPERSON GENNARO: [interposing]

Of course. Yes, because you have to have that--

DR. MALCOLM BOWMAN: [interposing]

You don't want to restrict the current movement because that's what flushes the harbor. That's what keeps it healthy. So it's a combination.

CHAIRPERSON GENNARO: So this, no

doubt, would be part of the pushback that we would hear about restricting current flow and stagnation of harbor waters. I can hear it already. It's just that I'm wondering whether or not this has tenability if it's not a federal initiative. Let me ask that question. Could this be a local

1
2 thing? Could this be a bi-state initiative or
3 what? I mean is there enough to do this?

4 DR. DOUGLAS HILL: Well the
5 Regional Planning Association is showing some
6 interest in this issue. That would be a vehicle.

7 CHAIRPERSON GENNARO: Yaro is still
8 there, right?

9 DR. DOUGLAS HILL: Yes, Yaro
10 himself. We were going to have a meeting with him
11 in November. It's now postponed to January
12 because they're going to take an interest in this
13 coastal flooding issue.

14 CHAIRPERSON GENNARO: So you're
15 going to have a meeting with them--

16 DR. DOUGLAS HILL: [interposing]
17 With regard to the question you raised about the
18 environmental consequence--

19 CHAIRPERSON GENNARO: [interposing]
20 You're going to have a meeting with him in
21 January, Yaro?

22 DR. DOUGLAS HILL: Yes.

23 CHAIRPERSON GENNARO: Okay. Why
24 don't you let my staff know and I'll send Bill to
25 that thing. I want to know what's going on. I

1
2 want to know what people are thinking. I'm just
3 like a chairman of a committee, but I don't, like,
4 rule the world. But I've got to keep my hand in
5 what's going on.

6 DR. MALCOLM BOWMAN: Who's Bill?

7 CHAIRPERSON GENNARO: Bill's right
8 there.

9 DR. MALCOLM BOWMAN: Sorry.

10 CHAIRPERSON GENNARO: Sure. Again,
11 I'm just trying to wrap my head around this thing
12 a little bit.

13 DR. MALCOLM BOWMAN: [off mic]
14 Which is good because that would showing that the
15 City Council--

16 DR. MALCOLM BOWMAN: That would be
17 excellent. That would be an expression of
18 interest by the City Council.

19 CHAIRPERSON GENNARO: This will be
20 his issue. Then he'll get the thing in 2012. I
21 mean I see Boule, I talk to him, I talk to
22 Bragdon. I've got a lot of things to talk to
23 Bragdon about. But I want the occasion of this
24 hearing to be--this is now one of my things--

25 DR. MALCOLM BOWMAN: [interposing]

Well that's music to our ears, Mr. Chairman. This would be a wonderful stimulus project wouldn't it? If we could somehow get the federal government, think of the jobs it would create, think of the benefits it would create. You know, the construction phase would take five years. If we could raise the national consciousness somehow--

CHAIRPERSON GENNARO: Right. Yes, that would. Notwithstanding the fact that the whole science of global warming is completely dismissed as poppycock by let's say like a majority of Congress, you know what I mean, or something sad like that.

DR. MALCOLM BOWMAN: That's a national tragedy.

CHAIRPERSON GENNARO: Yeah, that is, of unbelievable portion--

DR. MALCOLM BOWMAN: [interposing]
Education of--

CHAIRPERSON GENNARO: [interposing]
And so--

DR. MALCOLM BOWMAN: --get past that.

CHAIRPERSON GENNARO: So better to

light a candle than curse the darkness. It's not like we don't have--you know, this is a pretty big matzah ball.

[Laughter]

CHAIRPERSON GENNARO: Please, help me out here.

DR. DOUGLAS HILL: With respect to your question about flushing, water quality, environmental effects and so on, those are questions that can be answered with modeling studies right now. The models exist. I mean I say modest in cost, we're talking about hundreds of thousands of dollars, not millions. With regard to the cost, somebody mentioned it was going to cost billions.

Well we have the estimates from four major companies as to what they would cost. The one across Perth Amboy would cost a billion, according to their estimate. The one at the upper east end of the river would cost one and a half billion. The one across the Narrows would cost \$4.6 billion. The one across from Rockaway would be less than \$4.6 billion. I don't remember the exact number.

1
2 But in total, the cost of these,
3 according to four major engineering companies
4 would be less than \$9 billion. I mean that's
5 comparable to things like the east side access to
6 the Long Island Railroad or what they're going to
7 do with this tunnel from New Jersey. That's \$13.2
8 billion I believe. I mean we're not talking about
9 numbers that are out of sight here.

10 CHAIRPERSON GENNARO: Right. For
11 the purposes of kind of carrying on, I would like
12 staff to know this is an official interest of the
13 chairman. I didn't come here not to get good
14 things that I could try to champion. Bill, I just
15 want you to wrap your head around this and figure
16 out how we talk to Bragdon, figure out how we
17 whatever. This is how we do things. This isn't
18 funny. Do you want me to proclaim today that I'll
19 have this done within a year? I don't think I
20 want to do that, and I don't think I can do that.
21 Fine, as long as I'm not being mocked. I wouldn't
22 like that.

23 I've already got the Governor mad
24 at me for saying that he's not doing what he said
25 regarding how we'll only do fracking, you know, if

1 this, it's going to be protective of the water,
2 it's going to be protecting the air resources,
3 protecting the landscapes, going to protect
4 everything and like nothing is going to happen
5 unless and until we have all the science we could
6 possibly have. That isn't happening. So I just
7 repeat his own words back to him and like how he's
8 doing on what he said he was going to do. He
9 doesn't like when I do that. So, I'm making a lot
10 of enemies here. I'm doing the best I can.

12 I study this global warming as a
13 first geology student back in 1975 and I feel like
14 I really have an opportunity to kind of do
15 something here. So this is my pledge to you, for
16 what it's worth. Work with Bill and my staff and
17 let's see if we can get people to pay attention,
18 just like I wanted them to pay attention on
19 fracking and everything else.

20 DR. MALCOLM BOWMAN: Well, thank
21 you for that. That's very encouraging to hear you
22 speak like this. My fond hope was that Mayor
23 Bloomberg, being an engineer by training, would
24 take an interest in this.

25 CHAIRPERSON GENNARO: Isn't he like

a software engineer or something?

DR. MALCOLM BOWMAN: His first degree is in electrical engineering.

CHAIRPERSON GENNARO: Okay. Electrical engineering.

DR. MALCOLM BOWMAN: Yes, and that's where he got the idea of the Bloomberg Terminal from. I would think that he would be thinking like that and he could be convinced about this.

CHAIRPERSON GENNARO: He's a pretty green guy. He's done a lot of good things and I credit him for that. So let's--

DR. MALCOLM BOWMAN: [interposing] Well we definitely need a champion and right now you're our champion because--

CHAIRPERSON GENNARO: [interposing] Like just everybody that's locked up needs a champion, yeah. You know, the guy that like no one listens to.

DR. MALCOLM BOWMAN: So often we feel--

CHAIRPERSON GENNARO: [interposing] I'm better than nothing. I am definitely better

1
2 than nothing. I want that on the record. So,
3 there you go. I think I can say that with
4 complete confidence. I'm doing my parents proud,
5 right?

6 Okay, we got this--

7 DR. MALCOLM BOWMAN: [interposing]
8 We certainly want to thank you for this
9 opportunity--

10 CHAIRPERSON GENNARO: [interposing]
11 No, sure, sure, sure. Say hi to Larry Swanson and
12 all my homeys back in Stony Brook. It's a great
13 place that did right by me. President Stanley
14 seems like a really nice guy. I met him marching
15 in a parade, so now he and I are having
16 communications. He wants me to get back out
17 there, he wants me to visit and I'm certainly
18 inclined to take him up on that. I might sneak
19 over to the Three Village Inn for a bite.

20 DR. MALCOLM BOWMAN: [off mic] You
21 must do that. Swanson and I teach a course on
22 contemporary environmental issues and policies.

23 CHAIRPERSON GENNARO: You should
24 have me come out and lecture.

25 DR. MALCOLM BOWMAN: We'll have you

come out on a Monday evening this coming semester.

CHAIRPERSON GENNARO: I'd be the bomb. Yeah, I'd be good.

DR. MALCOLM BOWMAN: I've got you plugged in.

CHAIRPERSON GENNARO: Sure, please, please, please. I want to thank this panel very much. We appreciate everything you had to answer. Thank you. Thank you.

The next panel, moving forward, Buck Moorhead, everybody knows Buck Moorhead. Stephanie Low from the Sierra Club, Susan Lerner from Common Cause NY. Is this one panel? We're going to try to do this in one panel? Okay, fine. Roland Lewis from the Metropolitan Waterfront Alliance, Robert--

ROBERT TRENTLYON: Trentlyon.

CHAIRPERSON GENNARO: Trentlyon, correct, thank you, and Mav Moorhead. Let's see if everyone is still here.

[Pause]

CHAIRPERSON GENNARO: What we'll do is maybe we'll do the opposite of the other panel. You have to just give that to the sergeant. Why

don't we start from my right to my left? Robert,
is that you? Okay, great.

ROBERT TRENTLYON: You may call me
Bob.

CHAIRPERSON GENNARO: Bob, okay.
You've got to make sure your microphone is on. Is
the red light on?

ROBERT TRENTLYON: No.

CHAIRPERSON GENNARO: Okay.

ROBERT TRENTLYON: Now it's on.

CHAIRPERSON GENNARO: Good. Do you
have a statement, Bob?

ROBERT TRENTLYON: Yes, I do.

CHAIRPERSON GENNARO: Like a
printed statement for me or do you just have
yours?

ROBERT TRENTLYON: I handed it to
the sergeant.

CHAIRPERSON GENNARO: Fine. Let me
make sure that I have it.

ROBERT TRENTLYON: No, I don't
think that I have a copy.

CHAIRPERSON GENNARO: Here we go, I
got it.

ROBERT TRENTLYON: Okay, do you have it? Okay.

CHAIRPERSON GENNARO: I got it, Bob. Okay, please.

ROBERT TRENTLYON: Greetings from the flood plain. My name is Bob Trentlyon. I will be reading a resolution on the need for Storm Surge Barriers passed by Community Board 4 Manhattan, which is Chelsea and Clinton. I am also representing an informal coalition of groups that are in favor of building storm surge barriers: Community Board 2 Manhattan, which is Greenwich and SoHo, Hudson River Park Advisory Council, Save Chelsea, Chelsea Council of Block Associations, and Chelsea Reform Democratic Club.

This is the resolution that was passed by Manhattan Community Board 4. To show how things move slowly in this town, this was passed almost two years ago.

Dear Mayor Bloomberg: one of the greatest calamities that could wreak havoc in New York City would be flooding due to the surge from a 100 year storm. This storm could appear at any time and even many times within the next 100

years. New York City is particularly vulnerable to storm surges because of the New York Bight, which funnels water and increases the speed of a storm surge moving through the Verrazano Narrows. Storm surges have been known to be as high as 20 feet.

As much of Manhattan Community Board 4 lies within the 100 Year Flood Plain, we request that the City petition Congress to appropriate necessary funds to enable the Army Corps of Engineers to begin studying the feasibility of installing sea gates and barriers for protection from the sea.

Indeed, Joshua Friedman of New York City's Office of Emergency Management offered sobering statistics about the region's vulnerability to coastal flooding. At a 2009 American Society of Civil Engineers conference, he told scientists, engineers, government officials and environmental advocates that a catastrophic storm surge will affect two million New Yorkers, 740,000 households, 272,000 buildings and 461 miles of roadways.

Recognized experts have suggested

that sea gates at the Narrows, the mile wide entry to New York Harbor, and lesser gates near Arthur Kill and where the East River meets Long Island Sound, Throgs Neck, would protect much of Manhattan. Gates could also help address sea level rise in 20 to 40 years that will cause potential flooding at certain times of the year having nothing to do with storms.

Other cities have already built sea gates, Rotterdam and London, or are currently building them, Venice. In the case of London, the barrier's purpose is to prevent the city from being flooded by exceptionally high tides moving up from the sea, often exacerbated by a storm surge. It is deployed on average four times a year.

In Rotterdam, the Maeslantkering is expected to be closed once every ten years due to a storm surge, but with rising sea levels, that frequency is expected to rise in 50 years to once every five years. The situation in New York City will depend on the expected frequency of storm surges.

Manhattan Community Board 4 urges

you to reach out to our federal representatives to request funding for a feasibility study to protect our city from potentially life threatening storm surges. The total cost of design and construction for gates at Verrazano Narrows, Arthur Kill and Throgs Neck is estimated at \$10 billion. There is no time to waste; whole communities may suffer irreparable damage if we don't act now.

That's the end of the resolution.

CHAIRPERSON GENNARO: Thank you. Let me hear the rest of the statements from the panel and then I'll come back.

ROBERT TRENTLYON: Sure.

CHAIRPERSON GENNARO: Nick, I'm going to run you around again. I just heard from the audience and I feel it myself. It's a little cold now. I'm sorry. I guess just make it a little warmer. We just can't get the climate straight in this room. It is pretty cold. What's that? Yeah, that sounds good. Seven is lucky, yeah, that's good. Thank you, Bob. I'm sorry?

BECKY SCHNEIDER: My name is Becky Schneider. I'm giving testimony on behalf of Roland Lewis.

CHAIRPERSON GENNARO: From the MWA?

BECKY SCHNEIDER: At the
Metropolitan Waterfront, yes.

CHAIRPERSON GENNARO: He was here,
right?

BECKY SCHNEIDER: He was and he had
to leave, unfortunately.

CHAIRPERSON GENNARO: I'm sorry.
Becky, you said, right?

BECKY SCHNEIDER: Yes.

CHAIRPERSON GENNARO: Please
proceed.

BECKY SCHNEIDER: The Metropolitan
Waterfront Alliance, as you probably know, is a
coalition of over--

CHAIRPERSON GENNARO: [interposing]
They gave me a major award. Yes, I do know them.

BECKY SCHNEIDER: Yes. So we are a
coalition of over 570 organizations--

CHAIRPERSON GENNARO: [interposing]
It was my first environmental award. It was the
first environmental award I ever got, and I was
chairman of the committee like a long time by the
time I got that. I must not be a very good

chairman. So they were the first ones to give me an award.

BECKY SCHNEIDER: Great.

CHAIRPERSON GENNARO: I was very gratified by it.

BECKY SCHNEIDER: So, yes, our mission is to work with the coalition members to transform the New York Harbor and its waterways into a world class resource for work, play, transit and education.

MWA believes climate change to be one of the greatest challenges facing our region, New York City, and the New York City waterfront. As we know from this summer, much of the New York metro region dodged a bullet with limited impact and damage from Hurricane Irene. The response served as a dress rehearsal for the longer term challenge of how we deal with climate change and our rising seas. The hurricane was another reminder of the importance of simultaneously preparing for climate change: and preventing it.

While the emergency planning and preparedness tools that were rolled out for Irene predate the more recent warnings over sea level

1
2 rise, these measures reinforced growing concerns
3 over the potential impacts of melting icecaps for
4 our region. Indeed, so many graphics on
5 television and the Internet showed potential
6 flooded areas of Manhattan resembling something
7 from Al Gore's "Inconvenient Truth."

8 With the precautionary evacuations
9 and transit shut downs, and warnings about the
10 dangers of low-lying industrial areas being turned
11 into toxic soup, the media, government and the
12 civic community are recognizing that over time
13 water will breach our shorelines and we must
14 develop procedures, designs and strategies that
15 will adapt to this new reality.

16 The recent work of the New York
17 City Office of Emergency Management, the Mayor's
18 Office of Long-Term Planning and Sustainability
19 and the New York State Sea Level Rise Task Force,
20 along with planning by the Port Authority, the MTA
21 and other organizations have infiltrated the
22 public's consciousness and certainly have had some
23 effect on the emergency response planning.

24 Even the design community has
25 gotten involved with the recent Rising Currents

exhibition at the Museum of Modern Art that creatively re-imagined our waterfront in our region as the water rises. From futuristic architectural renderings of an aquatic urban environment to hard-tack engineering solutions to protect our transportation, communication and other systems, all of this work responds to a warming planet and rising oceans.

While climate change has received attention and planning locally and regionally, we need an aggressive response at a federal level which is still caught in political doldrums. Many political leaders still doubt the reality of climate change. Estimates vary, but sea level could rise as much as 55 inches by 2080. At a minimum FEMA Flood Insurance Rate Maps should be updated to reflect the latest data.

Our recent 400th anniversary commemoration of the Dutch visit to New York Harbor brings to mind the water management techniques that have for centuries protected the Netherlands from the North Sea and from river flooding. Best known for the large protective gates protecting Rotterdam, which has been

mentioned, I heard, the Dutch employ a variety of methods small and large to protect against storm surge and sea level rise.

New York City and others in the region are following suit. PlaNYC, and the Vision 2020, the new comprehensive plan for the New York City waterfront, call for protection and adaptation in how we design our waterfront. Soft edges that can absorb water, dikes and levees, functioning wetlands, even flood gates and barriers to protect certain channels and property could all be part of New York's future on the waterfront.

While New York City is recognized internationally for its work through PlaNYC on research and planning for climate change mitigation and adaptation, there is still far to go. During these tough economic times we call for the City's continued commitment to the Mayor's Office of Long-Term Planning and Sustainability by ensuring the office is fully funded and all staff positions are filled. Advocacy organization such as the New York League of Conservation Voters, MWA, and others must ensure Mayor Bloomberg's

sustainability agenda is embraced and a central part of the next administration.

I'm just going to skip to the end here.

Irene's less than anticipated fury was nature's lenient lesson for those in the New York metro area. We must figure out what worked and what didn't in how we protect and prepare this great City for the new future dawning on this planet.

Thank you for the opportunity to testify today and I'd be happy to answer any questions you might have.

CHAIRPERSON GENNARO: Thank you, Becky. I'll come back with comments and please give our best to Mr. Lewis. Buck, what's cooking?

BUCK MOORHEAD: I'm going to wear three different hats today.

CHAIRPERSON GENNARO: Okay. I'm ready. Do you have a statement? Do you have a written statement? It's okay. All right, fine, I just won't look for it.

BUCK MOORHEAD: It's been changing by the minute here.

CHAIRPERSON GENNARO: Okay, good.

BUCK MOORHEAD: First of all, thank you very much for having this hearing, both to your committee and to the Waterfront Committee.

CHAIRPERSON GENNARO: Sure.

BUCK MOORHEAD: The first comment I want to make as a co-founder of NYH20 and related to PlaNYC. The important thing to understand and what I would communicate back to Mr. Bragdon is that when that plan was written in 2007, the term shale gas wasn't even known. So the point that was made earlier, in the previous panel, about the climate change impacts of natural gas use or hydrocarbon gas, the study, that should be re-looked at by the city and, you know, they update it every year.

The second issue which could come out by other people who are talking is that there is emergent information that the hydrocarbon gas will have radon at the point of burning because of the 3.8 day half life. So I'm just saying this, unfortunately, is not wrapped up kind of tightly.

I know the plan itself is a wonderful plan.

CHAIRPERSON GENNARO: I've got Governor Cuomo to deal with first.

BUCK MOORHEAD: Understood.

CHAIRPERSON GENNARO: At the end of the day, these are kind of like words on a piece of paper, which are important, which have meaning, but right now they have--you know, it's like Joe Martens and his elves are trying to get this going--

BUCK MOORHEAD: [interposing] Understood, but I'm saying New York City--

CHAIRPERSON GENNARO: [interposing] Elves, because it's the holiday. You get the whole thing, right, elves?

BUCK MOORHEAD: New York City's decision about how much to promote shale gas use in the city is New York City's decision. That's all I'm saying that.

CHAIRPERSON GENNARO: Okay, point taken.

BUCK MOORHEAD: The second point. I'm going to wear my architect hat now. With respect to energy conservation, Passive House Institute out of Germany, I'm now a certified

1
2 Passive House designer. Buildings, 30,000
3 buildings in Europe since the mid 1990s, they use
4 80-90 percent less energy. That's basically
5 through dealing with the thermal envelope. So I
6 appreciated that City Planning is getting involved
7 with energy conservation.

8 We have to be able to, in 30 years,
9 or by 2030, 90 percent of the buildings that we
10 have right now are still going to be here. So we
11 have to do everything possible to retrofit
12 buildings to be more energy efficient. The
13 easiest way to do that is doing it from the
14 outside, because you have occupied buildings. So
15 we want to develop all mechanisms that allow for--
16 and this is onto that Zone Green point, where--

17 CHAIRPERSON GENNARO: [interposing]
18 Amanda went over this with me. They're doing a
19 whole thing on this.

20 BUCK MOORHEAD: Well there are a
21 couple of things; you know they may need to relax
22 their rear yard requirement. Residential
23 buildings require 30 foot rear yards, if you added
24 12 inches of insulation to the outside you're not
25 in compliance.

CHAIRPERSON GENNARO: Right. Yeah, because she told me about all like the setback relief and all that, that's all part of that.

BUCK MOORHEAD: So they're going to do it. Okay, cool. Okay, so that's my second point.

The third point, and I'm very happy to be following, the panel before was really excellent with respect to the storm surge. What it's pointing to is on the ClimAID, I looked at that very quickly, the summary of the report that Cynthia's group did. It's really amazing. There are all these great adaptation strategies. But what's been coming out in several people's comments, including the folks from Stony Brook, is you can have these great ideas but how do you get them done? Because no one entity is in control of making these things happen.

So New York City, I think, with long-term sustainability has kind of a nice model for the city to do things which are within its purview. Those things will come along and be done and worked out and handled. But it's when you get into that next level and what the gentleman is

speaking about, which is this idea of looking very long term. Those are the hardest things to look at.

There was an incident in Siberia a few days ago. A guy came out with a study. All these plumes of methane gas coming out, you know the ice has receded up there, and they have like half mile wide spouts of methane bursting into the atmosphere, like hundreds of them in this area that they're studying. I think things are going to be happening--and I'm not an expert at all, so that should be made clear--but much more rapidly than people think.

I do think that we have to immediately face getting groups together or what are multiple stakeholders. It came up with your friend Eddie, is what I'll remember.

CHAIRPERSON GENNARO: Yeah, Bautista.

BUCK MOORHEAD: Yes, Mr. Bautista. You know, there are stakeholders and they're not in these conversations yet. And there are stakeholders, the city is a stakeholder, the City Council is a stakeholder, the federal government,

1 the Army Corps, New Jersey. You know, these are
2 the kinds of decisions, specifically with
3 something like a storm surge barrier where
4 figuring out how--you know, it's a question of
5 identifying a long timeframe, identifying a
6 geography, like is it Long Island, is it Nassau,
7 is it New Jersey, the geography, and identifying
8 plausible futures where there's agreement with a
9 bunch of diverse stakeholders around plausible
10 futures.
11

12 You don't have to predict what's
13 going to happen; you simply have to have agreement
14 over a range of plausible futures about what can
15 happen. Then within that framework, you work
16 towards required actions. This is a tool. It's
17 called scenario planning, is the tool. It's about
18 a 30 year old way to get at issues where there's
19 incredible uncertainty. So that's my
20 recommendation. I liked your term solution
21 catalyzer. I think that--

22 CHAIRPERSON GENNARO: [interposing]
23 Yeah, I'm going, yeah.

24 BUCK MOORHEAD: I like that. I
25 think--

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

CHAIRPERSON GENNARO: [interposing]
I just made it up.

BUCK MOORHEAD: Well but listen,
someone, you know getting people together, this
idea of not talking to the federal government yet-
-I mean Mr. Bragdon has got many things he's got
to be doing, but this has to start soon because
it's for something 50 or 60 years from now, but
it's going to take 30 or 40 years to begin to get
these things done. It's not politically easy
because it involves money that isn't there. But
that's--

CHAIRPERSON GENNARO: [interposing]
Right. But it's certainly safe to say that
Bragdon and I have to have an ongoing colloquy and
there are things that are important to me and
things that are important to him that he needs to
get through me. The Mayor likes to think of
things in a big picture way and like legacy and
all that. So I need him to stay strong on the
whole frack gas thing, you know make sure there
are no sort of holes in that dike, you know. And
then--

BUCK MOORHEAD: [interposing] But I

think this is a task force--

CHAIRPERSON GENNARO: [interposing]
So it's a big list of things.

BUCK MOORHEAD: I think it's
creating a task force that doesn't exist now.
Like there's the New York City Task Force.

CHAIRPERSON GENNARO: I just heard
in somebody's testimony in this panel about the
New York State Sea Level rise thing.

BUCK MOORHEAD: I heard that too.

CHAIRPERSON GENNARO: That's in
Becky's testimony. I never heard of it.

BUCK MOORHEAD: But I think that if
you're identifying a geography that's related to
this storm surge question, that's a region, it's
identifiable, like it's New Jersey. So are they
on the New York State task force? Maybe they are,
as an adjacent stakeholder.

CHAIRPERSON GENNARO: Right.

BUCK MOORHEAD: I don't know, but
I'm just saying this is where, in your position,
where you and the Council could be of enormous
help.

CHAIRPERSON GENNARO: Thank you,

Buck. You've been a lot of help on the whole frack thing in many ways. I'll start with you. I've heard a lot of compelling stuff today. One skill I think I bring a little bit is to take scientific geologic like reality and make people get it. This is what I'm going to try to do. Maybe I'll get some place, maybe I won't, but it won't be for lack of trying.

Three and a half years ago, I was the first person to talk about fracking, like in New York State, and now, of course, it's all over the place. I don't know if we're going to get the outcome we want, but that kind of caught fire. Pardon the pun.

There have been times where people had vision and they tried to make big things happen. You know, I'm no Robert Moses, but I know some people who maybe I could entice into taking a grand vision and making something good happen, or at least putting sort of like the proper brain waves in motion. This is what I've tried to do in the past. I don't have a terrible record of success either. We've been able to do a lot of cool things over the last ten years.

So, thank you.

BUCK MOORHEAD: I do think having Bill attend that meeting in January is--

CHAIRPERSON GENNARO: [interposing]
This is now--

BUCK MOORHEAD: [interposing]
That's a good beginning.

CHAIRPERSON GENNARO: This is now my thing, you know. My whole thing is like the sea is not going to tell New York City what to do. You know what I'm saying? The sea is pretty big, but we can flex on the ocean. We can do that. But we've got to get going.

Becky, you made reference, as I said, to the New York State Sea Level Rise Task Force. What is that?

BECKY SCHNEIDER: You know, I see that here and I--

CHAIRPERSON GENNARO: [interposing]
This is someone else's testimony that you read?

BECKY SCHNEIDER: It is. I will admit that. But I can definitely investigate that and get back to your office about what exactly that is and what they do.

CHAIRPERSON GENNARO: The counsel to the committee is whispering in my ear that they exist and they produce reports. She, of course, knows more than I do about many of these things. But I think just like a note to staff, we have to just figure out who's doing what. Is Bill still here? There are a lot of people trying to do thing. Let's just figure out who's who in this whole, you know Sea Level Rise Task Force and various entities that are having conferences that are actual task forces and that are people that are doing well. Let's just see who's out there and what kind of coherent strategy can we formulate among our little group to try to make a difference.

We did a good thing with Jamaica Bay. We made some cool things happen. So that was a similar thing. I think we could get our act together on this as well. So thank you for that.

Bob, with regard to the resolution from CB4, there's no reason why we can't draft a resolution in the Council. We can call upon the federal government to do something just as much as the city administration. So if they haven't

gotten to it, then we'll do it.

ROBERT TRENTLYON: That's great to know.

CHAIRPERSON GENNARO: So you have Bob's statement with his resolution. We'll just draft a Council resolution and tell the federal government that this is the sense of the Council, that this is what we'd like to see and they'll have it. I mean it's more complicated than that but certainly we'll get it written and try to make that happen. So it was worth your while coming down here today, you know.

ROBERT TRENTLYON: Well thank you very much. I think all of us on this subject are absolutely delighted that you're taking this approach. It was very difficult over the last two years getting anyone in the city to hear it. So this is a great improvement.

CHAIRPERSON GENNARO: No, we're happy to do it. It's not a huge lift to get this thing written. Working within the construct of the Council, there's a lot of people that want to do resolutions, but we could--you know, Chris Quinn is usually pretty sympathetic to

environmental things that I want to put forward in the way of legislation or resolution. I don't think this is going to be a huge lift.

ROBERT TRENTLYON: That's great. Chris Quinn is my City Council person.

CHAIRPERSON GENNARO: Great. Had I know that, you would have testified like on the first panel, but okay. Now I know, for future reference.

ROBERT TRENTLYON: I have to stay until the rest of my team talks.

CHAIRPERSON GENNARO: Okay. With that said, we will--

ROBERT TRENTLYON: [interposing] But thank you again.

CHAIRPERSON GENNARO: I want to thank this panel and I appreciate everything that you brought forward here today. We're going to call the next panel. Olive Freud it looks like, Catherine Skopic I believe, Paul Reale, Denise Katzman of NYH20, Molly Delano, I don't know how that would be pronounced, of Global Kids. Perhaps some of these folks are still here. I'd ask whoever is here among this. Did I call you as

part of this panel? Okay, please.

[Pause]

CHAIRPERSON GENNARO: The two folks on this panel, I called a lot of names. I'm not sure who's actually up here now.

PAUL REALE: My name is Paul Reale.

CHAIRPERSON GENNARO: Okay. So we have Paul and who else is on the panel?

DENISE KATZMAN: Denise Katzman.

CHAIRPERSON GENNARO: Okay.

MAV MOORHEAD: I'm Mav Moorhead, NYH20.

CHAIRPERSON GENNARO: Oh, hi Mav, how are you doing? All right, I called you earlier but that's fine. So now this is the panel. I thank you all for your patience, for being here. I'm also glad you're testifying Denise and I didn't mean in any way to suggest that--you know, I just kind of reacted before I got like a little defensive but I guess it was just a misunderstanding.

DENISE KATZMAN: I also appreciate your sense of humor, so that was part of it.

CHAIRPERSON GENNARO: Okay. Two

panels ago, I started from this side and then the last panel I started from this side. Now we're going to start in the middle with Denise. I feel like I owe her, you know what I mean, because I kind of got defensive.

DENISE KATZMAN: Denise Katzman, NYH20.org and the creator and co-developer of this past summer's American Bar Association teleconference: "Drilling in and Abandoned Field: Hydrofracking in the Absence of Federal Regulation."

Many thanks for focusing on climate change. As I deem it, it's climate collapse. We are at the tail end of the world as we know it. This is real. I constantly picture the animated series "Futurama," to keep a smile on my face.

PlaNYC and NYSERDA contain some good stuff, but--

CHAIRPERSON GENNARO: [interposing]
That's a show?

DENISE KATZMAN: It's an animated series. But using toxic fossil fuels and nuke is an excuse. PlaNYC's timeline of 2030 is identical to the Stanford University and University of

California at Davis' scientific energy policy.

The difference is that the two California universities are powering true clean energy forward.

Mr. Bragdon, earlier today, talked about fossil fuels and a possible reliance only on coal, but he totally ignored the reality of solar power. I've been talking about fracking for four years.

The U.S. military had declared war on fossil fuels. In the 2010 Energy Security Forum in Washington, D.C., Admiral Mike Mullen, Chair, Joint Chiefs of Staff, quote, "We are, in fact, seeing evidence of climate change's potential impacts on our security. American's around the country are starting the connection between energy security and our future."

Secretary of the Navy, Ray Mabus, militaries push towards environmental and energy security from the 'New York Times' October 5, 2010, quote, "There are a lot of profound reasons for doing this but for us, at the core, it's practical."

Solar, Department of Energy's loan

program assists alternative power producers to attract investment. There is no viable reason to call sustainable power alternative any longer. The DOE did create SunShot, which is a new program. New York City and CUNY received \$726,199. Hopefully they will use it wisely and in good health.

World wide solar powers people's lives from solar flotillas, as example, to printable solar cells. The perspective financial district light show will only further NYC's human and environmental abuse. It's not a good idea. Mazel tov to Jim for putting forth the asphalt legislation and hopefully it really will stick.

Sea level is definitely rising, as numerous qualified representatives have spoken. The risks to the coastlines are huge, since they've been converted to industrialization and hardscape because of over development and very little use of permaculture and bioswale has been used. But there has been talk about that, not specifically but indirectly. Natural buffers that have been destroyed, Staten Island has the last natural buffer left in the city and that's why

Arlington Marsh must be saved. These buffers filter--

CHAIRPERSON GENNARO: [interposing]
I got to stop right here. With regard to Arlington Marsh, it's like we got to that. I went to the mat. I took Dan Doctoroff out in a boat. I showed it to him. That was not going to be part of the whole wetlands transfer thing that we did a couple of years ago. That was something that we got pushback from the Administration. Notwithstanding the fact that they have this sanitation facility that they're going to do there, it's got nothing to do with me and there's nothing I can do about it.

The whole Arlington Marsh Cove, that is, like, done, like we got that. That is one of my, sort of like proudest accomplishments in the committee. They came back and they said we'll give you everything else but we're not going to do like Arlington Marsh Cove, and I'm like, not good enough. I took Deputy Mayor Dan out there like in a fire boat, and I showed him what was going on. We traipsed through the whole thing. As a result of that, we got that in. So that's a

lock.

DENISE KATZMAN: I know a lot about that, and I'm just speaking to give a little shout out to Beryl Thurman from the North Shore Water Conservancy. That's one of her bigger issues.

CHAIRPERSON GENNARO: Yeah, that's a big deal.

DENISE KATZMAN: So these natural buffers, they filter toxins, they decrease erosion and they insulate against storm runoff and the decaying of the waterfront landfill. The majority of the waterfront is landfill.

There's an idling law in New York City that's never enforced. This could be a--this would, sorry, would be a beneficial step in reducing smog.

Speaking of fracking, Spectra aka Bloomberg's love child. All electeds, too bad there's not enough of them here, all electeds that are playing the pawns of silence game are poisoning us with radium and radon. They are also complicit in violating mortgage, equity loans and insurance contracts per risk of loss, which is a standard legal and insurance liability term.

Financial entities providing loans such as Wells Fargo, GMAC and Fidelity, do not allow hazardous infrastructure projects, nor should they cover this type of liability.

Cuomo and New York City have accepted Spectra's and Chesapeake's filthy lucre by way of a community benefits package. This acceptance endorses corruption. Sorry, there are not enough politicians here, if any of the politicians that are not here support this project, and are against fracking, they are hypocrites. Chesapeake holds a major position in New York State. Spectra and Chesapeake are public conglomerates that continue to destroy human, environmental and economic health.

Con Ed's involvement totally lacks and EIS. One of the earlier speakers, I think it was from the Sustainability Office, said that all city projects require an EIS. It's really interesting how Con Ed's connection to this does not require an EIS, which is detrimental to all citizenry.

All of the frackers cannot guarantee against risk of loss nor will they,

quote, assure the doctrine of adequate performance. We all know that every well is fracked. It's an experiment. Industry loves to get rid of us via direct damage. Within the pipelines, there is a pig which is comparable to the canary in the coal mine. The industry is constantly shutting off the technology to the pigs that are supposed to look for safety and maintenance issues. This is one of the reasons that San Bruno exists.

CHAIRPERSON GENNARO: Denise, I want to listen to what you're saying. I've just got to tell Bill something regarding something that's going on in my office. I don't want to miss what you have to say.

[Pause]

CHAIRPERSON GENNARO: Sorry about that. I just didn't want to miss what you were saying.

DENISE KATZMAN: Thank you. Bloomberg New Energy Finance Head Michael Liebreich, on December the 6th, he's in London, but the New Energy Fund is here in New York, said--to just take a snippet of what he said. I have

the press release here. Quote, turning the super tanker away from fossil fuels, quote. So speaking of Christine Quinn, the oversight hearing for the Spectra project is MIA and it would provide a tremendous--Professor Lisa mentioned this--holistically we have to look at this project, from cradle to grave, a holistic analysis must be done.

You do make us proud, Jim, and we have a lot more to look forward with you, with Sumara [phonetic], and we obviously need the City Council to do what is right, now, not tomorrow, but now. I strongly suggest, there's a documentary speaking of the Army Corps and what happened in Katrina and our waterfronts, called "The Big Uneasy," that everyone look to rent that. It's enjoyable. It's highly informative. Happy holidays.

CHAIRPERSON GENNARO: Thank you. Thank you very much, Denise. Stay up there. I'll wait for the rest of the panel and then we'll have questions. Mav?

MAV MOORHEAD: Thanks again for having this hearing. This is terrific to hear everyone speak so eloquently on this. I'm going

to skip pretty much everything, because so much has been covered already.

CHAIRPERSON GENNARO: Thank you.

MAV MOORHEAD: I just wanted to make a couple of points that I thought basically about the PlaNYC. Is PlaNYC mitigating climate change with various measures more of a priority than curtailing the carbon emissions and footprints, the very cause of global warming? I speak specifically about hydraulic fracturing from cradle to grave's huge carbon footprint, which has come to light. It has been highly promoted by PlaNYC.

Like I said, I was going to skip a lot. Essentially, we have a magnanimous need to mitigate the greenhouse emissions. It's imperative that we not only mitigate the onslaught of the result and factors of the carbon footprint as produced but most certainly to institute immediately, as many compounding measures as possible to stabilize, if not reverse this crippling prospect of the future of climate change.

A few suggestions include--this

would be for the City of New York, and they can be instituted with a lot of effort from a lot of different disciplines, different factions in the city, but it's a matter of putting together a lot of these different agencies, a lot of different factions, a lot of these disciplines. There has to be a meeting of the minds for all of this to take place, but this is imperative stuff.

Conservation is absolutely the most important thing at this juncture. Instituting mandates for New York City buildings to provide uniform heat throughout the buildings that use conforming valves to no higher temperature than let's say 70 degrees, relieving our existing gross overheating that exists in so many New York City buildings, residential and commercial. These are just initial suggestions.

But if you just did that alone, just that alone, the conservation effort would be enormous. We're talking about the light bulb switch which made a tremendous effort. Imagine instituting a mandate whereby buildings must stay within a certain parameter of heating capacity and heating limits in every building. How many

1
2 buildings have you been in that are like 80 or
3 above on the second floor? It's a matter of
4 different valving in every floor that takes place.
5 It's not mandated. People don't even think about
6 it a lot of times. So, just that one thing could
7 save a huge amount.

8 Instituting mandates that office
9 buildings turn off the lights after a certain hour
10 unless there's indirect use. How basic is that?
11 I mean Mayor Bloomberg has instituted no smoking
12 zones, how about no excess energy use in terms of
13 lighting per floor use? How easy is that? People
14 aren't even in the buildings. How many buildings
15 do you walk by at night where you see the whole
16 thing lit up like a Christmas Tree? It doesn't
17 have to be just this season that we see that,
18 right?

19 As part of the European policy, 24-
20 hour hall lighting is minimized. Go to any place
21 in Europe, there isn't even a light on in the
22 hall. It's motion sensitive lighting. So how
23 many hallways do we have in New York City? Okay,
24 millions. If someone gets off the elevator, the
25 light goes on. How basic is that? It's not hard

stuff. This is not anywhere close to PlaNYC. I'm just talking real simple stuff. I'm not talking about the complicated stuff.

Mandate building retrofit upgrades in terms of insulation, increasing air barrier. Less energy usage with additional solar panels on roofs of every building. So that's not as basic, but it sure is possible. I've talk to a number of people about doing something like that. If everybody had--not even everybody--if 20 percent of the people had solar panels on their roof, 20 percent is a lot of buildings in New York City. That's huge and there would be a tremendous savings just for starters, just for starters.

Direct building owners with definite steps to be taken regarding real conservation efforts. This could be accomplished with a list of choices that would be phased in within a given timeframe. Okay, so you get a notice in the mail, you're a building owner, you get a notice in the mail. Here are the ten choices that you have, it's this menu of choices. You have to accomplish three in the next year, and then after that, another two. You have your

choice but you've got to do some of these things. Basic stuff, bullet point, got to do it. That's a Building Department thing. That gives more jobs.

Hey, all of these things, by the way, all of these things--a lot of them, actually maybe not all of them but a lot of them are job producing, which is what we're trying to do here. We're trying to create jobs. We're trying to create solutions that create solutions in other disciplines. That's what I was saying getting many different factions involved. Because you create jobs with this stuff, right?

Promotion and subsidies for solar panels on roofs would substantially augment energy needs. The city must promulgate. Deliberate measures to relieve usage of fossil fuel must be a central focus of the city's plan. Not simply mitigation of this future life changing issue. Energy usage must be decreased by a considerable amount and conservation and solar could be the answers to those problems. Thanks.

CHAIRPERSON GENNARO: Thank you. Thank you, Mav. I have a lot to say about that and I'll get back to you on that. Mr. Reale, I

have your statement right here.

PAUL REALE: Thank you, yes. Can you hear me?

CHAIRPERSON GENNARO: Yes.

PAUL REALE: Thank you, Chairman Gennaro. My name is Paul Reale. I am the founder and CEO of Green Allowance, which is a startup that empowers children to conserve energy at home and also teach green building techniques to our supervisors and building managers. I also am a presenter for the Climate Reality Project, which is founded by former vice president and Nobel Laureate Al Gore. I've spoken to thousands of individuals working to educate the public about the facts about climate change.

If global emissions of greenhouse gases continue on the "business as usual" path, deep cuts in New York City emissions alone will not prevent global catastrophic climate change. Given this fact, it is easy to conclude that climate change mitigation measures in New York City are irrelevant, but I do not make that conclusion.

The proceedings of the National

1 Academy of Sciences stated, quote, 97-98 percent
2 of the climate researchers most actively
3 publishing in the field support the tenets of
4 anthropogenic climate change outlined by the
5 Intergovernmental Panel on Climate Change,
6 unquote. Most if not all of these scientists
7 concur that there is an urgent need for dramatic
8 reductions in global greenhouse gas emissions in
9 the neighborhood of 90 percent below current
10 levels by 2050.
11

12 Furthermore, most policy makers and
13 scientists believe an ambitious, legally binding,
14 global treaty coupled with aggressive national
15 policies across all major nations is the only
16 viable path to success. Otherwise, climate change
17 will seriously jeopardize societal stability and
18 security by the time today's teenagers become
19 senior citizens. Failure is not an option, yet
20 the path we are currently on is destined for
21 failure.

22 For two reasons, I believe that
23 bold environmental initiatives by city governments
24 are also a prerequisite to escaping the worst
25 effects of climate change. First, our energy,

transportation and building infrastructure as well as the materials economy and food production now rely heavily on fossil fuels. Thus there is a steep learning curve to maintaining our way of life with a 90 percent reduction in fossil fuel consumption. City governments must act and learn quickly; otherwise many cities and countries may fail to meet their eventual and inevitable legal obligations prescribed by national policies and a global treaty.

Second, the global community could benefit greatly from a city that is a leading exemplar of energy efficiency. New York City has made great strides toward becoming such a city. Many of this city's successes associated with building energy efficiency and conservation can be attributed to policies and regulations that have ensued from the Greener Greater Buildings Plan and the Green Codes Task Force. This continuing work is essential.

New York City now has the lowest per capita greenhouse gas emissions of any major U.S. city. Yet a series of additional bold initiatives could catapult this city on the world

stage as the first major, modern, industrialized city to even approach the ultimate goal of living within a sustainable carbon budget.

Developing and executing plans with the following five objectives would put New York City on such a path.

One, power the Metropolitan Transit Authority's subways, buses, trains, stations and operations with 100 percent renewable energy.

Two, enact congestion pricing and use the revenues to improve and expand mass transit.

Three, power all city buildings and all city operations with 100 percent renewable energy.

Four, cut the carbon intensity of the materials supply chain for all New York City agency operations in half.

Five, grow 50 percent of the produce consumed in New York City in urban farms within the city's five boroughs.

I have no doubt that most pragmatic lawmakers will see these objectives as laudable goals that our city can ill afford. Yet I believe

1
2 that if you account for the price volatility of
3 energy including an eventual and inevitable price
4 on carbon, the improved economics associated with
5 the recent boom in renewable energy technologies,
6 and the avoidance of externalized costs such as
7 preparation for and clean up associated with the
8 inevitably stronger storms such as the recent
9 Tropical Storm Irene and the reduced need for
10 climate change adaptation measures when we succeed
11 in mitigating the degree of climate change
12 consequences, it is possible to reach these
13 objectives and save taxpayer money too.

14 I encourage this committee to
15 pursue these objectives so that New York City may
16 become the standard bearer of responsible
17 environmental living for cities the world over,
18 thus establishing a place in history as a
19 precipitous step in securing the future of
20 children everywhere. Thank you.

21 CHAIRPERSON GENNARO: Thank you,
22 Mr. Reale. This is really bold and interesting.
23 So let me kind of say the following to this panel.
24 Mav, with regard to the stuff that you're trying
25 to promote, which is all very good, when we did

1
2 the Greater Greener Buildings Plan and with a lot
3 of heavy lifting try to do the retrofit, like
4 retrofit, retro commissioning, energy audit bill
5 that was, like, one of the most controversial
6 pieces of legislation like the city ever did. You
7 know, we just ran into a buzz saw on the retrofit
8 thing.

9 So we got the retro commissioning,
10 we got the energy audits. We are forcing people
11 to look at their building, to do all the analysis
12 to like put it out there for like the world to
13 see, and it's right there in front of you, like
14 what you can do and how soon you'll get payback
15 for doing it in terms of energy savings. We're
16 going to depend upon people to act on their own
17 economic self-interest.

18 But in terms of forcing buildings
19 to say that if you have this--what the bill said
20 was all of the energy conservation and
21 retrofitting measures that will pay themselves
22 back in five years or less, you have to do.
23 That's like a 20 percent return on your money.
24 Like try getting that someplace else. We couldn't
25 get it done. So people are going to act in their

own economic self-interest. But we also did a lighting bill, and so that's just how it's going to have to go. People either act in their economic self-interest or they don't.

We're making them look. We're making them say this is where you should put your money. So they've got to do the retro commissioning. They've got to do the energy audit. They've got to do the benchmarking. But in terms of the retrofit, they do or they don't. That's just where that went and this is like legislation in government in politics is like are the possible and the retrofit wasn't possible.

I'm with you, you know. But we just couldn't get that, but we got a lot done. In terms of working with City Planning on solar, you're talking about solar. Through changing the city zoning resolution is going to open the door to people being able to do these things. So we're going to do like this solar portal like one-stop shopping so people can really get this and take advantage of the federal, state and local tax things that are part of this.

I'm talking with Erik Dilan about

1 this, from the Buildings Committee. So we're
2 doing the best we can on that. I feel good about
3 it. Because some things you can get and some
4 things you can't and we couldn't get a lot of the
5 things you're talking about. Go ahead.

7 MAV MOORHEAD: How about subsidies,
8 for example? I mean I know a lot of people would
9 put on solar panels on their roof if they could
10 get decent subsidies for solar.

11 CHAIRPERSON GENNARO: You're
12 getting it from the feds; you're getting it from
13 the state. If the city just gets out of the way,
14 you know they already have like most of the thing
15 paid for. I don't see why they wouldn't do it.
16 You know, we're not going to storm the houses and
17 bolt the panels to the roof. People at some point
18 have to take the initiative. It's already like
19 largely subsidized.

20 MAV MOORHEAD: How about the
21 mandate like--

22 CHAIRPERSON GENNARO: [interposing]
23 By the way, I'm the one that gets to ask the
24 questions here, but go ahead. But because it's
25 you, Mav, go ahead.

MAV MOORHEAD: How about the mandate for turning off the lights at a certain point or just having motion sensors in halls or that kind of thing? How about those basic--

CHAIRPERSON GENNARO: [interposing]
You can lead a--

MAV MOORHEAD: [interposing] I mean I put some really basic things in here.

CHAIRPERSON GENNARO: We've done basic stuff like you can't leave your doors open and have the air conditioning spilling out to the street. Hang on, this is my wife and she's disabled.

[Pause]

CHAIRPERSON GENNARO: It wasn't, you know. I had to pick that up and I have to work on something between now and 15 minutes, which I'll figure out.

MAV MOORHEAD: PlaNYC doesn't seem to put--they seem to have this--they don't address immediate issues of what people can do actually to use less energy. They're talking a lot about things that in the future. So everybody's got a job six months from now--

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

CHAIRPERSON GENNARO: [interposing]

The greater good--

MAV MOORHEAD: But how about what
can we do right now?

CHAIRPERSON GENNARO: That was all
part of the retrofit bill, the lighting bill and
the benchmarking bill and everything that went
with that. At the end of the day, if people want
to be stupid and they want to throw their money
out the window, even though we're forcing them--
like we're forcing them to put the microscope
right under their eyes and say this is your money
and this is how much you can save. Any building
that undergoes an energy audit, this is going to
come up.

MAV MOORHEAD: But they're
promoting natural gas changeovers, you know what I
mean, so that's not the way.

CHAIRPERSON GENNARO: What we're
doing is getting rid of 4 and 6. What people want
to do--you know 6 is going. They can go to 4 or
they can go to 2 or they can go to natural gas or
they can go to gerbils on a treadmill. You know
what I mean, it's like they go to where they go.

1 But we've got to get them off 6. So we're getting
2 rid of 6. We're dramatically 4 and with the
3 state's help now 2 is going to be cleaner because
4 of the ultra low, which they did on the state
5 level. So, frankly, if they get off 6, I don't
6 care if they go to gas. You know what I mean?
7 It's just like everything that's on 6, I'll put
8 them on that because 6 has to go.

10 MAV MOORHEAD: You can do 2 and
11 biodiesel. See what I mean? You don't have to--

12 CHAIRPERSON GENNARO: [interposing]
13 We're not telling people what--we're telling them
14 what they've got to not use. In terms of what
15 they use, gas is a product. If they want to buy
16 it, they can buy it. Two is a product, four is a
17 product.

18 MAV MOORHEAD: But they don't know
19 about 2 and biodiesel together. Most people
20 don't. You talk to anybody, they don't know.

21 CHAIRPERSON GENNARO: All heating
22 oil, because of me, is now biodiesel in the city.
23 I got that done, which took me four years to get
24 done. So every drop of heating oil in the city,
25 because of this kid, is now biodiesel--is now

1
2 bioheat. So I'm doing what I can. But in terms
3 of we're forcing them to look in the microscope.
4 If they don't want to do it and if they're going
5 to say we like wasting money, then what can I tell
6 you? In this time, if people can't see where they
7 can obviously save money by doing something
8 simple, and we're forcing them to look.

9 If they don't want to do it, they
10 don't want to do it. If the co-op board said,
11 like, you know, who wants to waste money,
12 everybody puts their hand up, then they said,
13 okay, like let's all waste money. So we believe
14 people, when forced--that's the whole benchmarking
15 thing.

16 Now it's going to be like a beauty
17 pageant because all this stuff is out there for
18 everyone to see. So now it's like a beauty
19 contest in terms of energy conservation. So now
20 it's not just like a little in-house thing. It's
21 going to be hey, like our building is going to be
22 out there on the web and everyone is going to know
23 that we're not green and we like throwing money
24 out the thing. So we added that little element in
25 it too, to say that everyone is going to be

looking at you.

So it's either making them look, shaming them into doing it. Some people just don't want to eat their peas and broccoli no matter how much they tell them it's good for them. So that's that. But you're great, so if we had more Mav Moorheads in the city, then you wouldn't even need a City Council. So I just want to let you know that we're good, you know.

Denise, I need a copy of your statement.

DENISE KATZMAN: I'm going to email--

CHAIRPERSON GENNARO: [interposing] Yeah, if you could provide it, because it was a barn burner. I'd appreciate that. I'd like to have that.

DENISE KATZMAN: I would just like to comment on the open doors of businesses. No one in this city is enforcing what you're talking about. I know about it but it doesn't get enforced.

CHAIRPERSON GENNARO: We make laws on this side of the house and I do a lot of like

1 self-enforcement, acting like I'm a City Council
2 Member and they say, look, what are you department
3 of whatever. So, yeah. You put a law in place,
4 they write the regs for it and then it's supposed
5 to be enforced and then that gives us cause to
6 have like an oversight hearing to say why isn't
7 this enforced? That's just kind of the way it
8 goes. You've got to get the city to enforce that.
9 We know. The world is still imperfect. We're
10 working on it.

11
12 DENISE KATZMAN: We're not looking
13 for perfect.

14 CHAIRPERSON GENNARO: Paul, I
15 really appreciate what you're doing with kids and
16 trying to get them, through your efforts I think
17 the kids of tomorrow are going to be more
18 environmentally conscious and more environmentally
19 responsible and more environmentally knowledgeable
20 than like the governors of today.

21 PAUL REALE: I agree.

22 CHAIRPERSON GENNARO: So this is
23 what you're doing. The kids that you come into
24 contact with are going to be more knowledgeable
25 than like the sitting governors, even though they

1 have lots of resources at their disposal to become
2 informed. They don't want to be informed because
3 they've got other agendas. So I thank you for
4 that. It's good to know of Green Allowance and
5 what you're doing. Again, these five objectives
6 are a tall order. But if you don't aim high, you
7 know what I mean. I greatly appreciate what
8 you're doing. I've got to move forward with the
9 next panel. Did you have something more that you
10 wanted to add, Paul?

12 PAUL REALE: No, no. I just
13 wondered if these are the kinds of objectives
14 that--well, you get to ask the questions.

15 CHAIRPERSON GENNARO: Right, right,
16 right. We've got to be pushed. We've got to be
17 pushed. You're doing the pushing, you know.

18 PAUL REALE: I'm trying to push
19 you. That's exactly right.

20 CHAIRPERSON GENNARO: I'm for that.
21 Paul, thank you very much.

22 PAUL REALE: Thank you, Councilman.

23 CHAIRPERSON GENNARO: Thank you.
24 Sure. I'm going to call what I guess is the last
25 panel. Bruce Rosen, Pamela Wolff, Frank Eadie.

I'd like that panel to assemble. I just have to step out just for 60 seconds. I have come up with a plan for my wife and what I need her to do. Then once I execute that plan then I'll be right back. No one should testify until I get back.

[Pause]

CHAIRPERSON GENNARO: Sorry about that. I had to take care of that. Committee, family, the whole thing, you know.

So why don't we start with you, Bruce?

BRUCE ROSEN: My name is Bruce Rosen. I just put down myself for citizen and your counsel counseled me that I should have given identification. So I will say Democracy for New York City, which is the New York Chapter of Democracy for America, which has been very actively nationally against fracking and tar sands.

Big Apple Coffee Party, also a chapter of the Coffee Party, which has been working against--

CHAIRPERSON GENNARO: [interposing]
Coffee Party?

BRUCE ROSEN: Coffee Party, which is not a party and is really no analogous to--

CHAIRPERSON GENNARO: [interposing]
Coffee like coffee?

BRUCE ROSEN: Yes.

CHAIRPERSON GENNARO: But I mean like that's how--

BRUCE ROSEN: [interposing] As a symbol, yes.

CHAIRPERSON GENNARO: Okay.

BRUCE ROSEN: It's been active in seeking to overturn the results of Citizens United, which also connects with the same issues, because the Koch Brothers are big backers of the Citizens United. They are major players in natural gas. And of course, they bought their way socially into New York City.

So I would just like to comment extemporaneously on two basic things that were raised. One having to do with sea rise--

CHAIRPERSON GENNARO: [interposing]
Could I have a little quiet please?

BRUCE ROSEN: One having to do with sea rise and the other having to do with the

1
2 storms, which we're becoming all the more
3 vulnerable to.

4 When the City of Brooklyn was
5 incorporated into the greater city, along with
6 that went the City of Brooklyn's water supply,
7 which was the Long Island Aquifer. It was
8 connected into this great project that we have,
9 which is now vulnerable, upstate. As you probably
10 know, we have two more counties, in addition to
11 Nassau and Putnam, which were part of the original
12 project, Nassau and Suffolk. That will add 3
13 million more people. Because of sea rise and
14 salinity changes sea rise, they're vulnerable.
15 This has been known for decades that at some point
16 in time they will be added. That will mean the
17 majority of people, the clear majority of people
18 in New York State will be dependent upon the
19 Delaware and Catskills systems. That's why
20 they're vulnerable.

21 In terms of those things on the
22 waterfront and the low-lying areas, there is a
23 proposal, kind of odd because I normally like the
24 things for taking the long unused section of the
25 Rego Park/Rockaway Park line and making it into

one of those. The southern section of that was incorporated during the Moses era into the subway system. That is an above ground area that really should be considered for connecting back into our rail system for improvement and because of it's lack of vulnerability.

It also raises the separate thing because the MTA was raised as something that we can't do anything about. There are things for both freight movement and the vulnerability of the system as a whole for carrying passengers, particularly in the low-lying areas. The mayor, whomever is mayor, has by weighted vote, half the representation on the MTA. It should probably be more but if you just--

CHAIRPERSON GENNARO: [interposing]
I don't think he or she does.

BRUCE ROSEN: Actually, he does, half the weighted vote. It doesn't count by--

CHAIRPERSON GENNARO: [interposing]
Oh, because I'm thinking of numbers of members and you're thinking about weighted vote.

BRUCE ROSEN: Yes, but the actual vote weights. The votes are weighted. They're

not simply by the numbers of counties but they're weighted votes. The small counties upstate aggregate as a single vote.

CHAIRPERSON GENNARO: Right.

BRUCE ROSEN: So all the Mayor needs is the executive of Westchester County to be on our side, which is the easiest thing, and voila, we get the MTA to do those kinds of things. I think that Westchester certainly feels the vulnerability.

Irene, when it came through, as you know, did tremendous damage to the farms upstate and in New England. That's important for a number of reasons. One is New York State, because of our green market system, we now have the third highest number of organic farms in the country, after California and Washington.

But too, it points to the vulnerability of our watershed. That relates to the storm thing. What the climatologists have said is that a major tropical storm going up the Hudson, which is very conceivable, particularly since we had Vermont being struck by a tropical storm, would mow down the forest which basically

provides for the recharge capability for our watershed. So this a major concern over there, so I'd like to point that out.

Getting to the end of this, the subject was brought up, obviously still again, of the gas conversion and the Mayor pushing for buildings to convert to nat gas, which is going in the absolutely wrong direction. What's really needed is to look at the alternative sources that provide steam heat, hot water and the ability to light a stove or an oven.

We do have an in place district steam system that's been long operated by Con Ed. The question is could that be expanded. Then there's the alternatives that should be looked at in terms of conservation and other sources over there, and in terms of lighting to LED, which is something.

The last thing I will note, a number of people brought up--and those low-lying areas which are mostly fill, at least the areas that are the environmental areas, that's the way things develop not only in New York but in other cities around the area. That's why we are more

vulnerable than a place like London or Rotterdam, because we are actually on the ocean.

We did a recycling plan two decades before the current recycling plan. There was unfortunate the then-members of the Council provided no oversight and the Sanitation Department, even though it then had a recycling unit, was not really interested in doing those things. It should have been reinvented and should still be reinvented as the materials department.

All of that stuff is a resource, the same way as looking to those soft edges opens up the possibility that we could again have the production of aqua culture in the city. We once were known as the "Big Oyster." We could have fish farming. We could have aqua culture, again, so they should be part of it. So I'll close on that. Thank you.

CHAIRPERSON GENNARO: Thank you, Mr. Rosen. I appreciate it. I'll come back to you with comments. Pamela Wolff, is that right?

PAMELA WOLFF: Yes.

CHAIRPERSON GENNARO: You have to talk right into the microphone. Just state your

name for the record and commence.

PAMELA WOLFF: My name is Pamela Wolff. I'm here as a member of Community Board 4 and Chelsea Waterside Park Association and Council of Chelsea Block Associations, if I need credentials. Am I being heard?

CHAIRPERSON GENNARO: Yes, I got you.

PAMELA WOLFF: How's that?

CHAIRPERSON GENNARO: That's fine.

PAMELA WOLFF: First, I woke up this morning, I live in Chelsea, because Seventh and Eighth Avenues. I like to sleep with my window open. I woke up this morning and there was a mosquito in my bedroom. That says something about climate change, I think.

In the conversation about fuel, we were talking about this, the lady over here was talking about it. I wanted to make a comment that No. 4 oil is a combination of No. 6 and No. 2.

CHAIRPERSON GENNARO: Yes, it's 6 and 2.

PAMELA WOLFF: So if we're talking about getting rid of No. 6, we should be talking

about getting rid of No. 4 too.

CHAIRPERSON GENNARO: Let me tell you. I'm actually pretty proud of--

PAMELA WOLFF: [interposing] I understand.

CHAIRPERSON GENNARO: --what we did. It's like the old way was like filthy 6, filthy 4 and kind of like not so clean 2. The 4 of old is not the 4 of new. Is it perfect? The new 4 is like a thousand ppm sulfur, that's like a fraction of the sulfur that it used to have. So 6 is gone, going. Four is cleaner, if you still want to use that junk. Then you've got cleaner 2 by virtue of the fact that it's bio and it's also ultra low. And you got gas and hamsters and whatever you want. But 6 had to go and 4 had to get cleaner.

We wanted to get rid of 4. I don't really have the ability to get rid of 4, the Council doesn't. But we did have the ability legislatively to mandate that it be cleaner. We did have that. But the Administration has the ability through their rule making thing to get rid of 6. So we made a deal. Part of that deal was

that we also do bio as well. It's a good thing.

PAMELA WOLFF: Deals are good.

CHAIRPERSON GENNARO: Hey, you know, that's what happened.

PAMELA WOLFF: I have a little statement to read here. It's quite brief. Thank you very much for this opportunity to be here. I'm the managing agent of residential properties in the Chelsea neighborhood and a resident of one of those properties for the last 55 years. I'm here today to speak colloquially and just of my own experience. This is just what I've been through.

In the last quarter century I have managed seven antique townhouses in the Chelsea historic district, four of them are west of Ninth Avenue. All of them have suffered occasional flooding from storm runoff, those closest to Tenth Avenue more often, and more severely. I learned to prepare these buildings for inevitable inundations of sewage and storm back-ups. In these townhouses parts of the basements are taken up by the building's mechanicals, and the rest is living area.

1
2 This work involved inventing
3 systems that could handle flooding on short
4 notice. We installed back flow preventers--

5 CHAIRPERSON GENNARO: [interposing]
6 I was going to say, don't you have the backflow
7 thing because the backflow is what people do with
8 this.

9 PAMELA WOLFF: But you can't
10 imagine how many houses in this city, townhouses,
11 small residential properties, one-family houses or
12 five-unit rental properties or nine-unit co-ops,
13 they don't know from backflow preventers. They've
14 never been through the process of having to
15 discover this stuff.

16 CHAIRPERSON GENNARO: Right.

17 PAMELA WOLFF: So over these 25
18 years that I've been managing these little
19 buildings, in just about every one of them, we
20 have now installed backflow preventers. But it
21 was a learning curve. It was hard to convince co-
22 op boards to spend the money that needed to be
23 spent to do that kind of work. It's something you
24 never see, right.

25 Anyway, we've installed doubled-up

connected sump pits in parallel and pumps connected to separate electrical circuits so that if one of them goes down, the other one keeps working. Boilers and hot water heaters were placed on raised concrete pads. In many cases that also didn't exist. They were sitting, in some places, on cinder blocks on earthen floors.

Nothing prepared us for what happened during and after Hurricane Irene. The river rose. All our systems worked perfectly. But for three days and two nights, instead of sewer back-ups we had rising ground water, clean and clear, pure rainwater, with nowhere to go, inexorably rising out of the ground like a thousand springs filling the basements of the buildings. It was biblical. Our sump pumps could not keep up. Our water heaters and gas boilers lost ignition. Electrical outlets went underwater. Furniture floated. In this scenario, pop-up barriers and the limited devices that are being suggested to protect individual properties, it occurs to me would be useless, they would simply do nothing to prevent this kind of problem.

Most of four precious historical

1
2 buildings, and they are our heritage, and they are
3 in or nearly in the flood plain, and not just in
4 Manhattan. This is true for Brooklyn and Queens
5 as well.

6 I have sailed aboard the Clearwater
7 as a volunteer crew member every summer for the
8 last 25 years. I speak about the Clearwater and
9 I'm not sure if half the people here might think
10 I'm talking about Clearwater, Florida or
11 something. Are people aware of the Clearwater?

12 CHAIRPERSON GENNARO: I know
13 Clearwater, of course. Peter Seeger, the whole
14 thing, yeah.

15 PAMELA WOLFF: You got it. Thank
16 you. Anyway, I've been a crew member on that boat
17 for 25 years. What I've learned about the mighty
18 Hudson and its streams is respect. Respect for
19 the power of water. Someday, inevitably, we will
20 get a massive storm surge into New York harbor on
21 a full moon high tide. When the tide turns the
22 Hudson will push back downriver. Think about
23 that.

24 What will we tell our grandchildren
25 about how we prepared our city for the inevitable?

Noah would be at a loss. Thank you.

CHAIRPERSON GENNARO: Thank you, Pamela. Stephanie?

STEPHANIE LOW: Well, a number of these points that I'm going to raise, you already dealt with today. I'd like to raise them anyhow.

CHAIRPERSON GENNARO: Yeah, just, you know, it's been a long day.

STEPHANIE LOW: Right. I do have some documentation, and furthermore, thank you so much for making these conversations possible. They're urgent and we have to do it.

CHAIRPERSON GENNARO: Sure.

STEPHANIE LOW: Thank you. PlaNYC correctly targets heating oil No. 6.

CHAIRPERSON GENNARO: I'm sorry, Stephanie, the sergeant is saying that you have to state your name for the record.

STEPHANIE LOW: Stephanie Low. PlaNYC correctly targets heating oil No. 6 as a terrific pollutant that raises asthma rates. However, it incorrectly poses natural gas as a solution. This solution presupposes that natural gas is cleaner than other fossil fuels. It is

not.

In its effects, both on global warming, as well as on public health, natural gas has been proven worse than other fossil fuels. As evidence, I submit the recent peer reviewed Howarth, Infrathea, Santoro study from Cornell.

There's an equally insidious effect on public health from the radon that will be transferred by way of Marcellus shale gas to New York City. Professor James Ring, Winslow Professor of Physics, Emeritus at Hamilton College testified to the DEC that quote, "the radon and natural gas coming from the shale mixed together and travel together as the gas is piped to customers. This is a serious health hazard, as radon, being a gas, is breathed into the lungs and lodges there to decay, doing damage to the lungs' tissue and eventually leading to lung cancer. Next to smoking, radon is the most potent cause of cancer," unquote.

Using gas will, quote, "increase the risk that residents will inhale radon when they turn on their stoves." Here is something from the Sierra Club Atlantic Chapter that quotes

his study. In addition, there are many pipe explosions in our antiquated pipe system when additional pressure is brought to bear on the system. Con Ed replaces only 50 miles of gas pipe per year in the city, but there are thousands of existing pipeline miles that remain unaddressed.

According to Mike Danko, who won a case against Pacific Gas and Electric, after a deadly gas line explosion in 1992 in Santa Rosa, quote, "Utilities use equipment until it fails because it's cheaper than preemptively replacing miles of pipes," unquote.

Furthermore, the current low price of natural gas in this country will skyrocket once the planned natural gas export operating is underway. The international price is \$12 per unit and we will have to bid against that.

Finally, a new study--here is an article from the Associated Press: Aging Gas Lines Cause National Concern. I will include that.

Finally, a new study from Queens University indicates that solar power is much cheaper to produce than most analysts realize.

Its author, Adjunct Professor

Joshua Pierce, in the Department of Mechanical and Materials Engineering, quote, says that "photovoltaic systems are near the tipping point whereby they can produce energy for about the same price of other traditional sources of energy," unquote.

Until solar panels can be widely installed, heating oil No. 2 is a good substitute for 6. The switch would be low cost. I submit the article from Science Daily.

Thank you for this hearing to discuss mitigation of global warming's effects on New York City. We can mitigate not just the effects of our past mistakes, we can also mitigate by avoiding any damage not yet done. A major mitigation initiative would be to bypass natural gas heating in favor of solar panels. That's it.

CHAIRPERSON GENNARO: Thank you, Stephanie.

[Applause]

STEPHANIE LOW: Thank you.

CHAIRPERSON GENNARO: From your lips to God's ears. I appreciate it. You've testified many times. Make sure the staff has the

benefit of all the material that you brought.

STEPHANIE LOW: Yes, absolutely.
I'm going to give it to you.

CHAIRPERSON GENNARO: I will stand
by getting rid of 6. Once people are off 6, it
isn't up to me what they do. But they've got to
get off 6 and that's what we need to happen.
That's what's going to happen.

Pamela, you make a very eloquent
case. But if this was really rising ground water,
like the water table--

PAMELA WOLFF: [interposing] Just
right up--

CHAIRPERSON GENNARO: [interposing]
It wasn't like rain water coming in?

PAMELA WOLFF: Yes, exactly it was
the water table.

CHAIRPERSON GENNARO: It was the
water table.

PAMELA WOLFF: I have my own little
theory about this, which is that when that storm
went on up the Hudson, up into that farmland and
upstate and went up the Hudson Valley, it dumped
so much rainwater that the river itself maintained

1
2 a very high level vis-à-vis the storm and domestic
3 waste systems that always go into action when
4 there's too much water. That prevented, that plus
5 the amount of rainwater that New York City got
6 just in the backyard of this townhouse--

7 CHAIRPERSON GENNARO: [interposing]
8 Well, we're trying to do more and more--

9 PAMELA WOLFF: [interposing] This
10 was an 1857 building, which in my last--

11 CHAIRPERSON GENNARO: [interposing]
12 We're trying to do more and more to keep
13 stormwater out of the system and put stormwater
14 sort of like into the ground. That's sort of like
15 the foundation of our stormwater management plan.

16 PAMELA WOLFF: Exactly. But if it
17 can't find its way out because the river is so
18 high that it's holding--

19 CHAIRPERSON GENNARO: [interposing]
20 No, and I'm just saying that if you've got a
21 ground water problem, like a water table problem,
22 that's--

23 PAMELA WOLFF: [interposing] This
24 is a building that's been there since 1857. I've
25 been in its basement for the last 25 years. I

have never seen this before.

CHAIRPERSON GENNARO: Well let's just hope it's truly not a groundwater phenomenon but sort of like a rainwater and--

PAMELA WOLFF: [interposing] It's like the bathtub had a stopper in it.

CHAIRPERSON GENNARO: You're in the Speaker's district, right?

PAMELA WOLFF: Say again?

CHAIRPERSON GENNARO: You're in the Speaker's district, right? Is this the Speaker's district?

PAMELA WOLFF: Oh yes. Yes. Chris is my--

CHAIRPERSON GENNARO: [interposing] Okay. I'll make her aware of the fact that you were here. Thanks for coming here. You make a very compelling case for why we have to act.

PAMELA WOLFF: Thank you.

CHAIRPERSON GENNARO: Mr. Rosen, you had a lot of good points around a lot of things. I appreciate you coming down today. I won't comment on all of the points that you made. I'd be grateful if you could grace more of our

hearings with your presence. I certainly appreciated having you. So thank you. Thank you to this panel, I appreciate it.

STEPHANIE LOW: Could I ask a quick question?

CHAIRPERSON GENNARO: Stephanie--

STEPHANIE LOW: [interposing] Very quick.

CHAIRPERSON GENNARO: I got one more witness. Hang out. We'll talk. We'll go for a drink, okay.

STEPHANIE LOW: Okay, great.

CHAIRPERSON GENNARO: I'm not really going for a drink, but, you know, just hang out a minute. The last witness, who asked five hours into a hearing if she could testify; show me another chairman who will let that happen. Claire Donohue,

CLAIRE DONOHUE: Sane Energy Project. Thank you, Councilman. Only you--

CHAIRPERSON GENNARO: [interposing] I'm putting you on.

CLAIRE DONOHUE: I expected you'd be only half over by now though.

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

CHAIRPERSON GENNARO: What's that?

CLAIRE DONOHUE: I expected you to be only half over.

CHAIRPERSON GENNARO: I'm getting older. I'm 54 years old, like how long am I going to live, I figure. So I've got to shorten my hearings. I don't have a lot left.

CLAIRE DONOHUE: I'll be quick.

CHAIRPERSON GENNARO: Okay.

CLAIRE DONOHUE: Thank you for having it. I'm sorry I missed what other people had to say. I think it's fantastic to change the heating oil rules. I live in Marble Hill. I look over the whole city, over Inwood and Washington Heights. My building burns No. 6. I see the black smoke rising. It's a wreck.

CHAIRPERSON GENNARO: Right.

CLAIRE DONOHUE: That you've made a 2 percent biodiesel requirement is fantastic. We'd like to see that expanded.

CHAIRPERSON GENNARO: Again, it's a 2 now and people are free to buy higher blends. You can buy up to 20. Knock yourself out, you know.

CLAIRE DONOHUE: Right. At Sane Energy Project we're actually creating a report of alternatives that we'll be bringing to co-op boards to offer them alternatives.

CHAIRPERSON GENNARO: Okay, great. Thank you.

CLAIRE DONOHUE: Even if they choose to covert to gas, if they convert to dual fuel, then they'll still have the option to burn biodiesel and bigger blends. So that's what we're trying to do.

CHAIRPERSON GENNARO: Thank you.

CLAIRE DONOHUE: I'm just going to make one quick suggestion that is a very specific measure to reduce, a conservation measure to reduce our output of No. 6, No. 4 and No. 2, all of it.

I live in an art deco building. The heat went on in September because I think there were three nights that were 50 degrees. That was followed by six or seven weeks of 70 and sometimes 80 degree weather. The heat came on six times a day. So that's all of that No. 6 oil burning unnecessarily. My building is not unique.

That's happening all over the city.

CHAIRPERSON GENNARO: Right.

CLAIRE DONOHUE: From what I understand, my super, you say why is the heat on, and he says, you know, it goes on or off, on or off, you know winter/summer, winter/summer. From what I understand there are rules from the 70s that make it so that they cannot--to train superintendents to actually run their boilers more efficiently.

One of our board members at Sane Energy Project is a superintendent of a building and she told me that that's not true. There is no two season system and that you can control how the boilers run. So I think that's something that could be done.

CHAIRPERSON GENNARO: That sounds right. I mean, yeah.

CLAIRE DONOHUE: You know what I mean, every apartment in my building has their windows open and the smoke is coming out of the top.

CHAIRPERSON GENNARO: Right.

CLAIRE DONOHUE: This is an

1 initiative that will cost the city almost no
2 money. I call it the WD-40 initiative. We need
3 to train supers and do a public service
4 announcement to educate the public that just like
5 you turn off your air conditioners in the summer,
6 you turn off your radiators when you don't need
7 them. It took me two years to get my super to
8 come up with a big wrench and a can of WD-40 and
9 make it so that my radiator valve would operate.
10 I have not had my heat on yet in my building.
11 Just the risers in the building, it's enough.

12 CHAIRPERSON GENNARO: Right.

13 CLAIRE DONOHUE: All of the
14 apartments in my building could be operating that
15 way.
16

17 CHAIRPERSON GENNARO: But this is
18 all part of Local Law 87. People are going to
19 come face to face--

20 CLAIRE DONOHUE: [interposing] It
21 needs to be enforced.

22 CHAIRPERSON GENNARO: --with their
23 inefficient practices and they're going to do the
24 energy audit, and they're going to be like are you
25 crazy, like what are you doing. So this is what

1 we're doing. Rather than training this, training
2 that, we're forcing people to do the energy audits
3 which is what Local Law 87 is all about. They've
4 got to do the retro commissioning, any systems in
5 the building that aren't working properly.
6 They're not forced to retrofit. Hopefully they
7 will feel compelled on an economic basis to do so
8 once they see the numbers.
9

10 This is how we're approaching it.
11 Anything that Sane Energy can do to just--you
12 don't have to wait until you're mandated to do
13 your energy audit. You can do your energy audit
14 like anytime you want.

15 CLAIRE DONOHUE: Right.

16 CHAIRPERSON GENNARO: We're making
17 everyone do it, like, in a certain, you know it's
18 a certain--

19 CLAIRE DONOHUE: [interposing] As
20 their permits expire.

21 CHAIRPERSON GENNARO: It's a
22 certain time. People have to do it by a certain
23 date but it's like staged or whatever. Sane
24 Energy should be telling people in buildings that
25 they should have an energy audit right away and

they should see what energy retrofits are going to pay back within two years, three years, four years, five years, ten years, whatever. They should say, hey, everything--

CLAIRE DONOHUE: [interposing]
Unfortunately, I think for my landlord, it's a rent-stabilized building. So what they'll do is they'll look at the numbers and they're being sold with all the Con Ed incentives that if we convert to gas it will pay for itself within five years. That's all they're going to look at. They're not going to look at something as simple as literally a can of WD-40, a petroleum product that I'm supporting.

CHAIRPERSON GENNARO: Right.
There's only so many things the city can do. We can't throttle people and say that you've got to do this.

CLAIRE DONOHUE: A public education campaign.

CHAIRPERSON GENNARO: I mean if Sane wants to come up with something or whatever, I think it's fine. Our approach was to put teeth in a law that said you have to look at how silly

1
2 you're acting and then you will be compelled, upon
3 seeing it, to act in your own best interests. I'm
4 open, Claire, you know what I mean, if you want to
5 make a recommendation to the staff or whatever. I
6 wouldn't put you on after five hours of the
7 hearing if I didn't like you.

8 CLAIRES DONOHUE: Thank you very
9 much.

10 CHAIRPERSON GENNARO: Happy to be
11 kept apprised of everything that Sane Energy is
12 doing. Come next time at the beginning of the
13 hearing, you know.

14 CLAIRES DONOHUE: I will try and not
15 have client appointments then. Thanks so much for
16 staying. I appreciate it.

17 CHAIRPERSON GENNARO: Claire,
18 thanks. Just come over after the hearing and say
19 hi. With that being said, I'm grateful to
20 everyone who came out today to give this benefit
21 of your views. We still have Professor Bowman
22 here from Stony Brook and others who made a great
23 contribution. I look forward to having some
24 conversations after the hearing.

25 The formal part of the hearing, the

on the record hearing is over. I think this is our last hearing for the year, so I wish everyone -no, it's not? I wish everyone a happy, healthy and safe and environmentally pure holiday season. Nick is calling upon me to bang the gavel. But I'm not going to bang the gavel before I thank Nick for being such a good sport as I was doing sort of like the thermostat Olympics before. I thank Nick for his good service. With that, this hearing is adjourned.

C E R T I F I C A T E

I, Donna Hintze certify that the foregoing transcript is a true and accurate record of the proceedings. I further certify that I am not related to any of the parties to this action by blood or marriage, and that I am in no way interested in the outcome of this matter.

Signature 

Date January 18, 2012