



**STATEMENT OF THE NATURAL RESOURCES DEFENSE COUNCIL AT THE
NEW YORK STATE SENATE MANHATTAN DELEGATION'S STATE BUDGET FORUM**

February 29, 2020

Good afternoon, Senators Krueger, Benjamin, Hoylman, Jackson, Kavanagh and Serrano.

My name is Eric A. Goldstein and I am the New York City Environment Director at the Natural Resources Defense Council ("NRDC"). As you know, NRDC is a national, non-profit legal and scientific organization that has been active on a wide range of environmental health, natural resource protection and quality-of-life issues internationally, around the country and right here in New York, since our organization was founded in 1970. NRDC's main offices are in Manhattan, our New York Political Director, Rich Schrader, is based in Albany, and our organization has more than 40,000 members in New York State alone.

At the outset, we want to thank you and your colleagues, Senator Krueger, for great leadership on so many environmental fronts in 2019. Bravo for your excellent work on the Climate Leadership and Community Protection Act, on divestment, the food waste recycling law, the plastic bag ban law and of course congestion pricing and continued funding of the Environmental Protection Fund at the \$300 million level. It was truly a year of remarkable accomplishment and very encouraging to see the Senate and the Assembly once again working together productively for the benefit of all New Yorkers.

Here are several of NRDC's legislative priorities that we hope you move forward in the upcoming budget negotiations:

We recommend that you continue tackling the waste disposal challenges facing New York's local governments, with a focus on the contribution single-use plastics make to litter and water pollution problems and to the global warming crisis. New York State's waste hierarchy, set forth in the State's Solid Waste Management Act of 1988, correctly recognizes that the most sustainable way of dealing with trash is to reduce the amount of waste generated in the first place. And the ever-growing amounts of discarded single-use plastics -- which are virtually all made from fossil fuels -- also play an insidious role as a significant profit center for the oil and gas industry.

First, NRDC supports legislation originally introduced by Senator Krueger and now being advanced by Governor Cuomo that would implement a statewide ban on polystyrene foam food and beverage containers (and foam packing "peanuts"). Because of their brittle composition, these products break into tiny pieces. They are almost impossible to clean up, pollute the marine environment, and are often mistaken for food by fish and marine mammals. More and more jurisdictions around the nation -- Maine, Maryland and New York City itself -- have banned such foam products; customers and businesses have found environmentally preferable substitute containers and all stakeholders are have adjusted in short order.

NATURAL RESOURCES DEFENSE COUNCIL

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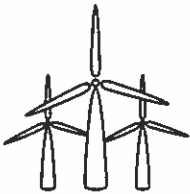
THE CLIMATE AND COMMUNITY INVESTMENT FUND: \$1 BILLION FOR CLIMATE, JOBS, AND JUSTICE

We passed the nation's strongest climate law. Now, we need to put our money where our mouth is and fund climate action.

\$1 BILLION IS NOT ENOUGH TO FUND THE JUST TRANSITION OUR STATE NEEDS

But \$1 billion in the 2020 budget is a down payment on the promises made in the Climate Leadership and Community Protection Act.

The Climate and Community Investment Fund includes:

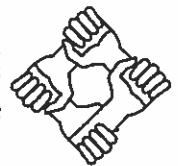


GREEN JOBS & INFRASTRUCTURE

Building utility-scale wind turbines and solar arrays, updating our electric grid, and more. Investments will decrease our reliance on fossil fuels & create good, green jobs.

COMMUNITY JUST TRANSITION FUND

Direct grants to community orgs to support community-led energy planning, reduce local emissions, and increase resiliency. 75% of funds go to disadvantaged communities.



EFFICIENCY & LOWER UTILITY BILLS

Efficiency programs for low- and middle-income homeowners, plus residents of low-income and public housing, to lower emissions and decrease utility bills.

PROTECTING WORKERS & COMMUNITIES

Cash and job training to impacted workers, funds to replace lost tax revenue for municipalities and school districts, expanding economic development programs.



At least 40% of this fund will go to low-income communities & communities of color, who are hit first and worst by the climate crisis.

\$1 BILLION IS JUST THE BEGINNING. LET'S WIN REAL CLIMATE INVESTMENTS IN OUR COMMUNITIES!

New York State Budget Meeting

My name is Warren Berger and I'm a constituent of State Senator Robert Jackson and I am working for the Movement for a Green New Deal, a coalition of the organizations Food and Water Action, the Sunrise Movement, New York Communities for Change and Democratic Socialists of America. We would like the Governor and the State Legislature to enact the following policies to build a Green New Deal:

- Stopping all fossil fuel infrastructure - the state should stop all new fossil fuel infrastructure projects, including power plants and pipelines.
- Public power - a state takeover of investor-owned utilities combined with democratic control and a New Deal-style deployment of publicly-built renewable energy would provide the lower costs and larger scale needed to achieve 100% renewables and high energy efficiency while maximizing good, union jobs and employment from low-income and communities of color.
- 100% renewable energy: New York must adopt a clear plan including enforceable, annual benchmarks to achieve 100% renewable energy and high energy efficiency. According to the current science global emissions must drop to virtually zero by about 2035
- Taxing the rich to fund a rapid, just transition: a rapid and just transition will require about \$10 billion per year in increased public funding by the state for new and existing programs. A 5% tax hike on all marginal income over \$500,000 per year, which covers only the top 1%,

New York needs a Green New Deal. We call upon you to embrace goals and policies to create a safer, more just society.

February 29, 2020 NY State Budget Hearing
Peoples Climate Movement-NY Testimony by Marilyn Vasta

Thank you for sponsoring this opportunity to hear from your constituents about our priorities for the State Budget.

As a social worker and member of the Peoples Climate Movement-NY, I believe it is critical for New York to increase funding to fight the climate crisis while continuing to fund housing, public health, education, and other needs. I reject pitting climate against other urgent needs and believe that in this wealthy State in the wealthiest nation, we can and must find funding to fight this existential crisis.

The climate crisis is rolling out globally at heretofore unknown speed. In the hottest decade in history we all witnessed the massive, devastating fires in Australia, worldwide flooding from surges and storms, tornados, and the rapid melting of the polar ice caps. We all agree that this crisis is escalating.

As part of the NYC climate justice movement, I have yelled and screamed, politely lobbied, testified, marched, sat in, acted, painted, sang, danced, and been arrested to try to elevate the climate crisis to the forefront of causes requiring action. What else do we have to do to get your attention? Today I am here to implore you all to fight for funding in this year's budget to implement the CLCPA. Last year New York passed this historic legislation, and this year is the time to start funding it. Without funding it is another piece of paper. An empty promise.

Specifically, I urge you to support the Climate and Community Investment Fund – which is one billion dollars as a down payment on the promises made in the Climate Leadership and Community Protection Act. To fully fund the CLCPA and actually make New York a leader in fighting the climate crisis will take many billions of dollars – but we have to start somewhere. At this time, as we understand it, there is no allocation of funds to implement the CLCPA.

The CCIF will go to four areas:

*\$300 million for renewable energy including solar, offshore wind, and updating our energy transmission and grid. These investments will reduce our reliance on fossil fuels and create good, green jobs.

*300 million for community resilience – catalyzing community planning and covering capital costs for efficiency and renewables programs in frontline communities who bear the brunt of the crisis.

*200 million for transition protections – We must protect workers and communities in the transition off of fossil fuels. As the granddaughter of a coal miner I saw firsthand how communities fail when the mines are shut down and no options are presented for workers.

*200 million for energy efficiency and to reduce utility bills. Specifically funding investment in low income neighborhoods by directing funds through the low-income assistance program and partnerships with public housing and affordable housing developers.

We are almost out of time to have an impact on the climate crisis. The cost of inaction will far surpass any investment we make now. We must all rise to fight for what we love. Our families, our communities, our habitable planet.

Thank you.

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Executive Summary:

The imminent danger of climate change has been recognized by both New York State and New York City. We have made a commitment to reduce greenhouse gas (GHG) emissions in accord with the Paris Agreement.

New York City predominantly relies on two sources of power for its electricity: nuclear power and natural gas. Each source causes harmful climate effects in their utilization and/or production. The immediate waste products of energy made by natural gas utilization, made by the mining of radioactive material, as well as made in the commissioning and decommissioning of nuclear power plants, compose significant amounts of CO₂ and methane. Because CO₂ remains in the atmosphere for an estimated 200 years, this increase in atmospheric greenhouse gas is not only dangerous for our long term survival, but also for our short-term resilience.

Energy use rises as building height rises. Peer-reviewed scientific studies show that GHG climate change pollution (including, but not limited to CO₂ and CO₂-equivalents [CO₂-eq], such as NO_x) and other related harmful pollutants such as mercury and lead, rise as building height rises. There is an exponential increase in energy use, and, thus climate change pollution emissions, in buildings with a height above 210-feet.

In addition to climate change emissions of tall buildings, the very height of tall buildings causes an “urban heat island” effect, that is: an increase in urban temperature caused by the effects of tall buildings on each other and the surrounding environment. The urban heat island effect increases our energy consumption, elevates emissions of air pollutants and greenhouse gases, compromises human health, increases morbidity and mortality rates, escalates associated costs of treating urban heat island-related illnesses and work/school absences, and impairs our water quality.

An immediate 210-foot height cap on all buildings, which is the current zoning on the Upper East Side on Fifth, Madison, and Park Avenues, will be instrumental in preventing new devastating damage to our fragile New York City environment.

Introduction:

New York City must adopt an absolute 210-foot height cap (64.008 meters) on all new building developments effective immediately in order to prevent imminent, wide-reaching, permanent environmental harm to both our local population and our nationwide and worldwide communities. The absolute 210-foot height cap already exists for Manhattan's Fifth, Madison, and Park Avenues. References regarding the deleterious effects of building height on climate change are provided, below.

Definition of Monster Talls.

The Council on Tall Buildings and Urban Habitat (CTBUH) is the authority that has developed international standards defining sub-categories of tall buildings that are at least partially, but continually habitable. Some definitions are as follows:

- A “megatall” is a building of 600 meters (1,968 feet) or taller.
- A “supertall” is a building of 300 meters (984) to 600 meters.
- A “tall” building is a building less than 300 meters.

(<https://www.ctbuh.org/criteria/>).

The term “skyscraper” is no longer a technical term measured and regulated by CTBUH. The term has undergone an evolution as technological advances permitted builders to achieve structures of greater and greater heights. In the late nineteenth century, for example, a skyscraper was a building of ten to twenty stories.

(<http://magicalhystorytour.blogspot.com/2010/08/skyscrapers.html>) Today, a skyscraper is considered to be a building forty-fifty stories high

(<https://www.britannica.com/technology/skyscraper>), and over 150 meters (492 feet)

(<https://epdf.pub/the-visual-dictionary-of-architecture.html>).

The term “Monster Tall” buildings is an emerging label which describes high rises that, by the nature of their height, have a destructive impact on their environment, particularly with, but not limited to, regard to climate change, and are over 210-feet in total height.

Particular Threat of Climate Change to Coastal Communities such as NYC

According to the New York State's Department of Environmental Conservation, climate change will increase New York's sea levels, precipitation amounts, temperature, pollen production,

Climate Change Implications Regarding Monster Tall Buildings - 02.13.20

ground-level ozone, and therefore, the extent of medical conditions such as asthma, allergies, and other respiratory conditions. More consequences can be found at the following website:

<https://www.dec.ny.gov/energy/94702.html>

The New York State Energy Research and Development Authority report wide-ranging economic, medical, and social analyses regarding current climate change problems and future projections. Some of the Authority's findings are as follows: conditions such as asthma, cardiovascular disease, and infectious diseases will be on the rise, and coastal flooding, environmental temperature rises, and intermittent drought is likely to occur. More findings can be found here:

<https://www.nysrerda.ny.gov/About/Publications/Research%20and%20Development%20Technical%20Reports/Environmental%20Research%20and%20Development%20Technical%20Reports/Response%20to%20Climate%20Change%20in%20New%20York>. See also:

<https://www.climatecentral.org/news/how-global-warming-made-hurricane-sandy-worse-15190> and

<https://www.businessinsider.com/superstorm-sandy-new-york-city-lessons-sea-level-rise-2017-10>

The following government sites outline how climate change affects us through intensive analysis covering several sectors. They are as follows: communities, economy, interconnected impacts, actions to reduce risks, water, health, ecosystems & services, agriculture, infrastructure, oceans & coasts, and tourism & recreation: <https://nca2018.globalchange.gov/>, and <https://climate.nasa.gov/news/2865/a-degree-of-concern-why-global-temperatures-matter/>

New York City, including all five boroughs, constitutes a fragile coastal environment. Bordering the Atlantic Ocean, four of the five boroughs are contained on islands (Manhattan, Queens, Brooklyn, and Staten Island), one borough is on a vulnerable peninsula (the Bronx), and numerous parcels of land within New York City are comprised of smaller islands (such as City Island, Randalls/Wards Island, Roosevelt Island, and others).

Climate change is an increasingly present threat to New York City (for example, see <https://blogs.ei.columbia.edu/2019/03/15/npcc-report-2019-climate-change-nyc/>) and New York State overall (<https://www.dec.ny.gov/energy/94702.html>). Over the past 50 years, temperatures in New York have risen by around 2.4°F, with winter temperatures having risen by around 4.4°F (<https://www.dec.ny.gov/energy/94702.html>). Sea levels abutting New York City have risen by over a foot during the last century, which is nearly twice the observed global rate (<https://www.dec.ny.gov/energy/94702.html>). The amount of precipitation during downpours has increased by more than 70% (<https://www.dec.ny.gov/energy/94702.html>). These changes in our environment, among others, have enormous consequences: they jeopardize water quality,

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worsen air quality, and endanger wildlife habitats

(https://www.nature.org/media/initiatives/new_york_factsheet_5.pdf; for dramatic rat population increase as a consequence of climate change in New York City, see

<https://www.nytimes.com/2019/05/22/nyregion/rat-infestation-nyc.html>). These consequences further increase New York's risk of floods, food scarcity, and public health crises

(https://www.nature.org/media/initiatives/new_york_factsheet_5.pdf). In fact, in California, adverse effects of climate change are already recognized as a cause of costly public health expenses

(https://sor.senate.ca.gov/sites/sor.senate.ca.gov/files/Public%20Health%20Climate%20Change%20LINKS_4%201126.pdf).

Carbon dioxide (CO₂), carbon dioxide equivalents (CO₂-eq), and other greenhouse gases (GHG) contribute to global warming by trapping infrared radiation from the sun in our atmosphere

(<https://www.livescience.com/37743-greenhouse-effect.html> and

<https://climate.nasa.gov/causes/>). As a result, the heat that would otherwise escape our atmosphere remains in our global ecosystem.

The operation of buildings is responsible for anywhere from 67%

(https://www.dec.ny.gov/docs/administration_pdf/nycghg.pdf) to 75%

(<https://epdf.pub/scientific-american-2011-09.html>) of CO₂ and CO₂-eq emissions in New York City. In recent years, New York City has experienced a building boom of super tall buildings due to stronger concrete and steel permitted for use under a building code change in 2008, faster elevators, and novel computer-driven enhancements of Tuned Mass Dampers (a mechanical system which serves to reduce the sway and vibrations of buildings in high winds)

(<https://www.nyl.com/nyc/all-boroughs/changing-skyline-of-new-york/2020/01/09/the-engineering-and-technology-that-gave-rise-to-a-supertall--modern-masterpiece--skyscraper->).

It is important to note that the 67% and 75% data points stated earlier in the paragraph were measured before the recent construction real estate boom of “supertalls” (see, e.g.

<https://www.nationalgeographic.com/new-york-city-skyline-tallest-midtown-manhattan/>).

Supertalls are defined as buildings of a height between 300 meters and 600 meters (984 feet and 1968 feet) (<https://www.designingbuildings.co.uk/wiki/Megatall>).

The results of this review demonstrate that every additional floor added to buildings harms the climate not only by significantly increasing the amount of atmospheric GHG

(<http://buildingtheskyline.org/building-height-and-co2/>), but also by creating urban heat islands

(<https://gizmodo.com/why-tall-buildings-make-cities-hotter-1588242736>), and trapping

atmospheric particulate matter (<https://www.epa.gov/heat-islands/heat-island-impacts>). These effects are discussed, *infra*.

Height of Monster Tall Is Cause of (Increased) CO₂ and CO₂-eq Pollution.

“The results showed that the CED [cumulative energy demand] and CO₂ eq. increased on a per square meter basis with increased building height.”

<https://www.sciencedirect.com/science/article/pii/S1876610216307287>

Above 21 stories, CO₂ emissions increase disproportionately:

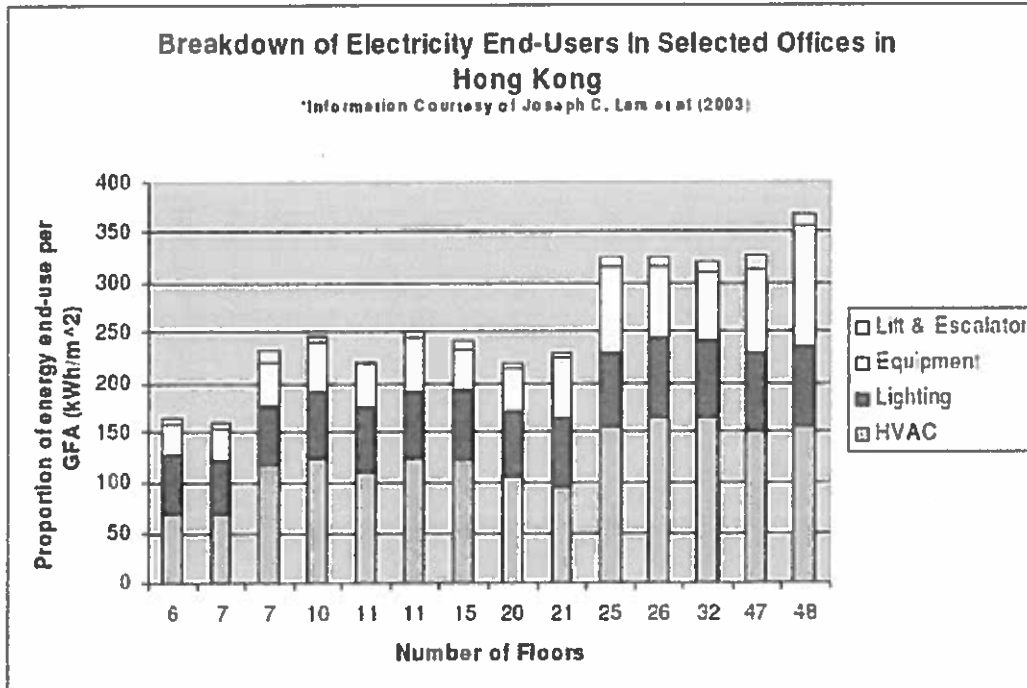


Figure 5. Breakdown of Electricity End-Users In Selected Offices in Hong Kong. Joseph, C. Lam, Ricky, Y.C Chan, C.L Tsang, Danny H. W. Li, Energy Conservation and Management, 45 (2004) 829-844.

Regarding electrical energy use related to height, “[T]here seems to be some critical increases at above 7-10 floors , and again around 25 floors.” From the graph, we see the jump after the seventh floor, and again after the twenty-first floor.

https://www.researchgate.net/publication/271269993_How_Tall_is_a_sustainable_building

(citing, with approval,

<https://global.ctbuh.org/resources/papers/download/1322-tall-buildings-sustainability-from-the-bottom-up.pdf>, a developer-friendly publication)

“In regard to building height, holding the building area constant, an increase in one floor is associated with 1.9% increase in GHG emissions, on average”:

<http://buildingtheskyline.org/building-height-and-co2/>

CO₂ and CO₂-eq Emissions Are Not the Only Problem with Monster Talls: Interaction between Monster Talls Creates Urban Heat Islands.

“But LSTs [“a measure of heating of the land surface—where solar energy is absorbed and re-emitted”] also reveal a lot about our increasingly urban life. As Stuart Gaffin notes: ‘I see surface temperatures in the city that routinely exceed what you might find in the desert.’ Gaffin studies the urban heat island effect—the propensity of cities to trap heat and grow considerably warmer than the surrounding natural environment. According to the U.S. Environmental Protection Agency, an urban area will often see air temperatures up to 6°C (10°F) hotter than the surrounding suburban and rural areas”: <https://earthobservatory.nasa.gov/features/HottestSpot>. It should be noted that official temperature readings are not taken at UHI sites; instead, New York City readings are taken in Central Park in the midst of vegetative mitigation of urban heat index effects. (See, e.g., <https://www.climatestations.com/new-york-city/>, and sources, below.) Hence, New York City official temperatures likely under-report heat effects.

Shadowed zones in the “urban canyons” between tall buildings receive fewer hours of direct sunlight per day. But where that light can reach the canyon floors, energy is reflected back up at the walls of the buildings, where it is absorbed and later released as heat. This is especially the case at night, when urban canyons retain more heat than parts of the city with shorter buildings”: <https://earthobservatory.nasa.gov/images/83828/new-york-city>

“What happens is that the little light that *does* reach deep inside these urban canyons gets reflected back up at the (often very reflective) walls of the buildings themselves. These buildings absorb the heat and then release it back into the surrounding area, causing the areas between tall buildings to retain more heat. This is easily confirmed by touching a tall building at night—it says warm well after sunset”:

<https://gizmodo.com/why-tall-buildings-make-cities-hotter-1588242736>

“An urban heat island is a metropolitan area which is significantly warmer than its surroundings. According to the EPA, many U.S. cities have air temperatures up to 10°F (5.6°C) warmer than the surrounding natural land cover. This temperature difference usually is larger at night than during the day and larger in winter than in summer, and is most apparent when winds are weak. The main causes are changes in the land surface by urban development along with waste heat generated by energy use. As population centers grow, they tend to change greater areas of land

which then undergo a corresponding increase in average temperature”:

<https://scied.ucar.edu/longcontent/urban-heat-islands>

Effects of Increased Ground Temperature (Some Problems of Urban Heat Islands)

There are at least five major ways urban heat islands impact us: (1) they increase our energy consumption, (2) they elevate emissions of air pollutants and greenhouse gases, (3) they compromise human health and comfort, (4) they increase morbidity and mortality rates, and escalate associated costs of treating urban heat island-related illnesses and work/school absences, and (5) they impair our water quality. Regarding point (2), in particular, urban heat islands increase atmospheric sulfur dioxide, nitrogen oxides, particulate matter, carbon monoxide, and mercury.

“These pollutants are harmful to human (and other species’) health and also contribute to complex air quality problems such as the formation of ground-level ozone (smog), fine particulate matter, and acid rain. Increased use of fossil-fuel-powered plants also increases emissions of greenhouse gases, such as carbon dioxide (CO₂), which contribute to global climate change” <https://www.epa.gov/heat-islands/heat-island-impacts>.

“On a hot, sunny summer day, roof and pavement surface temperatures can be 50–90°F (27–50°C) hotter than the air, while shaded or moist surfaces — often in more rural surroundings — remain close to air temperatures. These surface urban heat islands, particularly during the summer, have multiple impacts and contribute to atmospheric urban heat islands. Air temperatures in cities, particularly after sunset, can be as much as 22°F (12°C) warmer than the air in neighboring, less developed regions” <https://www.epa.gov/heat-islands/heat-island-impacts>.

Heat from Monster Talls Causes Change in Atmospheric Temperatures.

“In such an urban setting, rivers and parks can reduce the heat island effect, the local zone of higher surface and air temperatures caused by the way concrete and tarmac (asphalt) absorb, store, and release heat. Rivers provide pathways for wind, and the cooling effect of vegetated parks can be detected by space-based instruments that measure the temperature of the ground surface.

“With the "heat island effect" it's up to 5 degrees warmer during the day and 22 degrees warmer at night”:

<https://gothamist.com/news/nasa-shares-cool-aerial-photograph-of-manhattan-facts-about-heat-island-effect>

Construction Causes Ozone Layer Depletion (Why That Is a Problem)

“Concerns for the Environment and the Earth’s conservation are becoming increasingly significant in the successful progression of global corporate industries - especially in construction. With a huge percentage of pollution that can be attributed to building on a global scale reaching 50% in Landfill waste; Ozone depletion and climate change gases, it is pivotal that the building industries move forward in implementing preventative measures to decrease catastrophic effects, not only on an environmental level, but also on a more human level. Particular stand out areas for concern and in urgent need of addressing include the profound impact that the building industry has had on:

“The over production of carbon dioxide in the atmosphere

“The manufacturing of materials specifically for the purpose of building and building interiors can carry huge upstream CO₂ emissions from roofing; building shells; service systems (including plumbing, conveying and electrical installations) and interiors and finishes. This CO₂, on smaller scales coming from furnishing and finishes internally, can harm the working organic systems in humans - think: the respiratory system. On its larger counterpart, it attacks the Ozone layer and therefore the Earth’s natural ecological system.

“The hydrological system

“The close relationship between commercial and residential expansion and agricultural intensity has, in fact, exceeded the limit of the land to absorb and intake rainfall. Simultaneously, the damaging effects of CO₂ and other toxins on climate change has significantly increased rainfall on a whole, resulting in: severe flooding on a global scale and its subsequent effects on the quality of human life.

“Waste and Pollution

“The built environment introduces harmful and toxic pollutants (particularly, and worryingly, mainly from non-renewable energy sources) to workers from: material manufacturing and handling and sewage production. Little consideration towards excessive waste from

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inappropriate material and use has contributed to global warming; contributed to by non-thoroughly considered estimations and procurement at pre-development stages.”

<https://www.ashbrittle.com/news/news/the-building-and-construction-industry-vs-the-environment-a-brief-analysis>

Historical Evidence of Immediate Fatalities of Smog (London 1952 and New York 1966)

Definition of Smog:

“Smog is a kind of air pollution, originally named for the mixture of smoke and fog in the air. Classic smog results from large amounts of coal burning in an area and is caused by a mixture of smoke and sulfur dioxide.

In the 1950s a new type of smog, known as Photochemical Smog, was first described.

Smog is a problem in a number of cities and continues to harm human health.

Ground-level ozone, sulfur dioxide, nitrogen dioxide carbon monoxide are especially harmful for senior citizens, children, and people with heart and lung conditions such as emphysema, bronchitis, and asthma.

It can inflame breathing passages, decreasing the lungs' working capacity, and causing shortness of breath, pain when inhaling deeply, wheezing, and coughing.

It can cause eye and nose irritation and it dries out the protective membranes of the nose and throat and interferes with the body's ability to fight infection, increasing susceptibility to illness.

Hospital admissions and respiratory deaths often increase during periods when ozone levels are high.”

<https://www.sciencedaily.com/terms/smog.htm>

London Smog (1952):

In London, the smog was so severe that it killed approximately 12,000 people. “Emerging evidence revealed that only a fraction of the deaths could be from influenza. Most of the deaths were caused by respiratory tract infections, from hypoxia and as a result of mechanical obstruction of the air passages by pus arising from lung infections caused by the smog. The lung infections were mainly bronchopneumonia or acute purulent bronchitis superimposed upon chronic bronchitis. More recent research suggests that the number of fatalities was considerably greater than contemporary estimates, at about 12,000.”

<https://www.bbc.com/future/article/20151221-the-lethal-effects-of-london-fog?referer=https%3A%2F%2Fen.wikipedia.org%2F>

See also:

- Davis DL. 2002. *When Smoke Ran Like Water*. New York:Basic Books.
- Peters, Annette ; Döring, Angela ; Wichmann, H-Erich ; Koenig, Wolfgang (1997) 'Increased plasma viscosity during an air pollution episode: a link to mortality?' *The Lancet*, 1997, Vol. 349 (9065), pp. 1582–87
- Hunt, Andrew; Abraham, Jerrold L; Judson, Bret; Berry, Colin L (2003). "Toxicologic and epidemiologic clues from the characterization of the 1952 London smog fine particulate matter in archival autopsy lung tissues". *Environmental Health Perspectives*. 111 (9): 1209–14. doi:10.1289/ehp.6114. PMC 1241576. PMID 12842775.
- Bell ML, Davis D. 2001. Reassessment of the lethal London fog of 1952: novel indicators of acute and chronic consequences of acute exposure to air pollution. *Environ Health Perspect* 109(suppl 3):389–94.
- Camps, Francis E (Ed.) (1976). *Gradwohl's Legal Medicine*(Bristol: John Wright & Sons Ltd, 3rd ed.) ISBN 0-7236-0310-3. p. 236.

New York Smog (1966)

Two major medical studies have analyzed the extent of casualties from the smog. Leonard Greenburg — the same medical researcher who had previously published findings on the death count of the 1953 and 1963 smogs [both in New York City] — published a paper in October 1967 showing that the previous year's smog had likely killed 168 people. Greenburg said that his analysis could not account for damage during the smog that would remain latent and continue to cause disease and death for years. The results of Greenburg's paper were reported by *The New York Times*. (Bird, David (October 27, 1967) "November Smog Killed 168 Here," *The New York Times*.)

Current Air Quality in Manhattan Is a Leading Environmental Threat to All New York City Residents

“[A]ir pollution remains a leading environmental health threat to all New Yorkers. Those most at risk include older adults, children and people with preexisting health conditions... Throughout the year, the city may experience poor air quality due to a high level of fine particles — called PM2.5 — in the air. Exposure to PM2.5 can worsen serious health problems, including heart and

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lung diseases. That contributes to more hospitalizations and emergency department visits and shortens life expectancy.”

<https://www1.nyc.gov/site/doh/health/health-topics/air-quality-air-pollution-protection.page>

“Green” Remediation Methods (such as green roofs) Are Not Enough to Combat the CO₂ and CO₂-eq Emissions.

<https://www.economist.com/international/2019/01/05/efforts-to-make-buildings-greener-are-not-working>

The Paris Climate Accord

“The Paris Agreement central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius”:

<https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

New York’s Commitment to Reduce Greenhouse Gas Emissions

“Mayor de Blasio signed Executive Order 26, committing the most populous city in the United States, to the principles of the Paris Agreement and to developing a pathway to advance the Paris Agreement goal of limiting global temperature rise to 1.5 degrees Celsius. Hundreds of other U.S. cities and institutions followed suit by reiterating their commitment to reduce greenhouse gas (GHG) emissions - sending a profound signal to the world that the majority of Americans will not retreat from this existential fight”:

<https://www1.nyc.gov/site/sustainability/codes/1.5-climate-action-plan.page>

Two Vulnerable Coastal Mitigation Costs

The Rockaways Sea Gate project: “The \$28 million project will increase resiliency and reduce the risks coastal storms pose to residents and businesses on Coney Island” -

<https://www.nan.usace.army.mil/Media/News-Releases/Article/797718/army-corps-announces-the-completion-of-sea-gate-reach-portion-of-the-coney-isla/>

Climate Change Implications Regarding Monster Tall Buildings - 02.13.20

There is a proposed berm which would surround lower Manhattan as a defense against a rising Atlantic Ocean, “a cost the mayor pegged at \$10 billion.”

<https://slate.com/business/2019/03/why-new-york-is-expanding-into-the-east-river.html>

“Green” Taller Buildings Are Not Actually “Green”

“[T]he 55-story Bank of America Tower is actually a fantastic energy-consuming machine. The billion-dollar building generates more greenhouse gases and uses more energy than any other office tower its size in Manhattan.... In fact, it’s less energy efficient than buildings with lower LEED ratings, like the Goldman Sachs headquarters and those that predate the certification system altogether, such as the Empire State Building.

The Bank of America Tower’s failure to live up to its LEED Platinum status or to the lofty green merits championed by its developer’s massive PR campaign is not just embarrassing.... More gravely, ‘It symbolizes a flaw at the heart of the effort to combat climate change,’ [writes New Republic investigative reporter Sam Roudman]. That flaw is the over reliance on programs like LEED that take a superficial, “add-on” approach to the energy problems that face us today.”:

<https://www.fastcompany.com/1673142/leed-lies-bank-of-americas-green-skyscraper-is-actually-an-energy-guzzler> citing,

<https://newrepublic.com/article/113942/bank-america-tower-and-leed-ratings-racket>, with approval.

Concrete Emits Significant Amounts of CO₂ and CO₂ eq

“If the cement industry were a country, it would be the third largest emitter in the world - behind China and the US. It contributes more CO₂ than aviation fuel (2.5%) and is not far behind the global agriculture business (12%)”: <https://www.bbc.com/news/science-environment-46455844>

CO₂ and Other Fuel Pollution Remain in Our Atmosphere for an Estimated 200 Years or More

New York City predominantly relies on two sources of power for its electricity: nuclear power and natural gas. Each source causes harmful climate effects in their utilization and/or production. The immediate waste products of energy made by natural gas utilization, made by the mining of radioactive material, as well as made in the commissioning and decommissioning of nuclear power plants, are significant amounts of CO₂ and methane

(<https://www.eia.gov/tools/faqs/faq.php?id=73&t=11> and

<https://www.eia.gov/energyexplained/nuclear/nuclear-power-and-the-environment.php>).

Because CO₂ remains in the atmosphere for an estimated 200 years or more, this increase in

atmospheric greenhouse gas is not only dangerous for our short-term resilience, but also for our long term survival

(https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter06_FINAL.pdf).

Tall Buildings Use More Energy Despite Any Energy Consumption Mitigation That Has Been Installed

“When rising from five storeys and below to 21 storeys and above, the mean intensity of electricity and fossil fuel use increases by 137% and 42% respectively, and mean carbon emissions are more than doubled”:

<https://www.tandfonline.com/doi/full/10.1080/09613218.2018.1479927>

“Researchers at UCL's Energy Institute have found that electricity use, per square metre of floor area, is nearly two and a half times greater in high-rise office buildings of 20 or more storeys than in low-rise buildings of 6 storeys or less. Gas use also increases with height, by around 40%. As a result, total carbon emissions from gas and electricity from high-rise buildings are twice as high as in low-rise”:

<https://phys.org/news/2017-06-high-rise-energy-intensive-low-rise.html>

Also discussed with accord here:

<https://www.citymetric.com/skylines/how-green-your-skyscraper-why-most-sustainable-building-s-might-be-low-rise-1714>

The study's conclusions are discussed with approval here:

<http://www.globalconstructionreview.com/news/tall-buildings-are-more-energy-hungry-low-rise-res/>

Recommendations:

Based on the research above, in addition to many more studies:

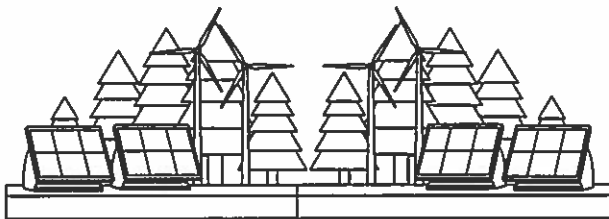
- Call for an immediate moratorium on buildings that have not yet reached an absolute 210-foot in height with a goal of capping all current and future projects at the absolute 210-foot level; and
- Pass legislation that caps all future construction, without possibility of variances, at an absolute cap of 210-feet.
- Mandate an absolute height cap rather than a number-of-floors cap. In this way, bizarre misapplications of the revised regulations would be eliminated. These misapplications would subvert the intent of the regulation drafters. Further, an absolute height cap saves taxpayer funds on builders quibbling with zoning boards and the Department of City Planning over what constitutes a “floor” for regulatory purposes. In the past, we have seen mechanical floors exempted from scale limitations. An absolute height cap gives builders more freedom in allocating permissible space as they need than does a number-of-floors cap with the inherent problem of definition of “what is a floor?”



NY RENEWS

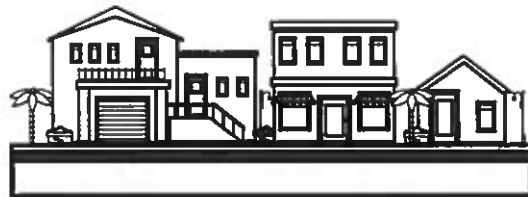
The Climate and Community Investment Act (CCIA) would make polluters pay for the harm they've caused our communities, and invest funds to transition our state to a just, renewable economy.

The Climate and Community Investment Act (S3616/A9856) charges polluters for each ton of planet-warming, asthma-causing pollution they put into our air. It invests the funds directly into our communities. **That's up to \$10 billion per year for:**



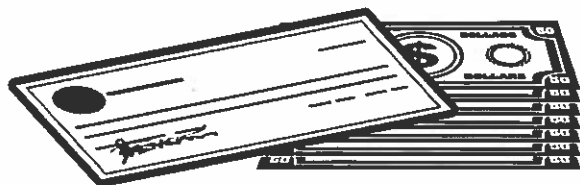
Green jobs & infrastructure

Building utility-scale wind turbines and solar panels, making our buildings more efficient, updating our electric grid, expanding public transit upstate, and more.



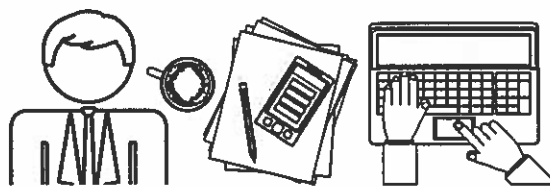
Community Just Transition fund

Direct grants to community orgs to support community-led energy planning, reduce local emissions, and increase resiliency. 75% of funds go to marginalized communities.



NY energy rebate fund

Direct assistance to low and moderate income families to reduce the burden of energy costs. Families are automatically opted in.



Impacted worker fund

Cash and job training to impacted workers, funds to replace lost tax revenue for municipalities and school districts, expanding economic development programs.

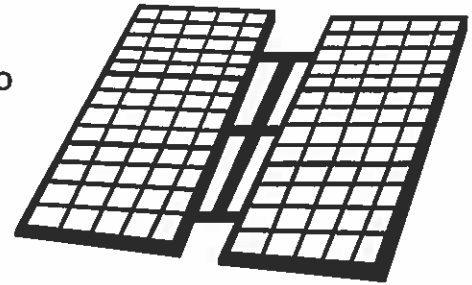
Saving the planet and building a Just Transition to a renewable economy is going to take cash. Shouldn't the companies that got us into this mess be the ones to pay to get us out of it?



NY RENEWS

Research has shown that the community investments in the CCIA will create and sustain 150,000 good, green, jobs over the first decade of its existence. These jobs will have:

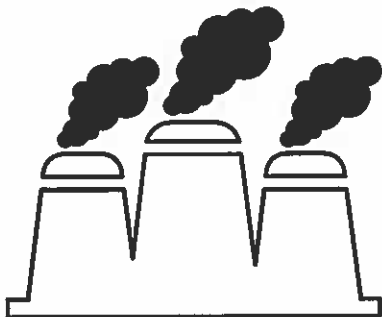
Family sustaining wages: For workers who have not gone to college, average wages in the clean energy sector are expected to be over \$60,000 per year. For workers with some college schooling or an Associate's Degree, average wages will total more than \$70,000 per year.



Prevailing wage standards and apprenticeship programs: All state-supported programs must pay union prevailing wages, and utilize apprenticeship and pre-apprenticeship programs. Programs must hit targets for utilizing Minority and Women Owned Business Enterprises and hiring local workers.

These new jobs and programs will generate \$138 billion for NY's economy over the first decade.

Under the Climate and Community Investment Act, polluters will have to pay for emissions poisoning our communities



The Climate and Community Investment Act also levies a fee on co-pollutants, the noxious byproducts of burning fossil fuels. Co-pollutants might not contribute to climate change, but they cause asthma, lung and heart disease, and other health problems, particularly in marginalized communities. Under the CCIA, we're making polluters pay not just for the harm they're doing to the planet but for poisoning our communities.



NY RENEWS

Support our campaign to make polluters pay and invest in our communities

By voting to pass the Climate Leadership and Community Protection Act, legislators took the first step towards building a just and renewable future for New York State. We're counting on them to build on that legacy and continue to fight with us for climate justice by supporting the CCIA.

Questions? info@nyrenews.org



Thank you for the opportunity to testify today.

My name is Wendy Seligson. I represent the Jewish Climate Action Network NYC.

We are a network of Jewish climate activists – parents, educators, youth, citizens - who educate and advocate for climate action.

Recently, we recently helped to found the Jewish Climate Coalition, a growing network of nearly 40 Jewish organizations in NYC.

And, we are a proud and active member of the New York Renews Coalition.

First, I would like to thank each of you and your New York State Senate colleagues for voting to pass the Climate Leadership and Community Protection Act (the CLCPA). This was adopted into law in 2019.

Special shout outs to

- Senator Jackson, who has been a tireless champion we worked with over the past 2 years
- Senator Biaggi who recently met with us and expressed her deepest commitment to climate action

I am here to ask you to include the \$1 Billion Climate and Community Investment Fund in the 2020 budget.

- The science is established. Last year's IPCC report makes this clear. We have no time to lose in addressing the climate crisis
- Last year, New York led the nation and the globe by passing the CLCPA – now we need continue that leadership and fund it.

The Climate and Community Investment Fund is a first step. It is a down payment on the future. It funds Climate, Jobs and Justice NOW.

- For Climate: It funds large scale renewables to end deadly emissions
- For Jobs: It funds new Green Jobs and worker transition from fossil fuel jobs.

TAX THE RICH for a GREEN NEW DEAL

New York needs to tax its ultra rich to fund action on the climate and inequality crisis. Governor Cuomo's budget does not add significant funding to address the climate emergency. The budget proposal positions the State to continue to miss minimum standards it has previously set on climate goals. Goals that are now law under the Climate Leadership & Community Protection Act (CLCPA). We need to fund a Green New Deal because New York is failing on climate:

- **Just 5% of New York's electricity comes from solar and wind**
- **Zero new grid-scale solar or wind projects are under construction in New York state**
- **Massive new polluting fracked gas power plants and pipelines are being built**
- **Mass transit is crumbling, statewide**
- **Zero emissions cars are almost non-existent**
- **Climate pollution is not dropping** - from 1990 through to the state's most recent data, climate emissions have only dropped by one half of one percent per year. Yet the UN's scientists tell us we need 8% cuts per year to stave off a worldwide catastrophe.

Gov. Cuomo - #MakeBillionairesPay for a Green New Deal:

- **100% Renewable Energy** - build publicly-owned and funded wind and solar at a massive, utility scale.
- **Stop Fossil Fuel Infrastructure** - stop all new fossil fuel infrastructure such as the Danskammer power plant and Williams pipeline and put all existing infrastructure on a rapid retirement schedule.
- **Public Power** - take over the investor-owned utilities including Con Ed and National Grid, who are impeding renewable energy and energy efficiency.
- **Make the Ultra Rich Pay** - 1% of New Yorkers take in \$30 for every \$1 dollar the 99% earns. We need to tax the ultra rich 1% to bring in about \$10 billion/year.

New York needs to allocate at least \$10 billion/year to avert climate catastrophe while putting the brakes on social and economic inequality. We need publicly owned, renewable energy at a massive scale NOW; affordable mass transit statewide; social and supportive green housing; renewable energy and energy efficiency upgrades paid for all low-income homeowners; zero emissions vehicles to replace gas guzzlers for low-income, car-dependent households; support for energy efficiency upgrades in multi-family buildings; among other initiatives.

**We can't accept reshuffling of existing funds or regressive cuts to government services.
New York should create new revenue by raising taxes on the ultra rich to fund a
Green New Deal!**

This flyer brought to you by the Movement for a Green New Deal, which includes DSA-NYC, Food & Water Action, New York Communities for Change, Sunrise Movement - NY and 350.org

- **For Justice:** It funds changes to lift up low income New Yorkers and people of color living with excessive air pollution and facing the front lines of climate change.

As members of the Jewish community, our Jewish values compel us to protect sacred creation. We stand with people of all faiths who share this imperative.

This past Rosh Hashanah, Rabbi Ethan Witkovsky of Park Avenue Synagogue in NYC wrote a very moving sermon entitled *This Eden Earth*. Reflecting on the precious environment he grew up with, the impacts of climate change and how Adam and Eve worked to make things right after eating the forbidden fruit, he closed by saying:

We have the power and knowledge to do this, we can make things right. It is now our task to endure pains and sweat as we labor to build a new sustainable world not for us but for our children.

We urge you to include the \$1 billion Climate and Community Investment Fund in the 2020 budget. To take this action now to make things right.

Good afternoon,

Thank you senators for hosting this important meeting and for the opportunity to testify today.

My name is Laura Shindell and I am an organizer with Food & Water Action.

New York's ambitious climate goals will only be met if we provide the resources necessary to achieve them. We urge you to allocate \$10 billion in state funding for a Green New Deal. And we call on the legislature to raise taxes on the ultra-wealthy to pay for the just transition off of fossil fuels.

This level of commitment would create hundreds of thousands of well-paying, union jobs and stimulate much-needed investment in low-income communities and communities of color. It would help ensure timely progress in meeting the goals of the new climate law. And it would improve the quality of public services, like mass transit, and the health and safety of New York's environment, while reducing inequality.

In tandem with policies to stop new fossil fuel infrastructure, a \$10 billion investment in Green New Deal programs would give us a meaningful shot at reducing the pollution causing climate change and make New York a true leader.

A 5% marginal income tax on the state's top 1% can accrue \$10 billion per year to pay for a Green New Deal. It is those who are living in poverty who are most threatened by climate change. We have a moral imperative to tax the ultra-wealthy in New York to fund a Green New Deal to mitigate the impacts of climate change on low income communities.

Specifically, we call on the legislature to provide an additional \$10 billion in Green New Deal funding for:

- Energy-efficient public and supportive housing. The state must invest in making our public housing green and clean, boosting energy efficiency, improving reliability, and shifting to renewable energy.
- Renewable and energy efficiency upgrades to homes, targeted to low-income homeowners. State funds are necessary to eliminate fossil fuel boilers; increase energy

- Publicly owned energy and a clean, modern grid. The state should devote large new funding to state ownership (via NYPA) of new renewable energy at utility scale. The state should build and own the solar and wind energy – coupled with energy storage – needed to rapidly reduce climate pollution.

- Replacing gas guzzlers with zero-emission vehicles for low-income households. The state's tax credits are wholly inadequate to make ownership of zero emissions vehicles financially more attractive for low-income people than ownership of gas-guzzling fossil fuel powered cars. The state should pay for the replacement of millions of fossil-fuel powered cars and trucks.

- Upgrading all rent-regulated housing to eliminate fossil fuel use and air pollution. There are approximately one million rent-regulated units throughout downstate New York. The state should pay to upgrade the energy efficiency of rent-regulated buildings while imposing energy efficiency standards.

- Compensation for fossil fuel workers and communities dependent on dirty industries. Funding is needed to help workers and communities whose incomes and tax bases would be lost in a shift from fossil fuels. Wages must be covered, training and jobs programs established, and lost community tax revenues replaced to enable a just transition from dependence on fossil fuels.

- High-road labor standards to maximize good, union jobs and hiring from low income and communities of color. New York should condition all public funds in its programs in such a manner as to maximize good, union jobs and hiring from low income communities and communities of color.

We're pleased to see Senators taking positive steps already. We're grateful for Senator Metzger's bill that would ban fracking, and includes language that would ban gel propane fracking as well.

We're also grateful for Senator Hoylman's bills to impose pied e tierre taxes and sales taxes on yachts and private jets.

I urge all of you to also fully embrace the call to tax the rich for a Green New Deal. We are

In sum, a Green New Deal for New York would help create healthier communities, good jobs, a sustainable economy, and a stable climate. New York is home to more billionaires than any other city in the world and in fact home to more billionaires than most countries. We consider a \$10 billion price tag, covered by the billionaire class, a bargain for such a deal. We hope you agree.

Thomas Outerbridge; tom.outerbridge@simsmm.com; 347-391-3050

February 29, 2020
NY State Budget Forum
NY Academy of Medicine
1216 5th Avenue, Room 20

Honorable Senators:

Thank you for the opportunity to testify today.

My name is Thomas Outerbridge and I am General Manager of Sims Municipal Recycling (SMR). Sims has a long-term contract with the NYC Department of Sanitation (DSNY) to process and market all of the metal, glass and plastic (MGP) and about half of the paper collected by DSNY through the NYC curbside recycling program.

As you probably know, municipal recycling programs have been in a state of crisis for some time due to the collapse of markets for recycled paper and challenging market conditions for other materials. This issue affects every local government and resident in New York State.

You may recall, last year the Legislature did not expand the bottle bill to include additional plastic and metal beverage containers, and we are very grateful for that because these plastic and metal containers represent critical revenue streams for curbside programs, in NYC and across the state.

This year, curbside programs are in a worse position than they were a year ago due to further declining paper markets, and unfortunately there is no end in sight for the market conditions we are now experiencing. However, this year there is a bill that has been introduced in Albany that will radically alter the current situation for the better, and provide permanent support to sustain and grow recycling programs into the future. That is Senate Bill S7718 to provide Extended Producer Responsibility (EPR) for packaging.

[I note there is also a packaging bill in the Assembly and the two bills need to be reconciled. No offense to the drafters of the Assembly bill, but if the objective of the bill is to assist municipal recycling programs struggling with the poor markets for recycled materials, the Senate version is much closer to providing the much needed assistance. The most obvious example of this is in the materials covered and the timing of the two bills. The Assembly bill starts with plastics and does not address paper or glass until 2026, whereas the Senate version addresses all materials from the start. While plastics are in the public eye due to litter and ocean pollution, for recycling programs paper and glass are the real problems. Glass has always been a challenge for curbside programs, and paper is the most significant reason for program cost escalation since 2018, when the China market closed to curbside paper. By contrast, plastics have reasonably robust domestic markets.]

The basic principal of packaging EPR is quite simple. Producers who sell packaging that ends up in the municipal waste stream pay a fee that covers or helps to offset the costs of municipalities to recycle that material. The fee associated with the package is tied to the value or cost of managing that material. Not only will packaging EPR save existing programs, it will motivate and incentivize municipalities to institute the most robust and inclusive programs possible, and it will incentivize product manufacturers to choose materials that are most favorable for recycling.

If we think of recycling as a public service and an environmental necessity, you can look at EPR as a way to decouple that service from volatile commodity markets.

While packaging EPR certainly has its opponents, in NY we have assembled broad support from across the state, including all of the organizations representing the public entities that are responsible for managing and paying for public recycling programs. This includes the NYS Recycling Association (NYSAR3), the NY Chapter of the Solid Waste Association of North America, the NYS Association for Solid Waste Management, the Federation of NYS Solid Waste Associations, and the NYC Department of Sanitation, as well as many advocacy organizations, such as the NY Product Stewardship Council, the Natural Resources Defense Council, the NY League of Conservation Voters, and Citizens Campaign for the Environment.

Packaging EPR would be the single largest action the State can take to save public recycling programs. While Europe and Canada long ago established packaging EPR laws, New York can lead the US in ensuring the proper allocation of responsibility to those companies that create the packaging materials that end up in the waste stream, and the resources to the municipalities that must responsibly manage these materials.

I appreciate your attention to recycling. It is incredibly important to those of us who work on it, and it is an environmental activity that virtually all New Yorkers have access to and that most participate in daily. Now more than ever, it requires affirmative State action.

Thank you.