

*Welcome to our  
2021 NYC Candidate School*

# **Waste Management & Building Emissions**

**February 8th, 2021  
5:30 pm - 7:30 pm**



# – NYLCV Candidate School – Waste Management

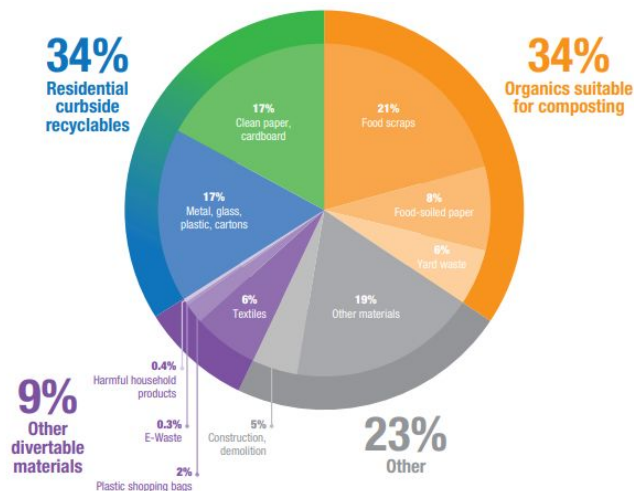
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Bridget Anderson, Deputy Commissioner  
Bureau of Recycling and Sustainability  
2/8/2021

# Zero Waste Goals

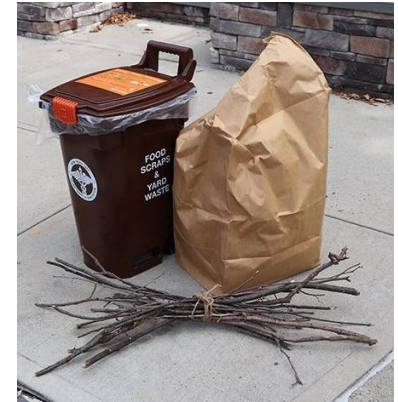
- OneNYC 2050 Volume 7 A Livable Climate
- **Zero waste to landfills –**
  - Reuse/donations - non-profit partner
  - Recycling
  - Composting
  - Toxics reduction (e-waste, hazardous waste)
  - Litter reduction
- **Status**
  - Productive collaboration between DSNY and advocates
  - Where legislation, made the most gains



NYC Residential  
Waste Profile, 2017

# Organic Waste

- **Residential Curbside Composting Operations** *SUSPENDED*
  - Piloted in 2013 > Expanded to 1/3 of City by 2018 (voluntary)
  - Service cut in May 2020 (COVID budgetary crisis)
  - Funding cut through June 2022
- **Seasonal Leaf Collections** *SUSPENDED*
  - Service cut due to funding
- **Food Scrap Drop Off Program**
  - Funding is limited and at risk, but able to maintain a small program
  - Critical for education, community-scale impact
- **Commercial Organic Waste Law**
  - Local Law 146
  - Focuses on businesses likely to generate the most food waste





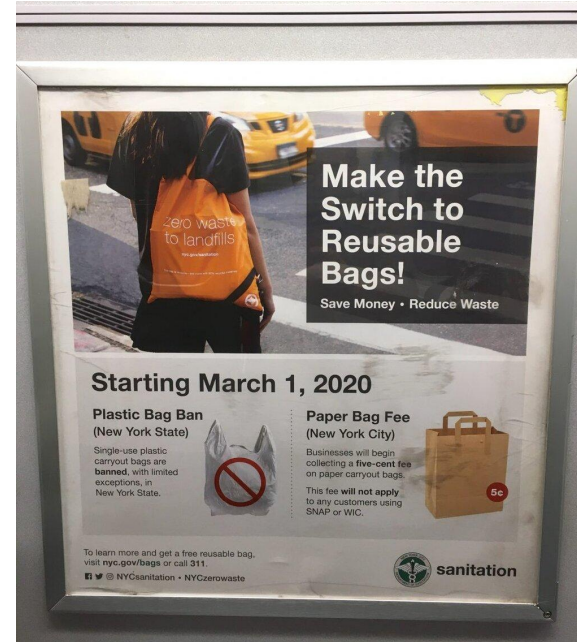
# Single Use Plastics

- Expanded Polystyrene
  - Local Law 142 of 2013
  - Followed by years of litigation by the plastics industry, eventually found in favor of NYC
  - In 2019 DSNY implemented a ban on single-use foam food-service items and packing peanuts.
  - Status: D



# Single Use Plastics – Plastic Bag Ban

- NYS Plastic Bag Ban was passed in 2019 (pre-empting NYC's 2016 carryout bag law.)
- Anticipated impact will be significant reduction in the 10 billion single-use carryout bags used by New Yorkers every year.
- Also includes a five-cent fee on paper bags to fund reusable bag distribution.
- Since 2016, DSNY has distributed more than 1 million reusable bags to New Yorkers.



# Single Use Plastics

- **Executive Orders 42 and 54**
  - to eliminate un-necessary use of single-use foodware and plastic beverage bottles and single use cutlery in city agencies and properties
  - Anticipated annual impact eliminate:
    - At least 1.1 million pounds of single-use plastic foodware
    - 1 million single-use plastic beverage bottles
- ***Tracking Closely:***
  - **Extended Producer Responsibility for Packaging and Paper Products**
    - NY State Senate Bill (Kaminsky) S1185
    - Requires producers of these items to fund their recycling
    - Can help reduce the NYC taxpayer burden for residential recycling operations, and improve the economics of



# Commercial Waste Zones

- Local Law 199 of 2019
  - comprehensive reform of the private carting industry.
  - Create a safer and more efficient commercial collection system
  - Advancing zero waste goals in the commercial sector
- Five+ year, stakeholder-driven process
- Anticipated to cut private carting truck traffic by more than 50% citywide.
- Status:
  - Geographic ones have been determined
  - Multiple rounds of rulemaking underway
  - DSNY issued the first part of the RFP to





# Waste Equity

- Law 152 of 2018
- Cut permitted capacity at private waste transfer stations in four overburdened community districts
- Status:
  - Fully implemented in September 2020
  - Eliminated 10,000 tons per day of private waste transfer capacity, reducing truck traffic in poor and minority neighborhoods
  - Preserved capacity to expand NYC's recycling and organics programs as part of our zero waste efforts.



# The Climate Mobilization Act: Local Law 97 of 2019

**Adam Roberts**  
Director of Policy

American Institute of  
Architects (AIA) New York



**AIA**  
New York

# Retrofitting

- **What is it?**
  - Physically changing an *existing* building, in this case to improve energy efficiency
- **How do you do it?**
  - Better insulate and weather a building to improve heating and cooling efficiency
    - New or improved façade, windows, doors
  - Replace or improve heating and cooling systems
    - Temperature controls, timers, and electrification (removal of gas and oil)
- **Why retrofit?**
  - In most cities, the bulk of carbon emissions come from buildings (70% in NYC)



**AIA**  
New York

# Certifications and Ratings

- **Passive House**

- From NYPH: reduces energy usage "through *passive* measures and components such as insulation, airtightness, heat recovery, solar heat gains, solar shading and incidental internal heat gains."
- Run by the Passive House Institute (PHI)
- Certified Passive House Consultant (CHPC)

- **Leadership in Energy and Environmental Design (LEED)**

- From USGBC: "earn points for various green building strategies across several categories based on the number of points achieved, a project earns one of four LEED rating levels: Certified, Silver, Gold or Platinum."
- Run by the US Green Building Council (USGBC)
- LEED Accredited Professional (LEED AP)

- **Energy Star**

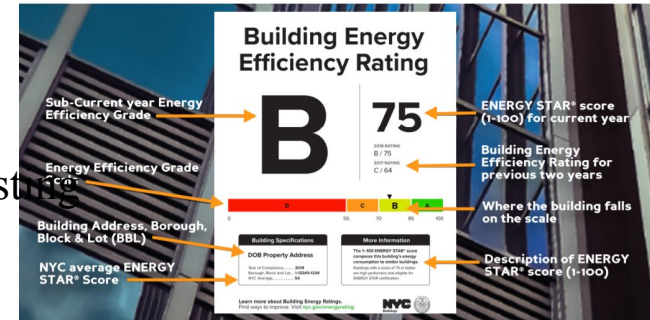
- From Energy Star: "government-backed symbol for energy efficiency helping us all save money and protect the environment through energy-efficient products and practices."
- Run by the Environmental Protection Agency (EPA)



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New York

# Prior Legislation

- **Local Law 84 of 2009: Benchmarking**
  - Buildings larger than 10,000 square feet submit their energy and water usage in the form of energy star scores to the city, which are then made publicly available
- **Local Law 87 of 2009: Energy Audits and Retro-Commissioning**
  - Large buildings conduct energy audits and retro-commissioning (improving efficiency of existing systems), then report this to the city
- **Local Law 33 of 2018: Energy Grades**
  - Buildings larger than 10,000 square feet publicly post their numerical energy star grades, as well as their correlating alphabetical energy efficiency grade



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New York



# LL97 Purpose

## **Spur retrofitting of large buildings to:**

- Meet the 80x50 goals of Paris Climate Accord
- Generate green jobs
- Reduce inequality in living and working conditions
- Reduce pollution and improve air quality

Int. No. 1253-C

By Council Member Constantinides, The Speaker (Council Member Johnson) and Council Members Torres, Kallos, Rosenthal, Levin, Rivera, Koo, Powers, Levine, Reynoso, Richards, Salamanca, Menchaca, Chin, Lander, Ampry-Samuel, Ayala, Cumbo, Rose, Brannan, the Public Advocate (Mr. Williams), Espinal, Rodriguez, Lancman, Dromm, Gibson, Treyger, Cornegy, Van Bramer, Moya, Holden, Cohen, Eugene, Barron, Adams, Koslowitz, Cabrera and King

A Local Law to amend the New York city charter and the administrative code of the city of New York, in relation to the commitment to achieve certain reductions in greenhouse gas emissions by 2050



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# LL97 Provisions

- Buildings above 25,000 square feet are required to stay under carbon emissions limits
- Fines are issued for exceeding limits
- Annual reporting by architects and engineers
- Alternative means of compliance provided for certain building typologies
- Exemptions and variances can be approved via application
- Office of Building Energy and Emissions Performance (OBEEP) and Advisory Board created to oversee enforcement and further define provisions

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# Missing in LL97

- Specific design mandates (partially included in LL92/94-2019)
- Buildings under 25,000 square feet
- Embodied carbon (carbon emitted to create materials and products)
- Buildings with rent-stabilized units (largely resolved by LL116-2020)
- Requirements for building inspections and report auditing



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# Enforcement

- **Adequate Funding**
  - OBEEP (within DOB) requires adequate funding for staff to ensure effective enforcement and education
- **Maintaining Mandates**
  - Not passing laws which ease compliance at the expense of increasing emissions (LL95-2020)
- **Expanding Covered Buildings**
  - Reduce exemptions within LL97 to require more buildings to comply (LL116-2020)
- **Managing OBEEP and the Advisory Board**
  - Ensuring the Advisory Board's recommendations, brought before the council in 2023, keep LL97's provisions robust and enforceable





# CANDIDATE SCHOOL

February 8, 2021





Transforming buildings for  
a sustainable future in NYC  
and around the world.



CONVENE

RESEARCH

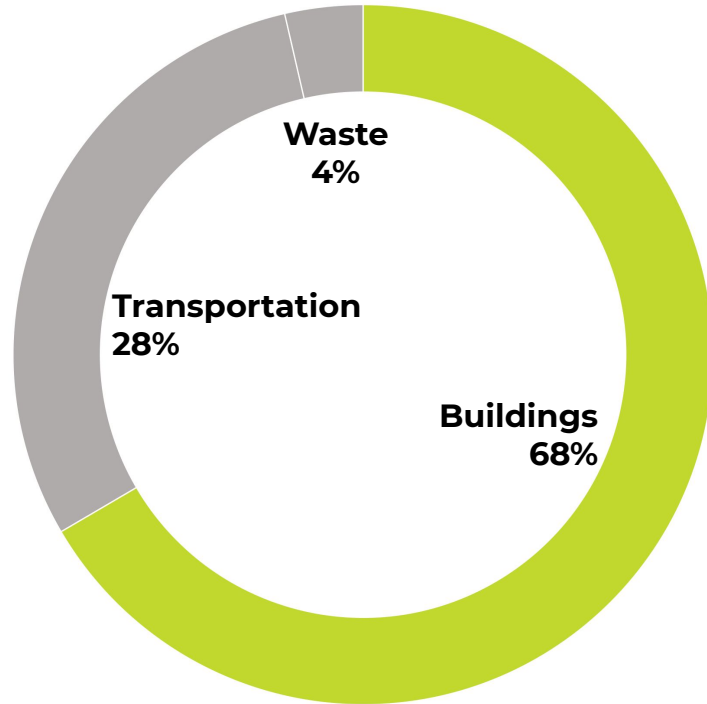
ADVOCATE

EDUCATE



# WHY BUILDINGS MATTER

## NYC Carbon Emissions

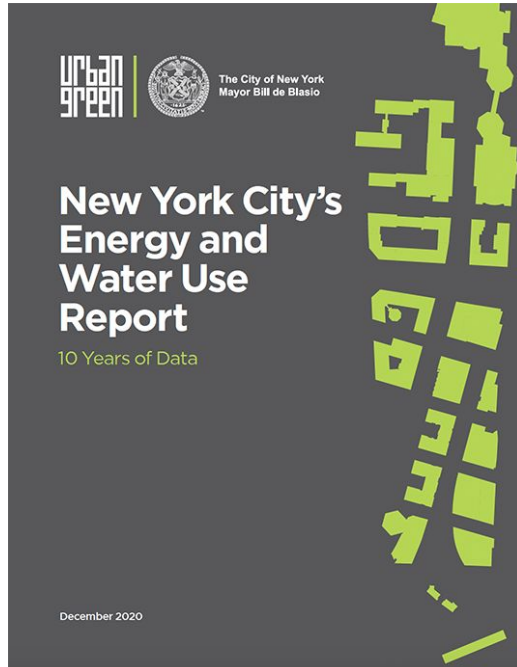


Source: NYC Greenhouse Gas Inventory 2019

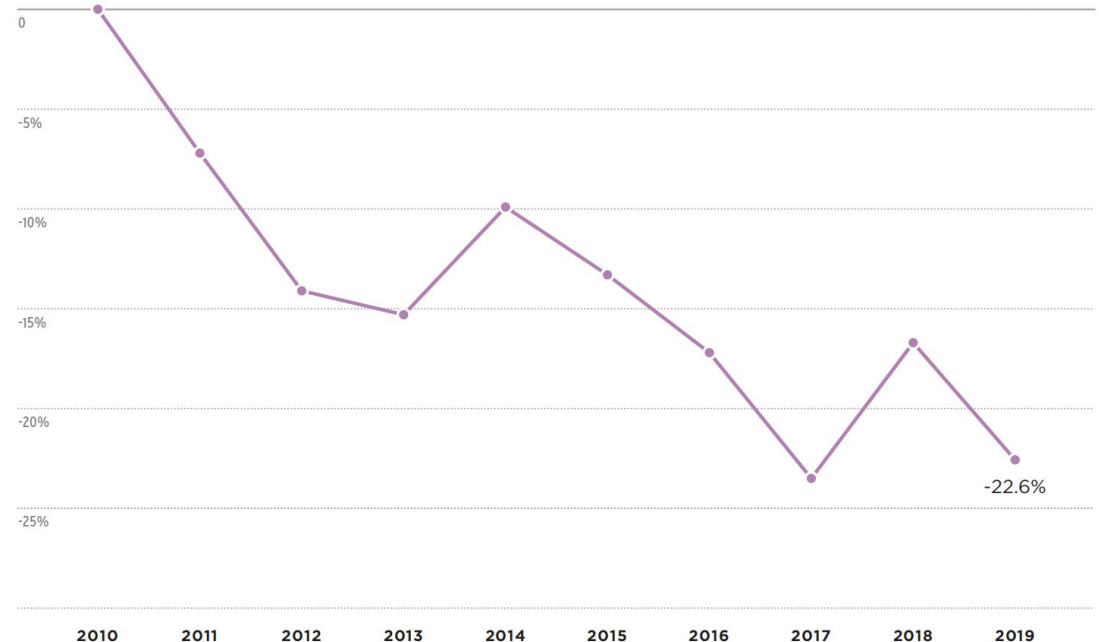


# PROGRESS IN LARGE BUILDINGS

NYC has committed to reducing emissions **80% by 2050**



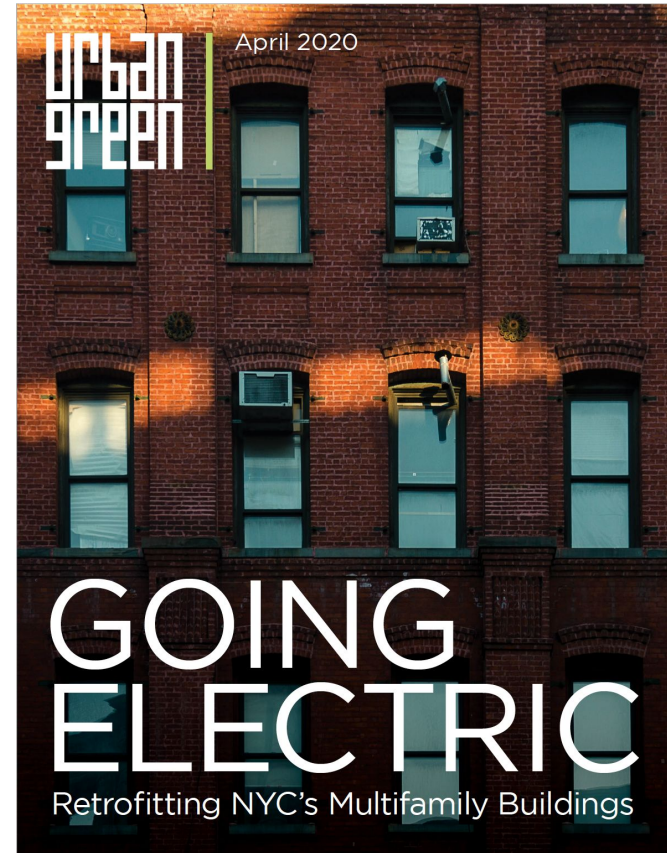
**Benchmarked emissions from large buildings over time 2010-2019.**  
*% change from 2010 levels for buildings.*



# ELECTRIFYING NYC BUILDINGS

**Over 40%** of NYC's total carbon emissions come from burning fossil fuels for heat and hot water in buildings.

**Electrification** means transforming oil and gas heating systems to highly efficient **heat pump technologies** that run on clean electricity.





# LOCAL LAW 97

1. Ensure resources for implementation
2. Refine the metric to avoid penalizing density
3. Incentivize electrification
4. Ramp up education, outreach and support



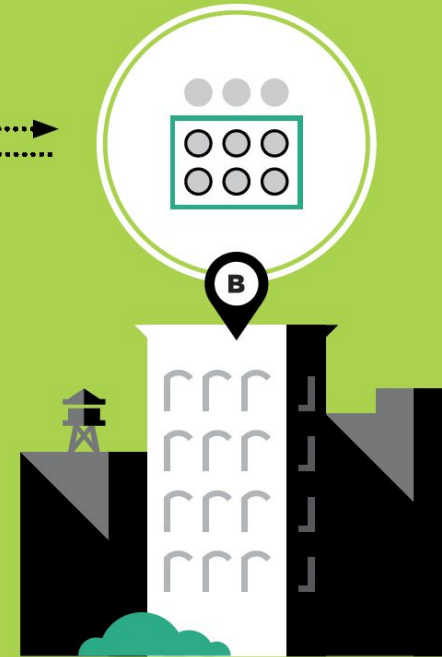
# CARBON TRADING FOR BUILDINGS

**Building A** reduces emissions three units under its cap.



**Building A** now has revenue to invest in building upgrades.

**Building B**'s emissions are three units over its cap.



**Building B** is now compliant and carbon goals are met.



**Building A** sells three credits on the market.

**Building B** buys three credits for compliance.

# WHY TRADING?

Send investment to buildings that need it

Provide flexibility to building owners

Drive energy efficiency (not fines)



June 2020

An aerial photograph of a dense city skyline, likely New York City, showing numerous skyscrapers and buildings. The Hudson River is visible in the background, and the city extends to the horizon under a clear blue sky.

# TRADING

A New Climate Solution  
for Buildings

# THE OTHER 1 MILLION BUILDINGS

Buildings under 25,000 square feet are about:

- 95% of total number
- 40% of total area
- 33% of citywide emissions

TOTAL ANNUAL EMISSIONS (55.1 MILLION TONNES CO<sub>2</sub>e)







Chris Halfnight

Associate Director, Policy  
[ch@urbangreencouncil.org](mailto:ch@urbangreencouncil.org)




[@UrbanGreen](https://twitter.com/UrbanGreen)



[urbangreencouncil.org](https://urbangreencouncil.org)



An aerial night view of the New York City skyline, featuring numerous illuminated skyscrapers and buildings. The Empire State Building is prominent on the left. The city lights reflect on the water in the background under a twilight sky.

## Cities Play Critical Role in Fighting Climate Change

# CLCPA HIGHLIGHTS

85% Reduction  
of GHG Emissions  
by 2050

35-40% of Benefits  
to Disadvantaged  
Communities

Critical Equity  
Provisions

Prioritize Projects  
that also Eliminate  
Criteria Pollutants

Community Air  
Monitoring

Net-zero  
emissions  
by 2050

Reduce energy use  
by 185 trillion BTUs  
from the state's 2025  
forecast through  
energy efficiency

70%  
Renewables  
by 2030

Carbon-free  
electricity  
system  
by 2040





JESSICA RUSSO, NRDC

- **Jobs**
- **Reduced energy bills**
- **Increased resiliency**
- **Decreased pollution**
- **Greater comfort**

**Energy  
Efficiency is  
Key**





**Donna De Costanzo**

**Director, Eastern Energy, Climate and Clean Energy Program  
Natural Resources Defense Council (NRDC)**

**[ddecostanzo@nrdc.org](mailto:ddecostanzo@nrdc.org)**

# **ALIGN: The Alliance for a Greater New York**

## Background

- Coalition of labor and community-based organizations
- Economy, Environment, and Equity

## Reducing Building Emissions & Local Law 97

- Advocates since 2015 with Climate Works for All platform

# New York City context

- Climate crisis
- Higher rates of COVID-19 linked to bad air quality
- Rising inequality
- 11.4% unemployment rate
- Slow down in energy efficiency jobs

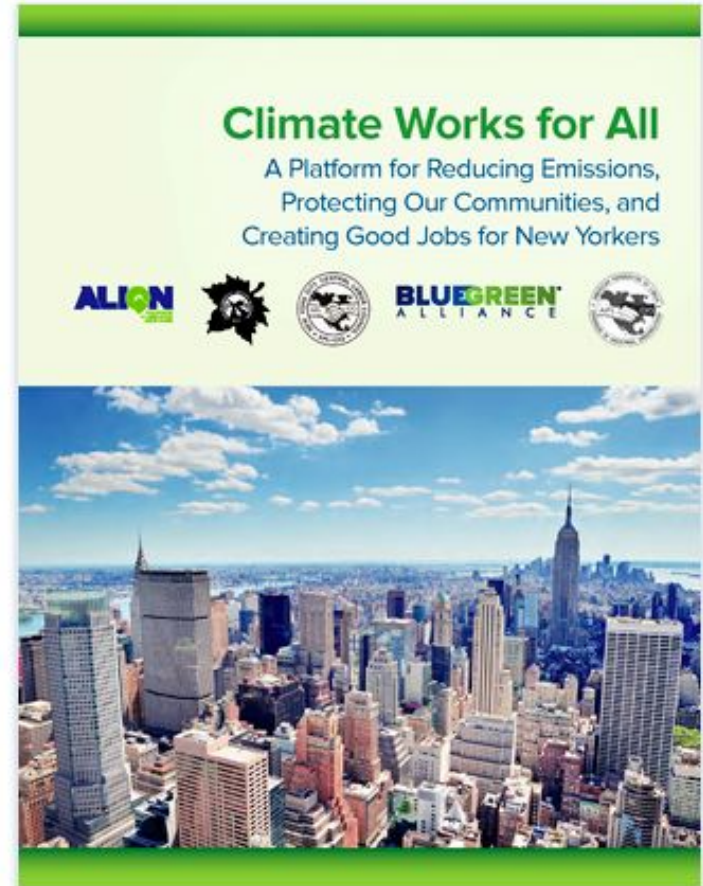
Table 1. Clean Energy Employment Growth by Technology in New York (2017-2019)

Technology	Employment			Change, 2018–19		Change, 2019–August 2020	
	2017	2018	2019				
Energy Efficiency	117,339	123,292	126,739	3,447	3%	-12,314	-10%
Renewable Electric Power Generation	22,064	22,023	23,491	1,467	7%	-2,382	-10%
Clean and Alternative Transportation	7,881	8,624	8,579	-45	-1%	-801	-9%
Renewable Fuels	2,590	2,654	2,656	2	0%	-184	-7%
Grid Modernization and Energy Storage	1,590	2,151	2,289	139	7%	-226	-10%

Source: NYSERDA Clean Energy Industry Report

# LL 97 - Job Creation Potential

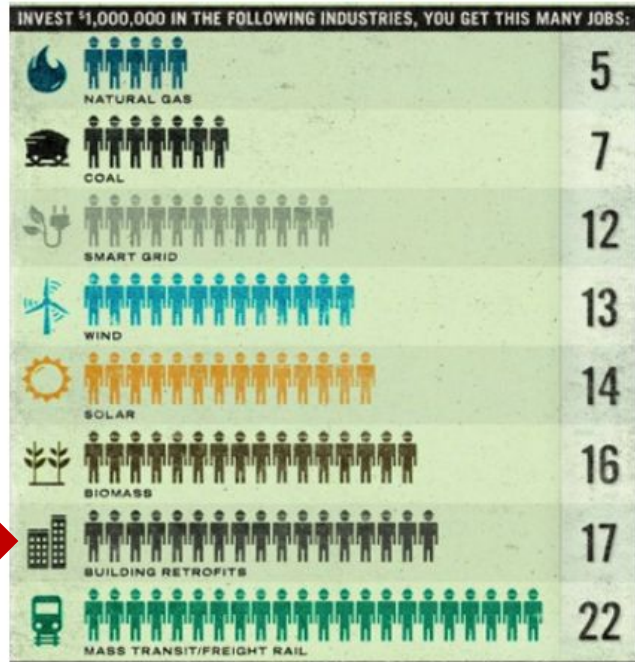
- ALIGN: 23,600 jobs & nearly 17,000 indirect jobs
- Types of jobs:
  - HVAC technicians
  - Heat pump technicians
  - Insulators
  - Sheet metal workers
  - Roofers
  - Electricians





# Job Creation Potential

## JOB CREATION PER MILLION INVESTED BY SELECT INDUSTRY



Source: Cornell University Study – Reversing Inequality, Combatting Climate

## 1st Year Investment: \$15 Million

### Option 1

Energy Efficiency  
Improvements

$$\begin{array}{r} 20 \text{ Jobs per \$Million} \\ \times \\ 15 \text{ \$Million} \end{array}$$

=300 Gross Direct, Indirect,  
and Induced Jobs

RESULT: 300 - 255 =

**45** Net Jobs

### Option 2

Business as Usual

$$\begin{array}{r} 17 \text{ Jobs per \$Million} \\ \times \\ 15 \text{ \$Million} \end{array}$$

=255 Gross Direct, Indirect,  
and Induced Jobs

## Long-Term Effects of the Investment

$$\begin{array}{r} 20 \text{ Years} \\ \times \\ 3 \text{ \$Million in Savings,} \\ \text{Spent in Other Areas} \\ \times \\ 17 \text{ Jobs per \$Million} \end{array}$$

=1020 Gross Direct, Indirect,  
and Induced Jobs over 20 years

$$\begin{array}{r} 20 \text{ Years} \\ \times \\ 3 \text{ \$Million/yr on Utilities} \\ \times \\ 10 \text{ Jobs per \$Million} \end{array}$$

=600 Gross Direct, Indirect,  
and Induced Jobs over 20 years

RESULT: 1020 - 600 = 420

**21** Net Jobs  
Jobs per Year for 20 Years

Source: American Council for an  
Energy Efficient Economy

# Green Jobs & Equity

- Green, decent, and well-paying jobs
- Access to green jobs for communities that have been historically left out of economic growth activities
- Involvement of union and community-based organizations



Photo Credit: Nontraditional Employment for Women (NEW) via Facebook

# Implementing LL 97 – NYC Public Buildings

- City must lead on reducing emissions to achieve overall goals
- How do we create green & well-paying jobs?
  - Best value contracting
  - Project Labor Agreements
    - Raise labor standards
    - Promote on-time completion of projects
  - Prevailing wage and worker benefits
  - Job training requirements

# Implementing LL 97 – NYC Public Buildings

## Workforce Development

- Hiring targets
- Certified apprenticeship programs
- Pre-apprenticeship programs for low-income and Environmental Justice communities
- NY Programs: Green Jobs Corps, 32 BJ Training Fund, NEW Green Collar Prep, Green City Force ...

### NYC GREEN JOBS CORPS

New York City continues to be a leader in reducing the greenhouse gas emissions that contribute to catastrophic climate change and is the largest city on the globe to have committed to an 80 percent reduction in emissions by 2050. Achieving this goal requires significant investments across the city's energy supply, buildings, transportation, and solid waste sectors. At the same time, we are committed to providing New York City residents with greater economic opportunities and pathways to good-paying jobs.

At the 2017 State of the City address, Mayor de Blasio announced the NYC Green Jobs Corps, a partnership with industry and labor to train 3,000 New Yorkers with the skills needed to participate in the emerging clean energy economy over the next 3 years. This new program builds upon the successful efforts after Hurricane Sandy to connect New Yorkers to pre-apprentice training programs leading to apprentice programs, creating a pathway well-paid middle-class careers in the construction industry, and other related training programs.

### NYC 'COOLROOFS

NYC 'CoolRoofs is a partnership with the Department of Small Business Services (SBS), the Mayor's Office of Sustainability, the Mayor's Office of Recovery and Resiliency, and Sustainable South Bronx



### DEP GREEN INFRASTRUCTURE MAINTENANCE TRAINING

Thomas Arrington recently joined DEP as part of the agency's green infrastructure maintenance unit. Thomas is currently studying environmental science at Queens Community College and has a clear passion for the natural environment. Thomas is also very active in his community and is a member of the Friends of Idlewild Park in Queens.

From: OneNYC 2017 Progress Report



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