

NYSERDA Stretch to Zero Pilot Program-RFP 4859

Proposals Due: April 21, 2022, at 3:00 PM



Overview

NYSERDA Stretch to Zero Pilot Program Request for Proposal (RFP) 4859 Approximately \$2.6 Million Available.

- New York State Energy Research and Development Authority (NYSERDA) developed a “stretch” energy code, NYStretch 2020, to advance progress on building energy codes and catalyze GHG reductions. NYStretch 2023, currently in development, will move the State closer to these goals, but another major step is needed for the State to meet aggressive Greenhouse Gas (GHG) reduction goals and decarbonization.
- The Stretch to Zero Pilot Program will create and test workable approaches for the local and statewide implementation of a decarbonized, zero on-site greenhouse gas emissions code.
- For Purposes of the Stretch to Zero Pilot Program, a zero on-site greenhouse gas emissions code will likely require all new construction within the adopting municipality to be all-electric, but that will be finalized during the development and adoption process

Stretch to Zero Pilot Program

The Stretch to Zero Pilot Program aims to make awards in two categories:

- **Category One** aims to award municipalities up to \$500,000 each for the adoption and implementation of a zero on-site greenhouse gas emissions code by December 2023.
- **Category Two** aims to make awards for municipalities that have already taken a local legislative action to adopt zero on-site greenhouse gas emissions code, and who are interested in sharing information with NYSERDA and learning from the other participating municipalities. These municipalities can apply to receive up to \$25,000 per quarter over the two-year Pilot Program for a maximum award of \$200,000.

NYSERDA will use the Stretch to Zero Pilot Program to identify the obstacles and issues municipalities will face when adopting and implementing a zero on-site greenhouse gas emissions code and develop tools and best practices to prepare for the potential future local and statewide implementation.

Stretch to Zero Pilot Program

Selected municipalities will work closely with each other and NYSERDA through the planning, adoption, and implementation process. In addition to the financial incentives, selected municipalities will receive significant technical support.

With the assistance of a NYSERDA-designated consultant, each of the selected municipalities will be expected to develop a detailed plan for adoption and implementation of a zero on-site greenhouse gas emissions code specific to that municipality, and subsequently adopt said code. Each plan will include the following:

- Implementation schedule for complete adoption of zero on-site greenhouse gas emissions code at municipal level by 2023
- Stakeholder Outreach and Engagement; including a targeted outreach plan for Disadvantaged Communities (DAC)
- Training and Education (public, stakeholders, and municipal staff)
- Enforcement (use of third party and/or hiring additional municipal staff)

Proposal Requirements

Municipalities that are electricity customers of a participating utility company, and that pay, or will pay, into the electric System Benefits Charge at the site receiving benefits are eligible for participation.

- NYSERDA seeks municipalities that are committed to adopting a zero on-site greenhouse gas emissions code and can clearly demonstrate a commitment and history of taking aggressive environmental and sustainability actions.
- To ensure that the adoption of a zero on-site greenhouse gas emissions code will have an impact, municipalities must also provide information on current and future construction and development trends.
- In addition, selected municipalities must have a history of successfully implementing and managing state and federal grant programs.

Proposal Requirements

- 1. Commitment: Category One:** A municipal resolution committing the municipality to participating in the Stretch to Zero Pilot Program. Subsequent local legislative approvals will be required to adopt the actual zero on-site greenhouse gas emissions code, but to apply to participate in the Pilot Program a municipality must submit a resolution confirming that the municipality understands that participation requires the future adoption and implementation of a zero on-site greenhouse gas emissions code by December 2023.

Category Two: Include the previously adopted municipal resolution committing the municipality to the adoption and implementation of a zero on-site greenhouse emissions code. In addition, the proposal must include a resolution from the municipality committing them to participate in information sharing and to submit quarterly reports to NYSERDA on the adoption and implementation of the municipality's all-electric code.
- 2. Existing Environmental Policies:** Proposals must include a summary of previous and existing environmental and sustainability policies adopted and implemented by the municipality. If the municipality has adopted Greenhouse Gas (GHG) reduction goals, please provide those goals and the progress the municipality has made in achieving those goals. Please include hyperlinks to each document referenced.
- 3. Development Activity (Category One Only):** To ensure that the adoption of zero on-site greenhouse gas emissions code will have an impact on the future development in a municipality, proposals must include evidence of planned future development. Proposals must include a summary of building permit data for new construction for the previous three years. Include the number of commercial and residential permits applied for and issued.

Proposal Requirements

- 4. Support (Category One Only):** In order to demonstrate that municipal stakeholders will be engaged in the adoption and implementation process, the proposal must include letters of support, including from community and business leaders, demonstrating an understanding of the program and their commitment to participate in the planning, outreach, and implementation process.
- 5. Use of Funds:** NYSERDA expects applicants to develop a plan and programs to support the impacts of adopting a zero on-site greenhouse gas emissions code with a portion or all the funds. The proposal must include detailed information on how the municipality intends to deploy the Pilot Program funds. Plans should include information on the budget allocation for each program and if a match will be provided by the municipality and/or through a public-private partnership. In addition, municipalities should identify the program benefits to their disadvantaged communities and low-to moderate income individuals.
- 6. References:** The proposal must include a summary of previous participation and implementation of grant funds. The proposal must list the Project Management team for the municipality and their role in those previous successful grant implementation examples. In addition, proposals must include the contact's name and information of individuals and/or organizations that can directly speak to the municipality's history of responsiveness, timely reporting, and successful grant/program administration.

Evaluation Criteria

1. The municipality has demonstrated previous actions to address environmental and sustainability issues.
2. The municipality experiences consistent commercial and residential development (**Category One Only**).
3. The municipalities demonstrated capabilities for responsible participation and implementation of other state and federal grant programs.
4. The municipality meets the interim definition for a disadvantaged community as defined by New York State.
5. The municipalities overall plan to deploy Pilot Program Funds.
6. A showing of support and commitment from the municipalities community and business leaders (**Category One Only**).



Proposals Due: April 21, 2022, by 3:00 pm

Questions?

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Dr. Luis Aguirre-Torres,
Director of Sustainability, City of Ithaca

March 2022.



CITY OF ITHACA
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MAYOR'S OFFICE

SVANTE L. MYRICK, MAYOR

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ITHACA GREEN NEW DEAL

Carbon-neutral Community-wide by 2030

- The Ithaca Green New Deal was adopted unanimously by the City of Ithaca Common Council on June 5, 2019
- The Green New Deal addresses climate change, economic inequality and racial injustice

Ithaca Green New Deal Goals

- Achieve carbon-neutrality community-wide by 2030
- Meet the electricity needs of City government operations with 100% renewable electricity by 2025
- Reduce emissions from City vehicle fleet by 50% by 2025
- Ensure benefits are shared among all local communities to reduce historical social and economic inequities
- Facilitate a comprehensive public engagement process

Actions to Achieve the Goals

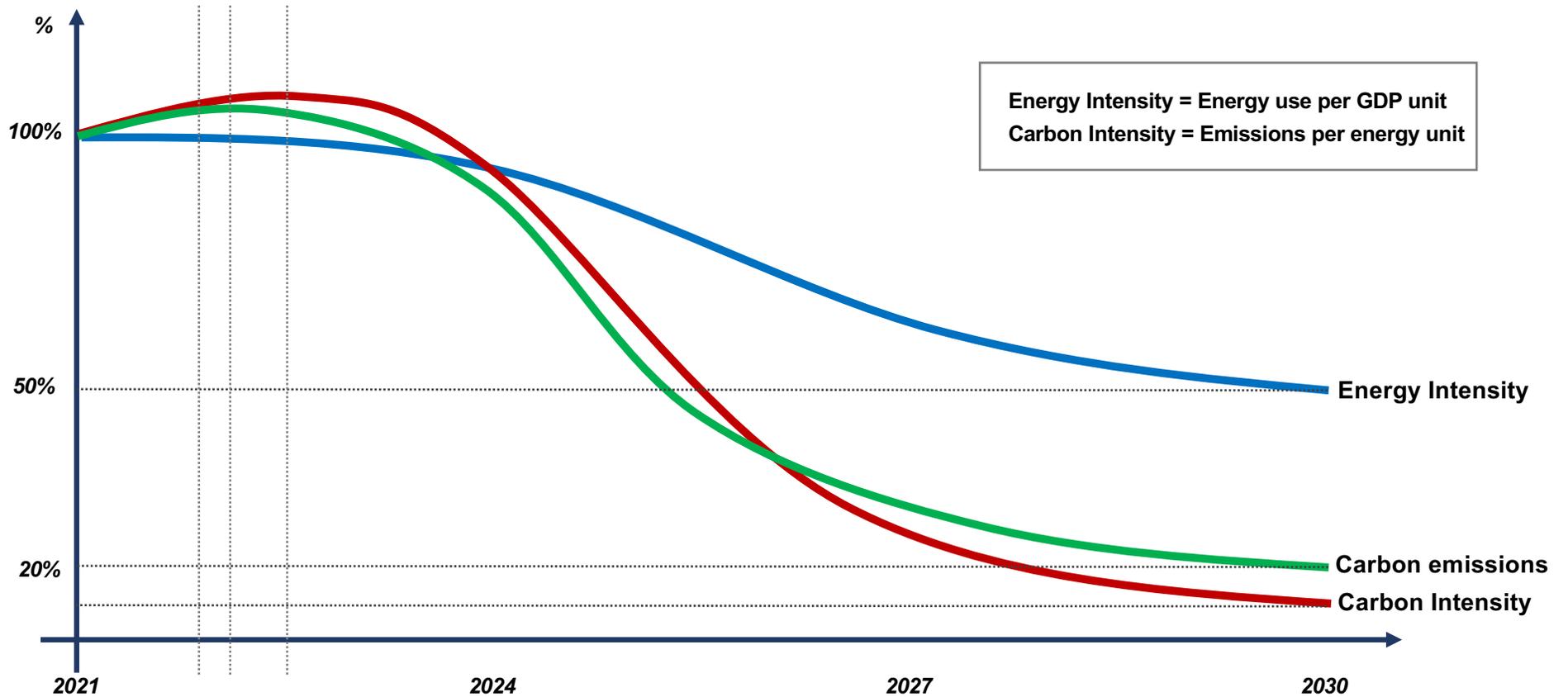
- Create an action plan in 2020 to achieve these goals, and update regularly
- Annually report progress towards goals
- Adopt a Green Building Code for new buildings in 2019
- Adopt a Green Building Code for existing buildings by 2021
- Assign additional staff to implement the plan

Stay Engaged

- For IGND updates, visit <http://www.cityofithaca.org/642/Green-New-Deal>

Decarbonization in Economic Terms

(Not modelled; Illustration only)



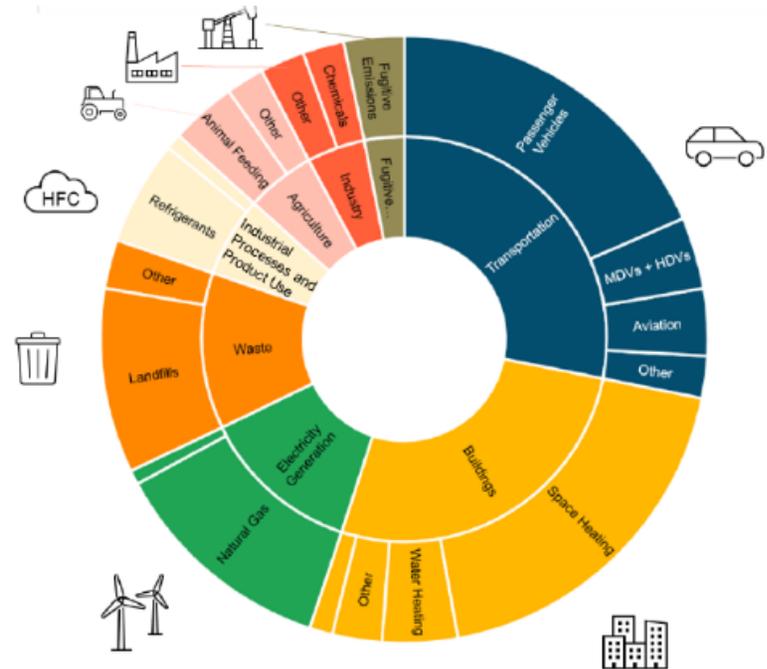
NEW YORK'S CLIMATE LEADERSHIP and COMMUNITY PROTECTION ACT

By 2040: achieve 100% zero-emission electricity

By 2050: reduce emissions at least 85% below 1990 levels

New York's Nation-Leading Climate Directives

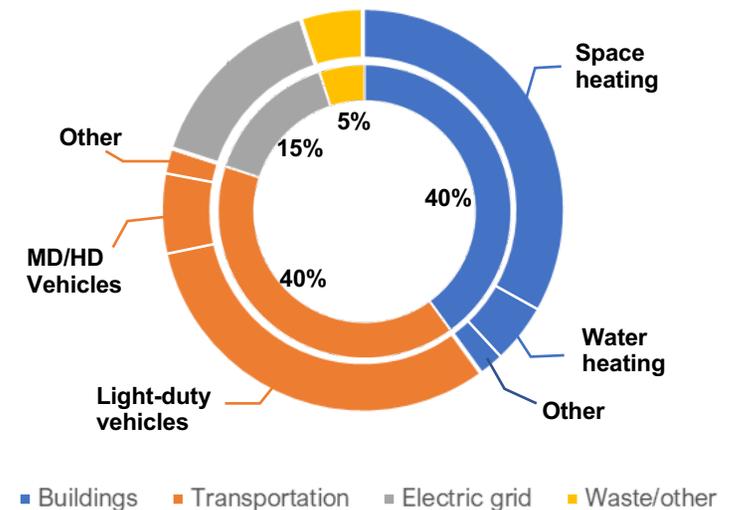
- 85% Reduction in GHG Emissions by 2050
- 100% Zero-Emission Electricity by 2040
- 70% Renewable Energy by 2030
- 9,000 MW of Offshore Wind by 2035
- 3,000 MW of Energy Storage by 2030
- 6,000 MW of Solar by 2025
- 185 trillion Btu of end-use energy savings



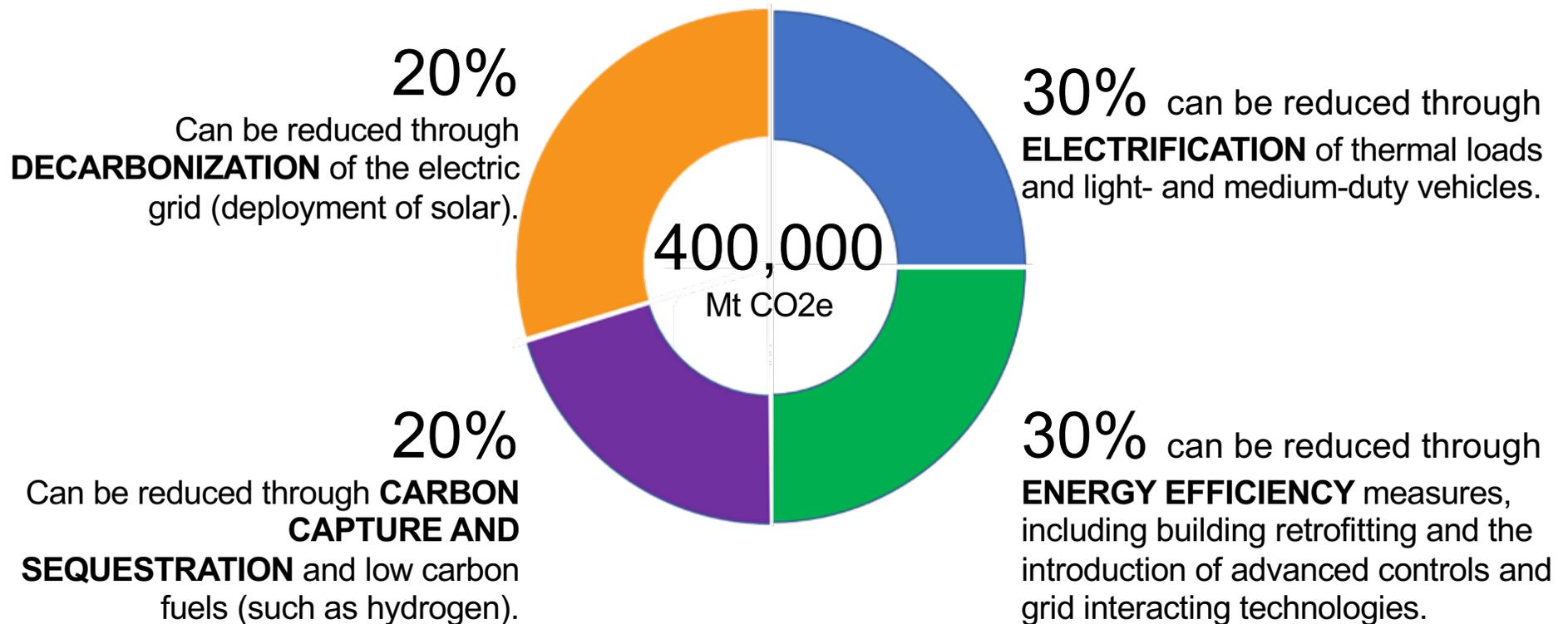
By 2030: Achieve 100% Carbon Neutrality

- Most emissions come from stationary sources (buildings), transportation and the electric grid.
 - A small amount from waste and other sources.
- Necessary to implement cross-cutting strategies to reduce carbon emissions based on the following long-term programs:
 - **Energy efficiency.**
 - **Decarbonization.**
 - **Electrification.**
 - **Carbon capture and sequestration.**

Estimated City emissions: 400,000 Mt CO₂e

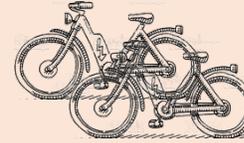


Strategies for Emissions Reduction (estimated emissions)

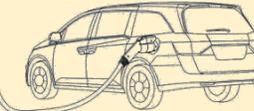
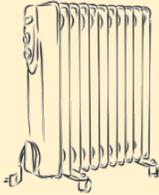


CO2 Emissions Reduction

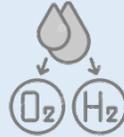
Energy Efficiency
(30%)



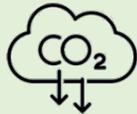
Electrification
(30%)



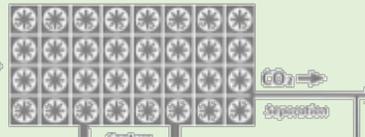
Decarbonization
(20%)



Carbon capture and sequestration
(20%)



Air →



CITY OF ITHACA
GREEN NEW DEAL
AN EQUITABLE TRANSITION TO CARBON NEUTRALITY BY 2030



Establish baseline
(CAP)



Democratic Engagement



Workforce Development



Resilient and reliable infrastructure



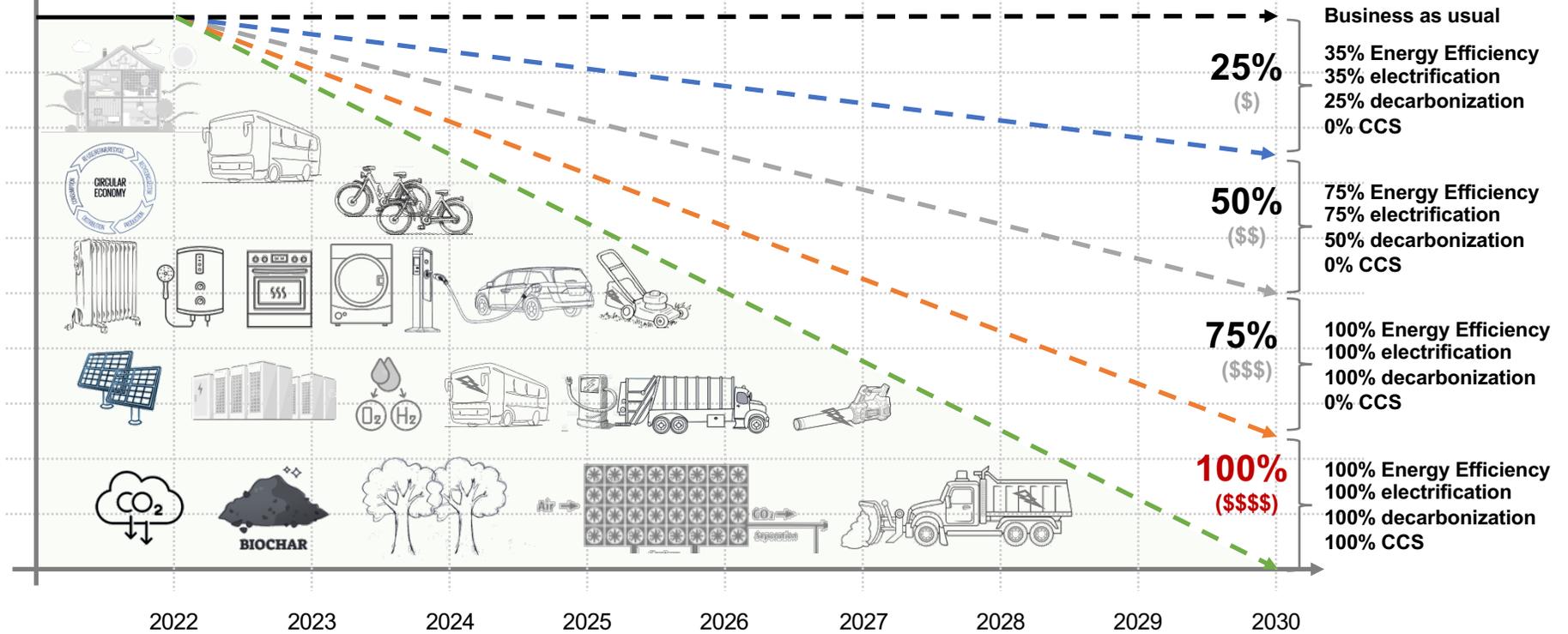
City-wide Energy management

CCS: Carbon Capture and Sequestration

CO2 emissions

---	BAU	0% emissions reduction
- - -	Scenario 1	25% emissions reduction
- - -	Scenario 2	50% emissions reduction
- - -	Scenario 3	75% emissions reduction
- - -	IGND	100% emissions reduction

Just under \$2 billion.



2022 - IGND Ongoing Programs



Climate Action Plan



Climate Justice



Democratic Engagement



Workforce Development



International Cooperation



IGND Scorecard



Community Choice Aggregation



Efficiency & Electrification



Electric Vehicles & Charging



Distributed Energy Resources



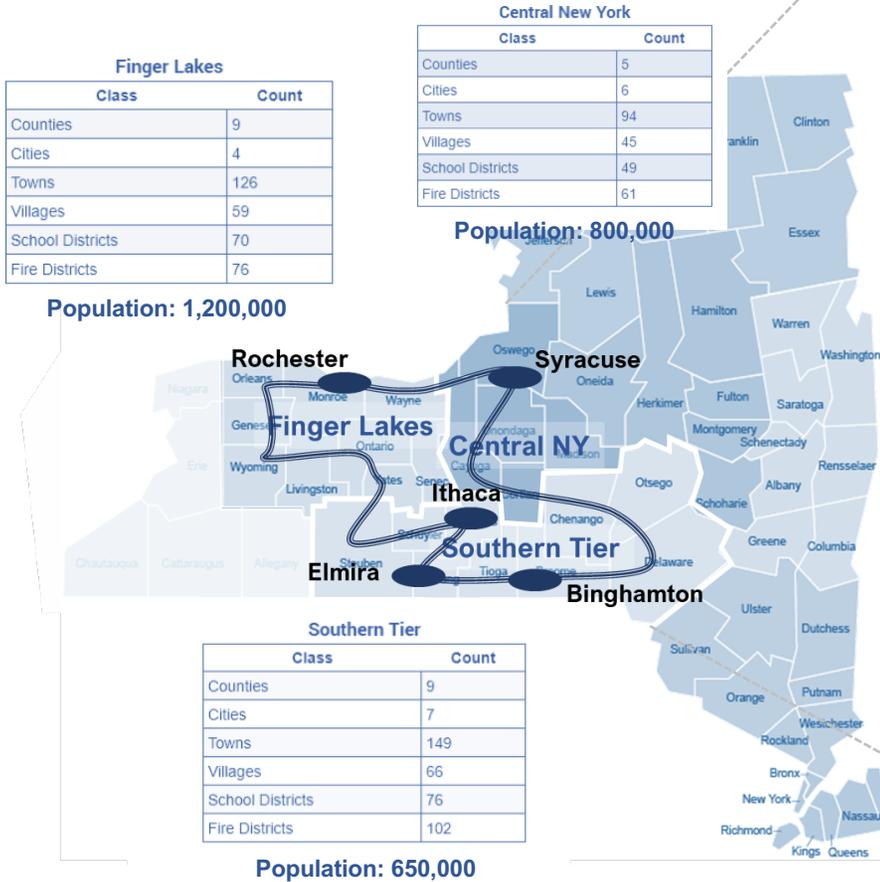
Waste Management



Low-Carbon Fuels

Ithaca Justice 50

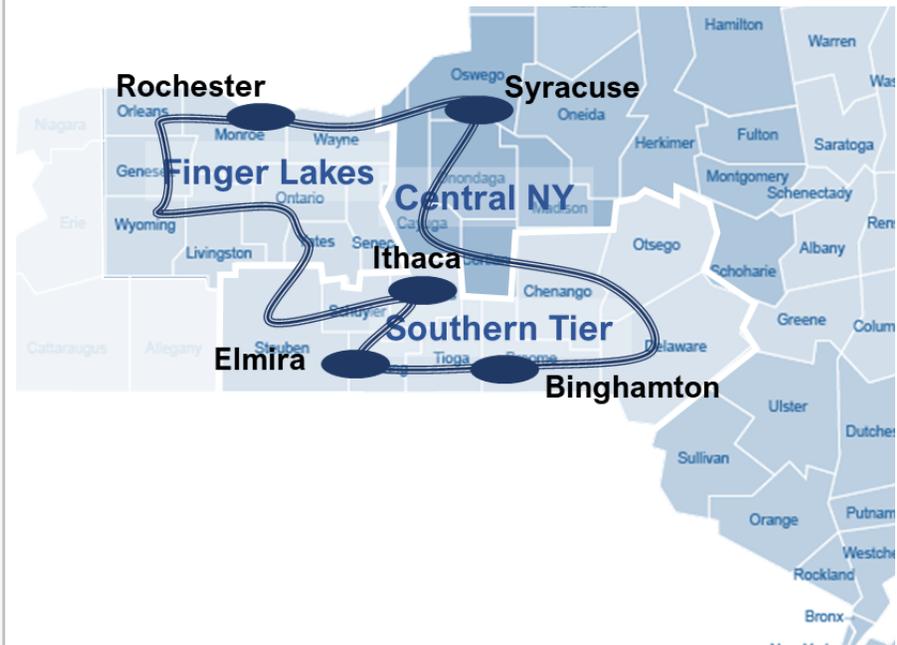
- A core element of the **IGND** is to guarantee that all **economic, social and environmental benefits** are shared with those disproportionately affected by climate change, as well as those more likely to be affected in the future.
- In recognition of the **CLCPA and Justice40**, we intend to align to the **definitions provided by both state and federal governments**.
- We intend to go beyond those definitions and add factors specific to our community, such as **homeownership, financial inclusion and access to health, education and unemployment benefits**.
- In adjusting this definition, **at least 50% of the economic, environmental and social benefits** will be redirected to climate justice communities.



Green Jobs Corridor

Serving the Southern Tier, Finger Lakes and Central New York Economic Regions.

Population served: 2.7 million

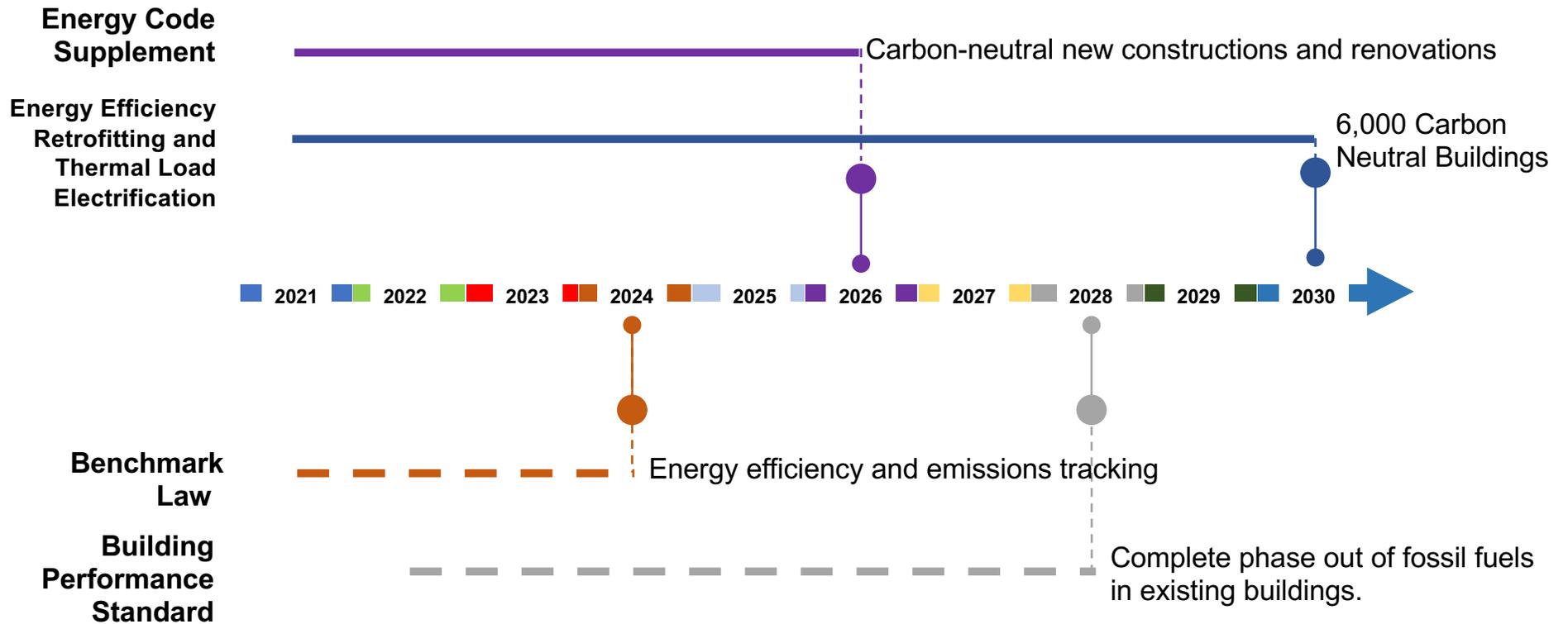


Key to the Success of the Program



1. Increase **economic sophistication**.
2. Address industry **fragmentation**.
3. Create **economies of scale** to achieve savings in equipment/parts/labor.
4. Achieve **bulk purchasing** power.
5. Develop a **skilled workforce**.
6. Maximize **efficiency** and **consolidate** government incentives.
7. Develop mechanisms to **unlock financial flows**.
- 8. Risk mitigation** strategies implemented at the local level.
9. Achieve **financial inclusion** and **climate justice**.
10. Create a **transparent and efficient** operating structure.

IGND Comprehensive Green Building Policy



Ithaca Energy Code Supplement

Requirements

- New buildings must meet requirements to reduce GHG emissions by 40% compared to state code and local practices.
- Must also comply with all NYS codes.

Future Code Cycles

- Requirements become more stringent in 2023 and 2026.
- 2026 code requires net-zero construction free of fossil fuels.

Incentives

- Existing and proposed incentives would facilitate compliance and promote early adoption of best practices.

IECS – Applicability

- **All new construction**
 - Residential, commercial, industrial, etc.
- **Major renovations**
 - At least 75% of the square footage in an existing building is being renovated.
 - At least two of the following major energy components are being substantially renovated: heating, lighting, and envelope.
- **Additions**
 - Single family and duplex: additions > 500 sq ft.
 - All other buildings: additions > 1,000 sq ft.

IECS – Compliance Options

1. Easy Path

- Point system.
- Achieve minimum of 6 points to pass.
- Easy to use.
- Emphasis on affordability and electrification.

2. Whole Building Path

- Allows more flexibility in building design.
- Must comply with a high-performance building standard OR use energy modeling.
 - Certification is not necessary.

IECS – Easy Path Compliance

Six points are needed to comply with the Easy Path.

Efficient Electrification

- EE1** - Heat pumps for space heating
- EE2** - Heat pumps for domestic hot water heating
- EE3** - Other electrification

- 2 - 5 points
- 1 point (Residential, hotel only)
- 1 point (Residential, food svc only)

Affordability Improvements

- AI1** - Smaller building/room size
- AI2** - Heating systems in heated space
- AI3** - Efficient building shape
- AI4** - Right-lighting
- AI5** - Modest window-to-wall ratio

- 1 - 2 points (Residential, hotel only)
- 1 point
- 1 point
- 1 point (Commercial only)
- 1 point

Renewable Energy

- RE1** - Renewable energy (non-biomass) system
- RE2** - Biomass system for space heating

- 1 - 3 points
- 3 - 5 points

Other Points

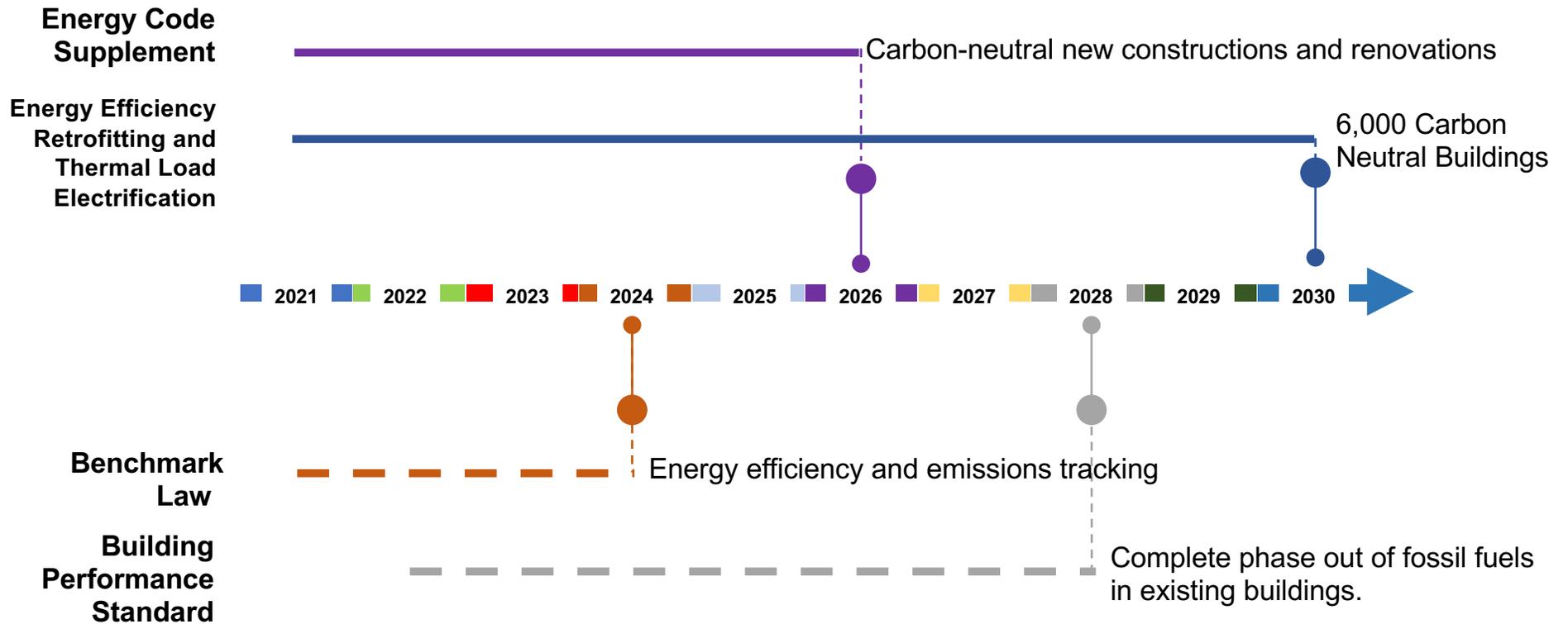
- OP1** - Development Density
- OP2** - Walkability
- OP3** - Electric Vehicle Parking Spaces
- OP4** - Adaptive reuse
- OP5** - Meet NY Stretch Energy Code
- OP6** - Custom energy Improvement

- 1 point
- 1 point
- 1 - 2 points
- 1 point
- 1 - 2 points
- 1 - 2 points

IECS – Whole Building Compliance

- Allows more flexibility in building design
- Buildings must comply with one of the following third-party green building standards. Certification is not necessary
 - LEED (minimum 17 energy points)
 - HERS Rating (maximum score of 40)
 - National Green Building Standard (min. 80 energy efficiency points)
 - Passive House
 - Carbon Calculation Method (minimum 40% GHG reduction, shown through energy modeling)

IGND Comprehensive Green Building Policy



Existing Buildings – Where the Fun Begins!

Energy Efficiency Retrofitting and Thermal Load Electrification Program

Request for Proposals

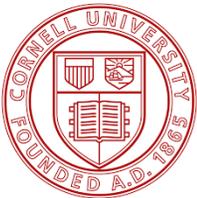
Submission Deadline: 12PM EST on August 27th, 2021.

Department of Planning and Development,
Sustainability Office,
City of Ithaca, N.Y.



- Envelope intervention to maximize performance and reduce energy loads.
- Replacement of low performance windows.
- Installation of energy recovery ventilation systems.
- Efficient and automated LED lighting.
- Electrical panel and installation upgrades.
- Substitution of electric appliances with highly efficient, smart electric alternatives.
- Substitution of natural gas, propane and fuel oil space heating systems with cold-climate air-source and ground-source heat pumps for space heating and cooling.
- Substitution of natural gas and propane water heaters with heat pump water heaters with storage tanks.
- Substitution of natural gas and propane cooking stoves with electric induction cooktops.
- Substitution of natural gas and propane clothes dryers with electric heat pump dryers.
- Load flexibility, grid interacting, advance control systems.
- Solar PV and onsite energy storage systems.
- Bi-directional electric vehicle charging systems.

Electrification Partners





1000

- D** Electrified buildings
- A** Green new jobs
- Y** Electric vehicles
- S** Conversations



For more information:

laguirretorres@cityofithaca.org

March 2022.

Eliminating Emissions from Buildings: New York State's Proposed Climate Plan and Your Chance to Weigh In



Jen Metzger, Senior Policy Advisor to New Yorkers for Clean Power
& former NYS Senator
March 23, 2022 NYCP Teach-In

What is the Draft Scoping Plan?

A proposed plan for meeting the goals of the 2019 **Climate Leadership and Community Act**. These include:

- Reducing GHG emissions by **40%** by **2030** below 1990 levels, achieving **net-zero** emissions by **2050**.
- Generating **70%** of electricity from renewable resources by **2030**, achieving **carbon-free** electricity system by **2040**.
- Ensuring a **just** and **equitable** transition. Dedicating 35% of the benefits of clean energy investments to Disadvantaged Communities (with goal of **40%**).

Why is the Scoping Plan Important?

- **It establishes New York's pathway to reaching the Climate Law's emissions targets and equity goals, and its recommendations will be incorporated in the next State Energy Plan.**
- **The Plan will shape State legislation, regulatory decision-making, and State budget-making in the coming years. (The current draft has already informed the Governor's proposed budget.)**

Overview of Scoping Plan Process

The Climate Law established a **Climate Action Council (CAC) to develop the Scoping Plan.**

Co-chairs: DEC Commissioner Basil Seggos and NYSERDA President Doreen Harris

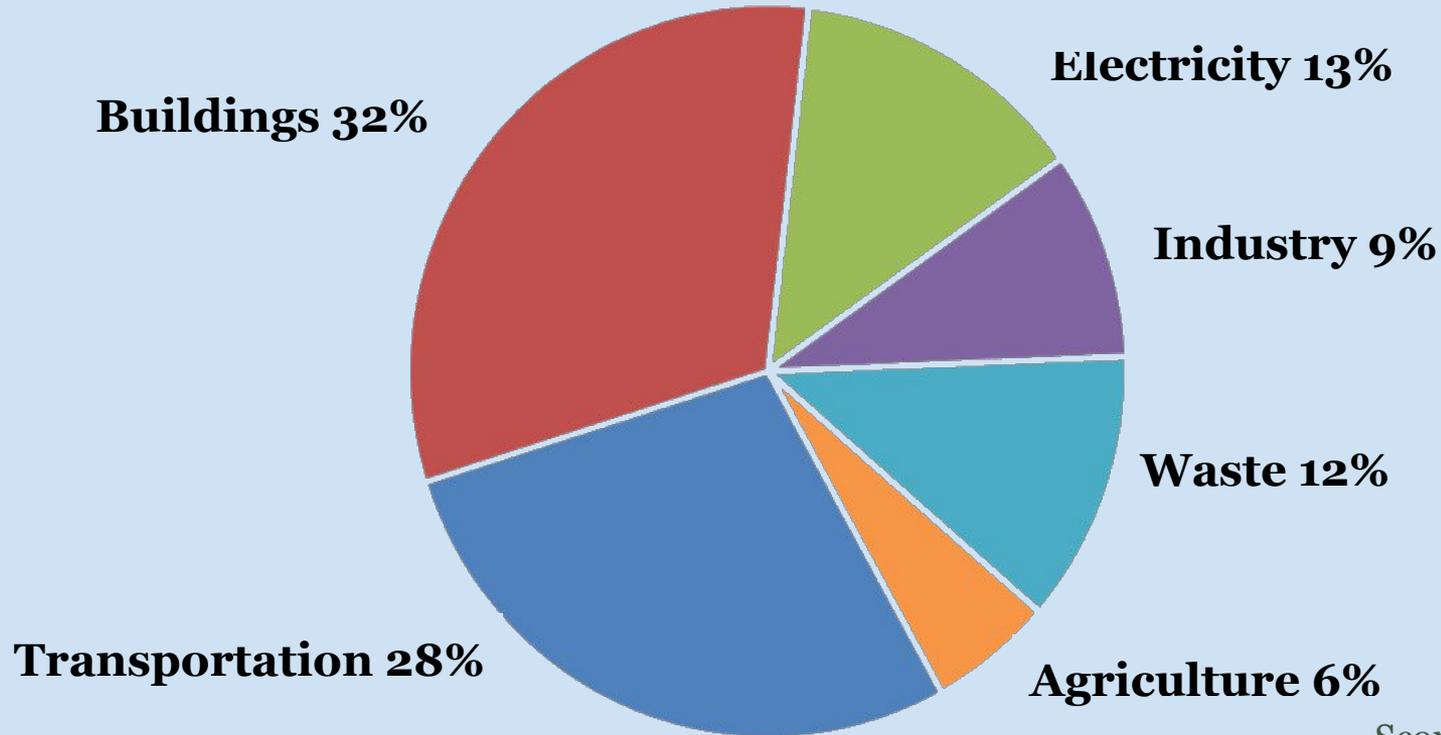
Members: **12** State department/agency heads, and **10** members appointed by Senate (4), Assembly (4), and Governor (2). Appointed members are primarily a mix of environmental and climate justice advocates, industry reps, and scientists.

<https://climate.ny.gov/Our-Climate-Act/Climate-Action-Council>

Advisory Panels & Working Groups to CAC

- **Seven Advisory Panels** with involvement/expertise in: transportation, energy efficiency & housing, power generation, industry, agriculture & forestry, land use & local government, and waste.
- **Climate Justice Working Group:** Representatives from environmental justice communities statewide and from NYS DEC, Health & Labor Depts, NYSERDA. Responsible for defining criteria for Disadvantaged Communities, and reviewing & providing input into Plan recommendations.
- **Just Transition Working Group:** Advises on workforce development and training opportunities and on mitigating impacts on workers and communities in affected industries (e.g., fossil fuels), undertakes related studies & develops recommendations to ensure a just transition.

Where New York's emissions are coming from.... (2019)



Meeting our climate goals with require transformative changes

- Combustion of fossil fuels in buildings for heating and hot water account for most building emissions.
- The Integration Analysis undertaken for the Climate Action Council estimates that New York must electrify **1-2 million homes** with energy-efficient heat pumps **by 2030** to reach emissions reduction targets.
- **By 2050**, most of New York's 6+ million buildings will need to be all-electric, powered by a clean, renewable grid.

Challenges



- Approx. **75%** of NY buildings were constructed before energy codes. Electrification must go hand-in-hand with weatherization and efficiency improvements.
- Many buildings have other problems that need to be fixed first (e.g., leaky roofs, mold issues).
- Affordability of improvements: **48%** of households are low- and moderate-income (LMI). Estimated annual cost of LMI housing improvements: **\$1+ billion**. Current state/utility annual spending level: **\$250 million**.

Benefits of decarbonizing NY's buildings

- Huge public health benefits due to improvements to outdoor & indoor air quality. (**\$50 - \$120 billion in estimated savings between 2020 & 2050 for emissions reductions in all sectors**). (Integration Analysis)
- **Statewide net gain of 140,000 jobs by 2030 related to building improvements, alone.** (Just Transition Working Group, Jobs Study)
- Net costs are small relative to economy's size (**.6%-.7% of GSP in 2030; 1.4% of GSP in 2050**) because much of equipment/durable goods will be replaced at end of useful life & would be replaced anyway before 2050. (Integration Analysis)

Health benefits of energy efficiency improvements for low-income households

Table 5. Health Benefits Included in the Analysis of Residential Energy Efficiency Interventions

Health-Related Measure	Causes for Each Benefit	Low-Income Single Family	Low-Income Multifamily
Reduced thermal stress – heat and cold	Building envelope tightening, appliance replacements	☑	☑
Reduced asthma-related incidents or reduced asthma symptoms	Improved ventilation	☑	*
Reduced trip or fall injuries	Removal of trip hazards, roofing improvements, lighting improvements	☑	☑
Reduced carbon monoxide poisonings	Appliance replacements, carbon monoxide monitors	☑	Not available

* This was studied but no significant difference was detected.

Estimated **\$9 billion** savings in health benefits. **Underestimate:** Does not include health benefits of eliminating gas stoves--a significant source of indoor methane emissions:

Draft Scoping Plan: Key recommendations for building codes & standards



This year: Adopt Advanced building codes & appliance standards, and benchmarking requirements (beginning with multifamily & commercial bldgs over 10,000 sq ft.)

2024: All-electric codes for new construction (residential under 5 stories);

2027: All-electric codes extended to new commercial & remaining residential.

2030: Enact zero-emissions standards for replacement of fossil fuel equipment at end of useful life (most residential).

2035: zero-emissions standards for fossil fuel replacements for large multifamily & commercial); zero emissions standards for end-of-useful-life replacements of **gas appliances (stoves, dryers).**

Scoping Plan: Key recommendations for getting off gas



- **Align Public Service Law & Transportation Corporation Law with Climate Law**, eliminating utilities' obligation to serve gas and supporting the transition to equitable, energy-efficient electrification.
- End utility and NYSERDA marketing of natural gas; ramp up positive marketing & incentives for heat pumps.
- Plan for a managed, equitable transition to clean heating & cooling systems that maintains affordable, safe, and reliable utility service. Urge the Climate Action Council to include in the Scoping Plan the **Gas Transition and Affordability Act (S.8198)** to begin this process & end gas expansion.

No false solutions!



- Affirm efficient electrification as the appropriate pathway to eliminating emissions from buildings, not false solutions like renewable natural gas (RNG) and hydrogen.

The Scoping Plan must also....



- Commit sufficient, dedicated funding to support an affordable, equitable transition for low- and moderate-income households **(\$1 billion/yr)**.
- **Immediately begin to identify workforce development needs and develop a plan to scale up the workforce for building decarbonization.** The Jobs Study of the Just Transition Working Group estimates that meeting New York's climate goals will create 140,000 jobs related to buildings by 2030. Yet unless New York begins now to develop this workforce, trained workers will not exist to fill these jobs.

Speak at a Public Hearing!



In-Person Hearings (4 pm - 7 pm)

April 5	Bronx	April 26	Syracuse
April 6	Brookhaven	April 27	Buffalo
April 12	Binghamton	May 3	Brooklyn
April 14	Albany	May 10	Tupper Lake

Hudson Valley???

Rochester Area???

Virtual Hearings

May 7 (10 am) & May 11 (4 pm)

For hearing addresses and to pre-register, go to:
<https://climate.ny.gov/CAC-Meetings-and-Materials>

Submit written comments!

Written comments can be submitted through the portal on the Climate Action Council website:

<https://nyserda.seamlessdocs.com/f/DraftScopingComments>

Or, comments can be emailed to: scopingplan@nyserda.ny.gov

Go to www.climate.ny.gov to find:

- The Draft Scoping Plan & appendices
- Recordings of all Climate Action Council, Advisory Panel, and Working Group meetings
- Additional studies and reports that informed deliberations.

Change can happen fast! Let's make it the future we want to see!

5th Avenue, Manhattan
1900 vs 1913

*From one lone car
in a sea of horses...*



*...to one lone
horse in a sea
of cars!*