

Climate Leadership: New York State Climate Leadership and Community Protection Act

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<https://climate.ny.gov/>

Climate Leadership and Community Protection Act (CLCPA) – Overview

Carbon neutral economy, mandating at least an 85% reduction in emissions below 1990 levels

40% reduction in emissions by 2030

100% zero-carbon electricity by 2040

70% renewable electricity by 2030

9,000 MW of offshore wind by 2035

6,000 MW of distributed solar by 2025

3,000 MW of energy storage by 2030

185 TBtu on-site energy savings by 2025

Commitments to climate justice and just transition



Process for developing the draft Scoping Plan

By 2022, Climate Action Council to develop draft Scoping Plan to meet emission limits

- > The draft Plan is informed by recommendations of advisory panels, Just Transition Working Group, and Climate Justice Working Group
- > Reflects the consensus recommendations from the advisory panels and JTWG as the strategies to achieve the emissions limits
- > Considers climate justice, job creation, cost reductions, public health benefits, minimizing emission leakage
- > Emissions addressed include upstream emissions associated with fossil fuels from out-of-state
- > Undertakes comprehensive benefit-cost analysis
- > The recommendations formed basis of scenario modeling to show impact of interaction of strategies across sectors
 - 3 scenarios to achieve emissions limits – seeking public feedback on the mix of strategies and level of ambition

Benefiting Disadvantaged Communities

- > CJWG criteria to identify disadvantaged communities
 - 35/40% of benefits of clean energy investments to disadvantaged communities
- > Council to prioritize disadvantaged communities
 - Identify measures to reduce emissions of co-pollutants
 - Consult with Climate Justice Working Group and EJ Advisory Group
- > DEC rulemakings to implement the Council recommendations
 - Ensure no increase in co-pollutant emissions or disproportionate burden on disadvantaged communities
 - Prioritize measures to reduce emissions in disadvantaged communities
- > DEC to implement community air monitoring
 - DEC to establish pilot community air monitoring program in at least 4 disadvantaged communities.
 - DEC to prepare a strategy to reduce emissions in disadvantaged communities

<https://climate.ny.gov/Our-Climate-Act/Disadvantaged-Communities-Criteria>

CLCPA – Section 7

- > All state agencies shall implement strategies to reduce their emissions
- > All state agencies, in considering any action, shall consider whether such action is inconsistent with or will interfere with attainment of GHG emission limits.
 - Where inconsistent, must provide justification and identify alternatives or GHG mitigation measures
- > All state agencies, in considering any action, shall not disproportionately burden disadvantaged communities, and shall prioritize GHG and co-pollutant reductions in disadvantaged communities
- > Commissioner's Policy 49 to guide DEC's implementation

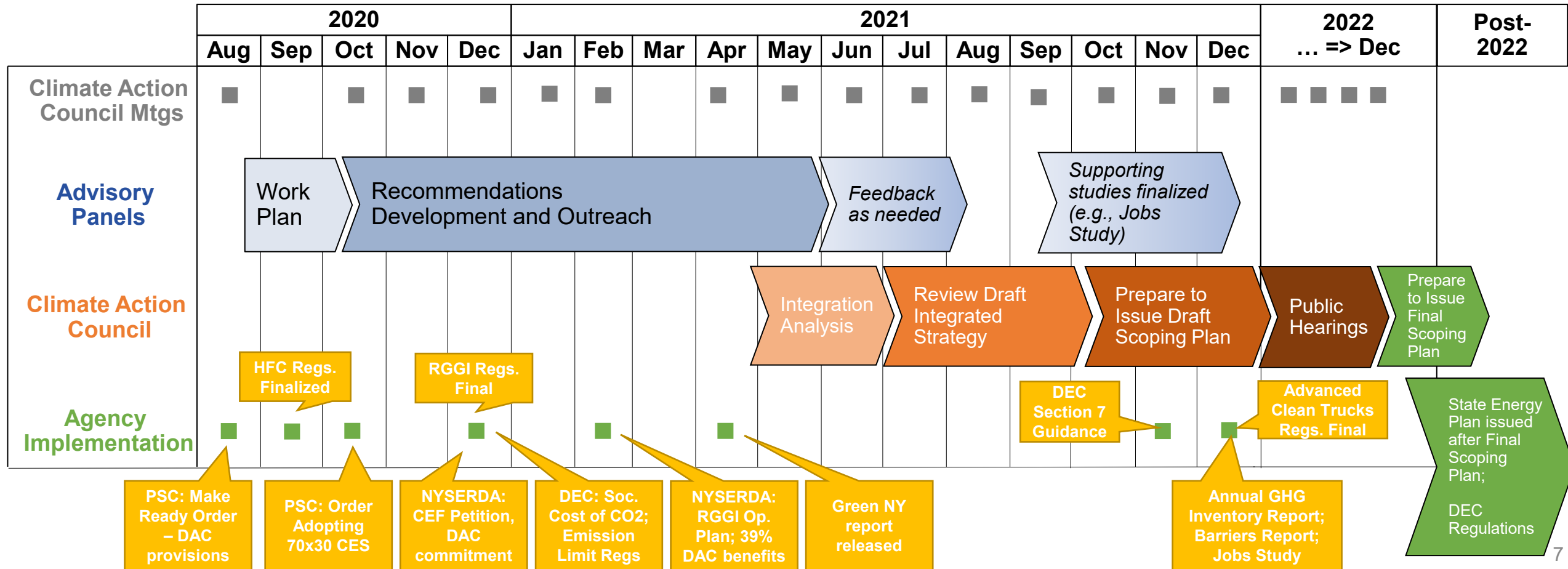
CLCPA – Section 9

> Amends Community Risk and Resiliency Act of 2014

- Requires consideration of all climate-change effects during DEC's review of applications for all UPA major permits
- Expands list of climate hazards that must be considered in these programs from “sea level rise, and/or storm surges and/or flooding” by requiring consideration of “future physical climate risk”
- Authorizes DEC to require mitigation of significant climate risks to any natural resource, public infrastructure or services, disadvantaged communities, or private property not owned by the applicant

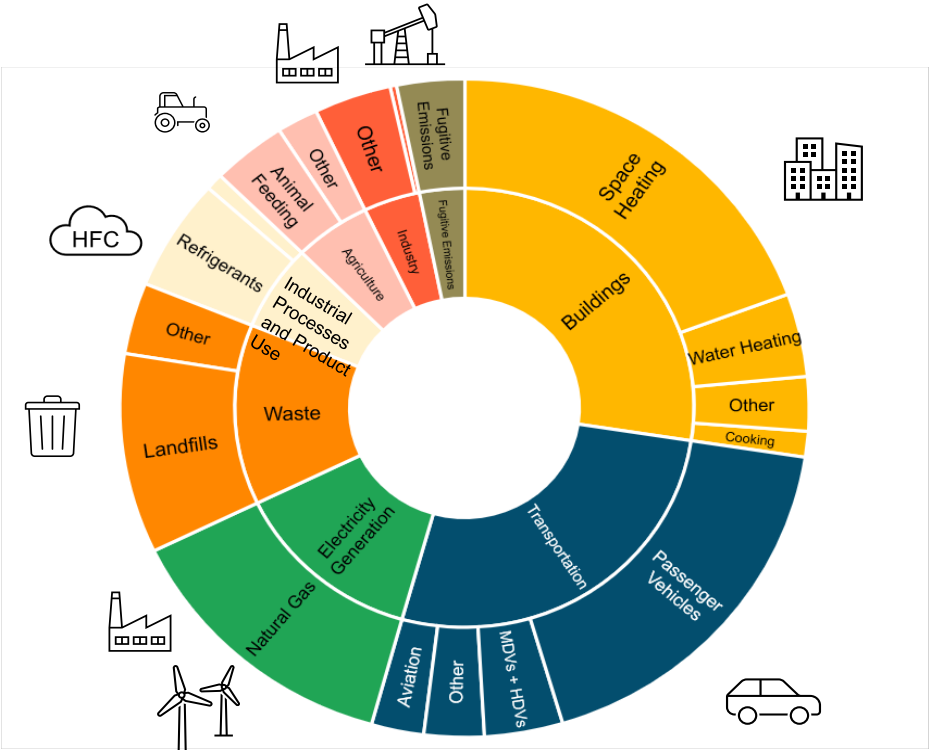
CLCPA: Timeline and Progress (climate.ny.gov)

Implementation of New York's Climate Act is on track and moving forward expeditiously

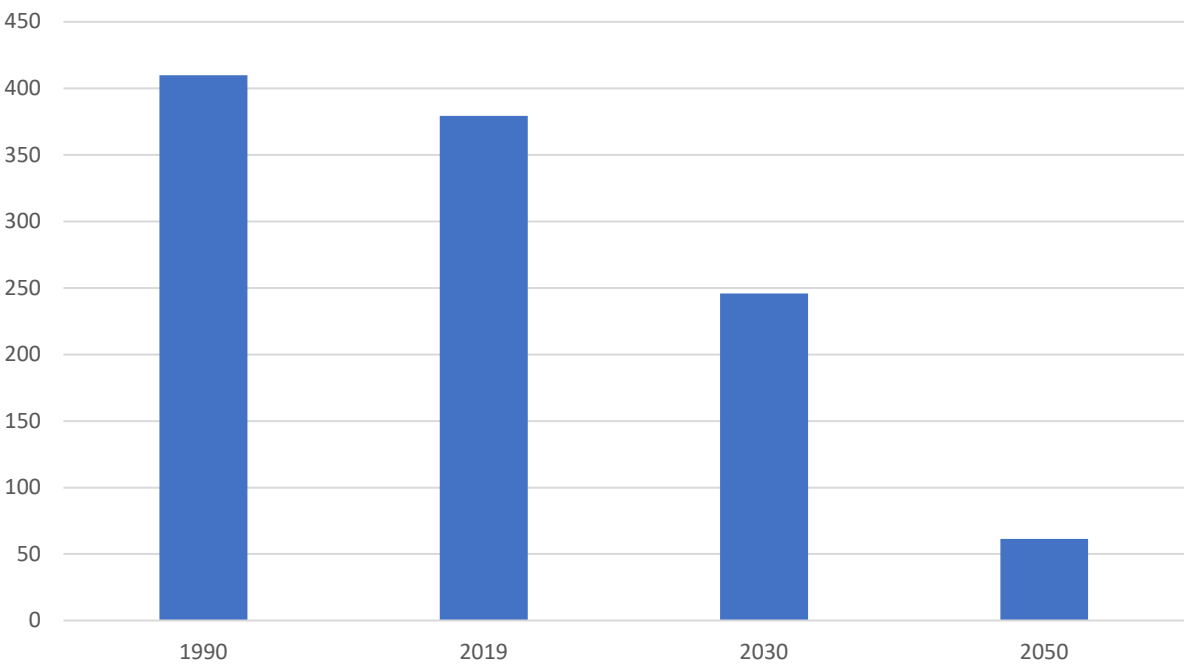


GHG Emissions Reduction Requirements

Current Estimated GHG Emissions by Sector



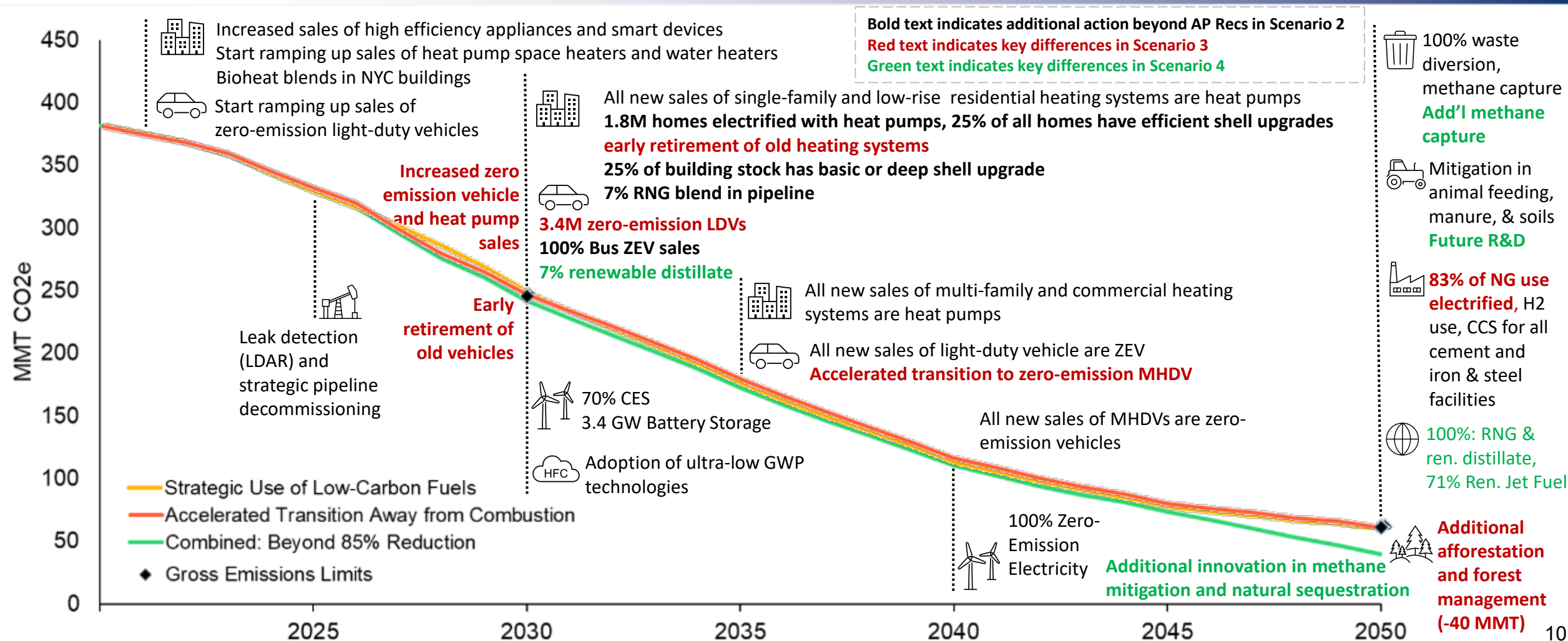
New York State GHG Emissions (MMtCO₂e)



Scenario Overview

- > Scenarios that meet or exceed GHG emission limits, achieve carbon neutrality by midcentury
 - Foundational themes across all mitigation scenarios based on findings from advisory panels and supporting analysis
 - Zero emission power sector by 2040
 - Enhancement and expansion of transit and vehicle miles traveled reduction
 - More rapid and widespread end-use electrification and efficiency
 - Higher methane mitigation in agriculture and waste
 - End-use electric load flexibility reflective of high customer engagement and advanced techs
 - **Scenario 2: Strategic Use of Low-Carbon Fuels**
 - Includes the use of bioenergy derived from biogenic waste, agriculture and forest residues, and limited purpose grown biomass, as well as green hydrogen, for difficult to electrify applications
 - **Scenario 3: Accelerated Transition Away from Combustion**
 - Low-to-no bioenergy and hydrogen combustion; accelerated electrification of buildings and transportation
 - **Scenario 4: Beyond 85% Reduction**
 - Accelerated electrification + limited low-carbon fuels; additional VMT reductions; additional innovation in methane abatement; avoids direct air capture of CO₂

Comparison of the Mitigation Scenarios



Integration Analysis Findings

- > **Achieving deep decarbonization is feasible by mid-century.** Achieving the emission limits **requires action in all sectors**, requiring critical investments in New York's economy.
- > **Energy efficiency and end-use electrification are essential.** Approximately 1 to 2 million efficient homes will need to be electrified with heat pumps by 2030. Approximately 3 million zero-emission vehicles (predominantly battery electric) will need to be sold by 2030.
- > **New York will need to substantially reduce VMT while increasing access to public transportation.** This should include expanding transit services structured around community needs, smart growth inclusive of equitable TOD (E-TOD), and transportation demand management.
- > **Consumer and community decision-making is key, and especially important for the purchase of new passenger vehicles and heating systems for homes and businesses through the next decade.** In all modeled scenarios, zero-emission vehicles and heat pumps will need to become the majority of new purchases by the late 2020s, and fossil fuel-emitting cars and appliances will no longer be sold after 2035.
- > **A transition to low-GWP refrigerants and enhanced refrigerant management will be required** to electrify while reducing and ultimately eliminating GHG emissions from HFC-based refrigerants used in today's heat pumps.

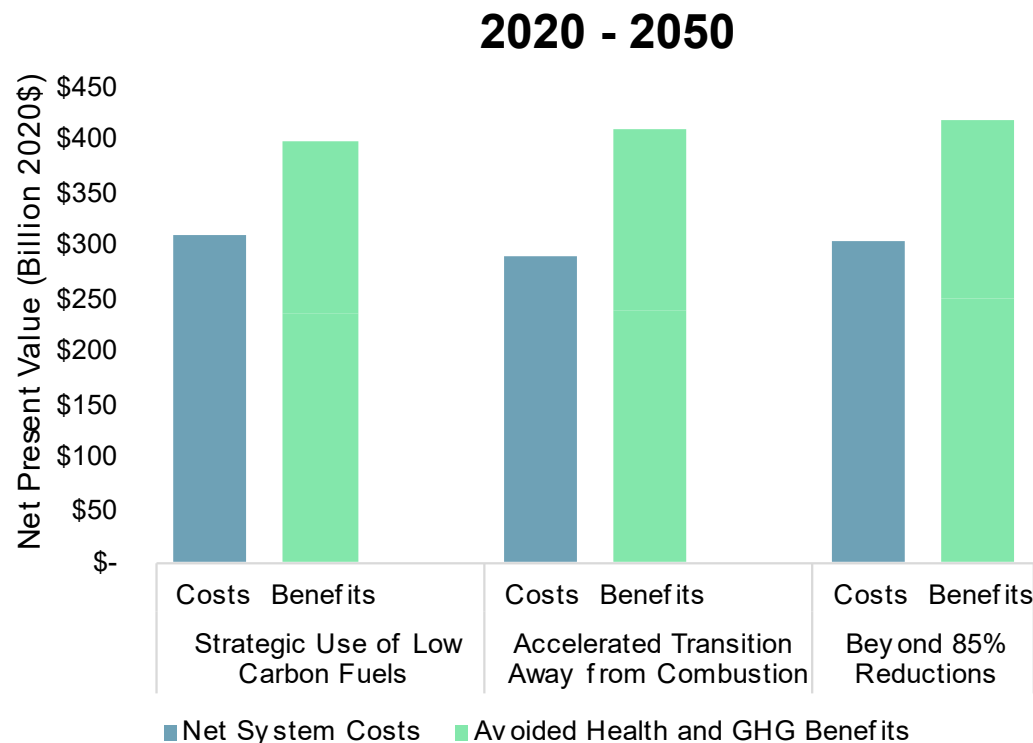
Integration Analysis Findings (cont'd)

- > **Low-carbon fuels such as bioenergy or green hydrogen have a role**
 - **Sectors that are challenging to electrify**, including MHD vehicles and high-temperature industrial, potential application in district heating and non-road transportation such as aviation and rail.
 - **Electricity system reliability beyond 2040**, increased electrification results in electric consumption doubling and peak load nearly doubling by 2050, and New York becomes a winter peaking system by 2035. Firm, zero-emission resources, such as green hydrogen or long-duration storage are needed
- > **Necessary methane emissions mitigation in waste and agriculture will require transformative solutions.** Massive diversion of organic waste from landfills and innovative manure management and animal feeding practices coupled with the capture of fugitive methane emissions
- > **Large-scale carbon sequestration opportunities include lands and forests and negative emissions technologies.** Protecting and growing New York's forests is required for carbon neutrality. Negative emissions technologies (such as the direct air capture of CO₂) may be required if the state cannot exceed 85% direct emissions reductions by 2050. Strategic land-use planning will be essential to balance natural carbon sequestration, agriculture activities, new renewables development, and smart urban planning (smart growth).
- > **Research, development, and demonstration are key.** Additional innovation will be required in areas such as carbon sequestration solutions, long-duration storage, flexible electric loads, low-GWP refrigerants, and animal feeding, in concert with federal action (such as Earthshots).

Key Benefit-Cost Findings [NPV 2020-2050]

Cost of Inaction Exceeds the Cost of Action by more than \$90 billion

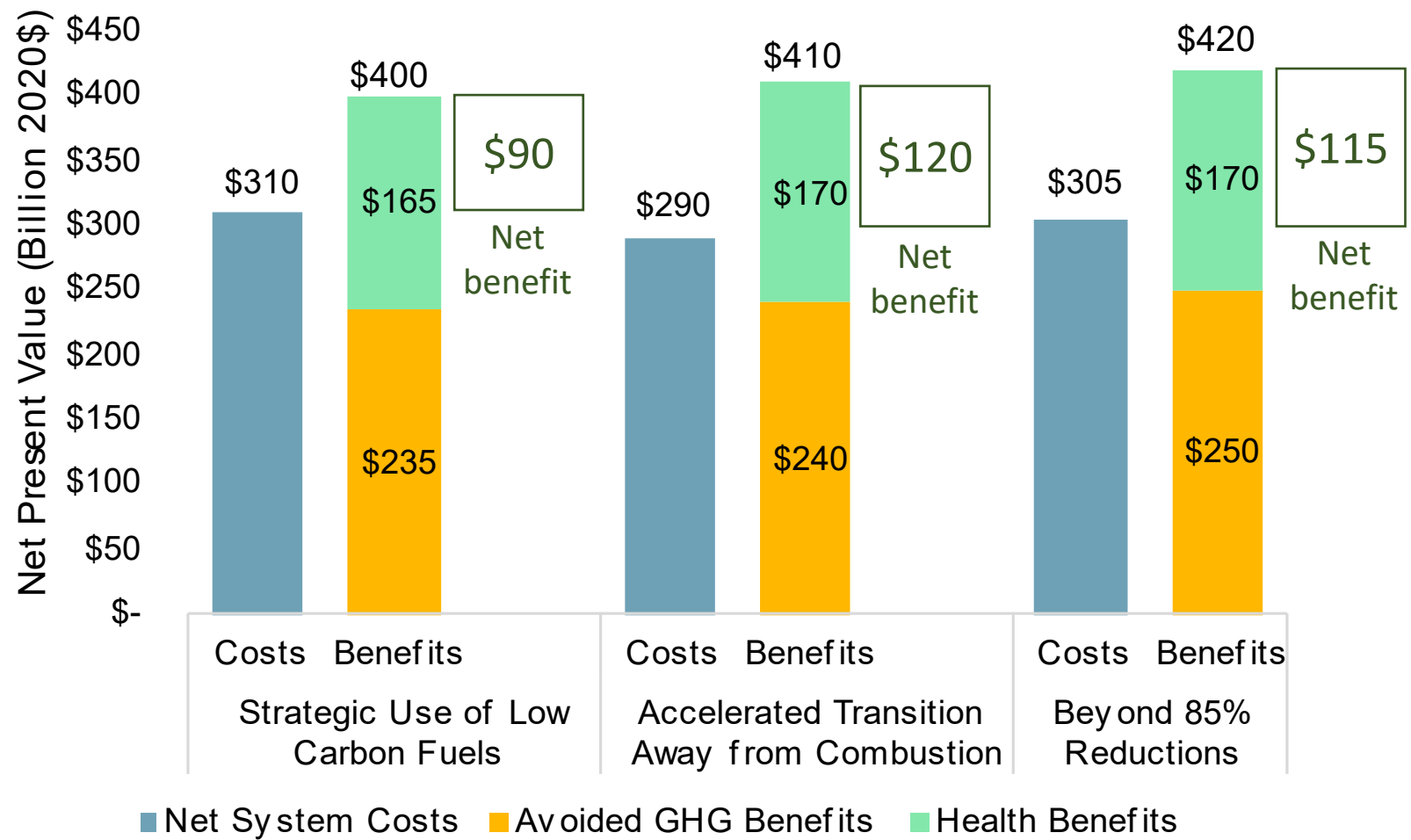
There are significant required investments to achieve Climate Act GHG Emissions Limits, accompanied by even greater external benefits and the opportunity to create hundreds of thousands of jobs



- **Net *benefits* range from \$90-\$120 billion**
- Costs are a small share of **New York's economy**: 0.6-0.7% of GSP in 2030 and 1.4% in 2050
- As a share of current overall **system expenditures**, costs are moderate: 9-11% in 2030 and 25-26% in 2050

Benefit-Cost Assessment

Net Present Value of benefits and costs relative to Reference, including net direct costs, GHG benefits, and health benefits (2020 – 2050)



Mitigation cases show **positive net benefits (\$90-\$120 billion)** when considering the value of avoided greenhouse gas emissions and health co-benefits, in addition to cost savings from reduced fuel use

Wait – There's more !

Land Use/Transportation

Local Government-Clean Energy

Adaptation and Resilience

Wrap-up

Land Use Themes and Strategies

Protection, Restoration and Monitoring of Natural and Working Lands

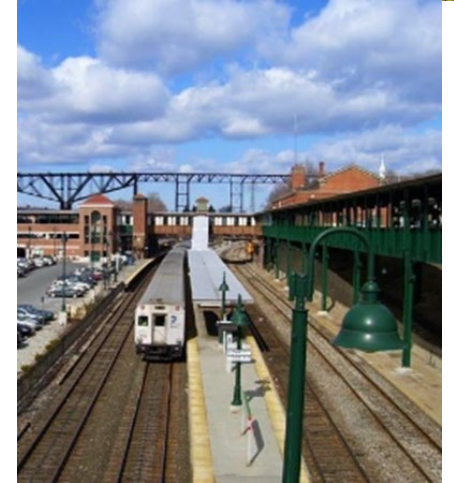
- > Mitigate Carbon Emissions by Protection of Forest Lands
- > Afforestation and Reforestation
- > Avoid Agricultural and Forested Land Conversion
- > Protect and Restore Wetlands
- > Mapping, Research, Planning, and Assistance

Forests and Farmland in Municipal Land Use Policies

- > Guidance and Support for Afforestation and Reforestation to Local Communities
- > Increase Forest and Farmland Protection in Municipal Comprehensive Plans
- > Provide Guidance and Support on Clean Energy Siting to Localities

Smart Growth

- > Regional and County Planning and Technical Assistance
- > Direct Planning, Zoning, and Pre-Development Assistance to Municipalities
- > Align State Funding Priorities
- > Accelerate Transit-Oriented Development



Transportation Themes and Strategies

Transitioning to ZEVs and Equipment

- > Zero emissions light-duty vehicles, trucks, buses, and non-road equipment adoption

Enhancing Public Transportation and Mobility Alternatives

- > Community-Based Service Enhancements
- > Customer Convenience and Service Connectivity
- > Fleet Modernization and Electrification

Smart Growth and Mobility-Oriented Development

- > Mobility-Oriented Development
- > Smart Growth Public Education and Awareness
- > Expanding the Availability of Low-Carbon Active Transportation Alternatives
- > New Technology Integration

Market-Based Solutions and Financing

- > Transportation Sector Market-Based Policies
- > Unlock Private Financing
- > Lower Carbon Renewable Fuels



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Local Government Clean Energy Policies

Clean Energy Community Dashboard

- > Form community GHG working group
- > Support modernization of carbon and methane accounting to facilitate data accessibility

Local Energy Policies

- > Leverage and expand existing municipal support programs
- > Expand regional coordinator network

Clean Energy Siting Support for Local Governments

- > Create model local laws and regulations
- > Promote NYS solar permit adoption

Community Clean Energy Initiatives

- > Encourage adoption of clean technologies
- > Expand development for the clean energy economy

State Support and Guidance

- > Provide technical support for municipal clean energy projects
- > Reduce grid interconnection costs
- > Prioritize methane recovery from landfills and WWTPs
- > Support municipal direct energy purchasing
- > Support municipal fleet and building electrification
- > Encourage municipal energy benchmarking
- > Increase recycling and reduce waste



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Wrap-up

Adaptation and Resilience Themes



- Building Capacity
- Communities and Infrastructure
- Living Systems

Building Capacity

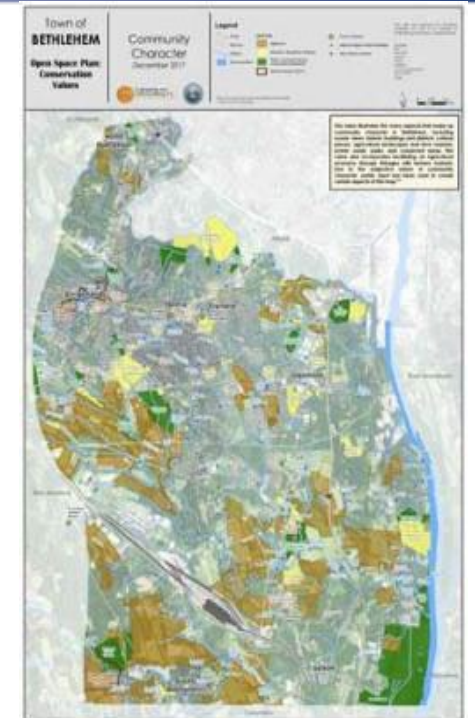
- > Commit to creating, implementing and updating a comprehensive and equitable state climate change adaptation and resilience plan. (AR1)
- > Incorporate equitable adaptation and risk-reduction considerations into relevant state funding and regulatory programs, projects and policies. (AR2)
- > Strengthen meaningful community engagement and public education, and build adaptive capacity across all sectors. (AR3)
- > Identify and evaluate options for supporting equitable adaptation and resilience practices and projects, and to enhance insurance protection. (AR4)



Significant investments in resilient infrastructure will be required to adapt to a changing climate.

Communities and Infrastructure

- > Provide state agency planning and technical support for equitable regional and local adaptation and resilience plans and projects. (AR5)
- > Evaluate opportunities to ensure equitable consideration of future climate conditions in land-use planning and environmental reviews. (AR6)
- > Develop policies, programs, and decision support tools to reduce risks associated with coastal and inland flooding. (AR7)
- > Develop policies and programs to reduce human risks associated with new patterns of thermal extremes. (AR8)
- > Ensure the reliability, resilience and safety of a decarbonized energy system. (AR9)



Local governments can have substantial impact on local resilience and adaptive land use through their comprehensive plans and zoning.

Living Systems

- > Develop policies and programs to reduce risks threatening ecosystems and biodiversity. (AR10)
- > Enhance climate resilience and adaptive capacity of agricultural community, while preparing to take advantage of emerging opportunities. (AR11)
- > Preserve and protect the ability of forest ecosystems to sequester carbon. (AR12)

To keep every cog
and wheel is the
first precaution of
intelligent tinkering.
-Aldo Leopold



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Climate Action Council Draft Scoping Plan

The Draft Scoping Plan scenarios advance several key strategies that are fundamental to achieving the requirements of the CLCPA

- > 40% reduction in emissions by 2030, 85% reduction by 2050, carbon neutral economy
- > Strategies for emissions reductions in Transportation, Buildings, Power Generation, Waste, Agriculture, Forestry, Industry, Land Use, and Local Government, plus Adaptation and Resilience
- > Considers climate justice, job creation, cost reductions, public health benefits, minimizing emission leakage

Read the Draft Scoping Plan [Climate Action Council Draft Scoping Plan \(climate.ny.gov\)](https://climate.ny.gov)

How to comment:

- > Written comment (now through June 10, 2022)
 - Submit through the [Climate Act website](https://climate.ny.gov) (climate.ny.gov)
 - Email to scopingplan@nyserda.ny.gov
- > Public hearings
- > Sign up at climate.ny.gov for updates!

Public Hearings

- April 5, 4:00 Bronx Community College, Bronx
- April 6, 4:00 Brookhaven Town Hall, Brookhaven
- April 12, 4:00 Binghamton University, Binghamton
- April 14, 4:00 Empire State Plaza, Albany
- April 26, 4:00 SUNY-ESF, Syracuse
- April 27, 3:30 Buffalo & Erie County Public Library, Buffalo
- May 3, 4:00 NYC City College of Technology, Brooklyn
- May 7, 10:00 Virtual
- May 10, 4:00 The Wild Center, Tupper Lake
- May 11, 4:00 Virtual

See <https://climate.ny.gov/Council-Meetings-and-Materials> for venue addresses, links to view virtual hearings and to pre-register for public hearings.

Connect with us

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- Climate Action Council: <https://climate.ny.gov/>
- DEC: www.dec.ny.gov
- Community Risk and Resiliency Act: www.dec.ny.gov/energy/102559.html
- Climate Smart Communities: <https://climatesmart.ny.gov/>
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