

New York State Climate Action Council

September 13, 2021
Meeting 14



**Climate Action
Council**

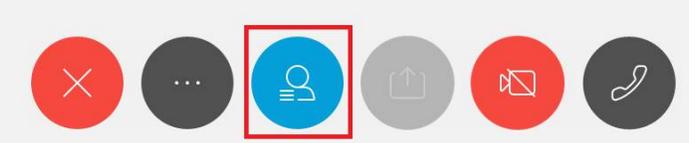
Meeting Procedures

Before beginning, a few reminders to ensure a smooth discussion:

- > CAC Members should be on mute if not speaking.
 - > If using phone for audio, please tap the phone mute button.
 - > If using computer for audio, please click the mute button on the computer screen (1st visual).
- > Video is encouraged for CAC members, in particular when speaking.
- > In the event of a question or comment, please use the hand raise function (2nd visual). You can find the hand raise button by clicking the participant panel button (3rd visual). The co-chairs will call on members individually, at which time please unmute.
- > If technical problems arise, please contact NYS.CAC@cadmusgroup.com.



You'll see  when your microphone is muted



Agenda

- > Welcome and Roll Call
- > Consideration of July 22, 2021 Minutes
- > Co-Chair Remarks and Reflections
- > Presentation and Discussion: Climate Justice Working Group
 - Agriculture & Forestry and Land Use & Local Government Advisory Panel Recommendations Feedback
- > Presentation and Discussion: Integration Analysis Scenario Planning
- > Next Steps

Consideration of July 22, 2021 Minutes

Co-chair Remarks and Reflections

IPCC AR6 2021 Report

Explaining the 2021 IPCC Report

Can We Limit Global Warming to 1.5°C By 2100?



If we take aggressive action today*...

we can limit temperature rise to 1.6°C by mid-century and reduce to 1.4°C by 2100



If we take a high-carbon pathway**...

temperatures could climb to 2.4°C by mid-century and reach 4.4°C by 2100.

The era of rapid, irreversible climate change has arrived; window to act closing, but still open

The imperative for acting on climate has only been strengthened and made more urgent, and New York's climate ambitions must (and will) rise to the occasion

What Actions Are Necessary to Limit Warming to 1.5°C?



Decline global GHG emissions from the 2020s onwards



Reach net-zero GHG emissions by mid-century

Explore the accompanying Interactive Atlas of climate impacts: <https://interactive-atlas.ipcc.ch/>

Hurricanes Fred, Henri and Ida

Heavy rainfall in New York smashed new records and sadly brought death and destruction to many communities – claiming at over 50 lives in the Northeast and causing tens of billions of dollars of damage



Flood damage in Steuben County from Fred



Flooding in Brooklyn from Henri



Pres. Biden joined NYS officials in Queens post-Ida, pushing for action on infrastructure and budget bills.

Recent Announcements

- > [Governor Hochul Announces New Actions to Make New York's Transportation Sector Greener, Reduce Climate-Altering Emissions](#) | Governor Signs Legislation Establishing 2035 Goal for All New Passenger Cars and Trucks Sold in New York to be Zero Emissions; Directs DEC to Release Draft Regulation to Reduce Air Pollution from Trucks, Require Truck Manufacturers to Sell Zero-Emission Trucks
- > [PSC Makes Improvements to Signature \\$6 Billion Clean Energy Fund, With 40% of Benefits Targeted to Disadvantaged Communities](#)
- > [Governor Hochul Announces \\$6 Million for Climate Justice Fellowships Benefitting Disadvantaged Communities and Priority Populations](#) | Funding Will Support 150 Fellowships Over Three Years
- > [Governor Hochul Announces Agreement with New York City Department of Housing Preservation and Development Establishing a \\$24 Million Pilot to Decarbonize Affordable Housing](#) | Pilot Program Investments Expected to Support Upgrades in Approximately 1,200 Living Units of Affordable Housing and Benefit 3,000 Low-to-moderate Income Residents
- > [New York State Announces \\$7.5 Million in Funding Available to Create 600 Energy-Efficient All-Electric Affordable Homes](#) | Clean Energy Initiative Advances New York's Goals of Reducing Greenhouse Gas Emissions and Achieving a Carbon Neutral Economy
- > [New York Announces \\$5 Million for the Just Transition Site Reuse Planning Program](#) | Resources Available to Communities Facing Fossil Fuel Power Plant Closures, Including Disadvantaged Communities

Climate Justice Working Group

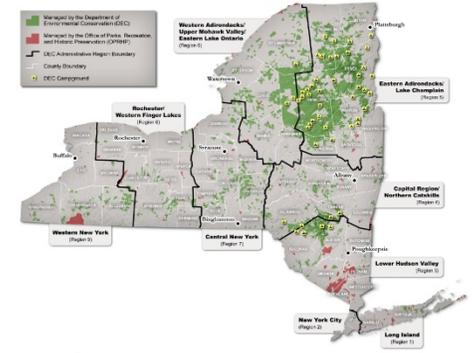
Input to the NYS Climate Action Council on Land Use and Local Government and Agriculture & Forestry Panel Recommendations

September 13, 2021



Climate Action
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Overall Impression of Land Use and Local Government Recs – We support with small room for improvements



Adaption & Resilience

- Creation of State Resilience Officer position should incorporate Just Transitions principles and be a DAC supported appointment
- Provide clarity on the positioning of the Adaptation & Resilience Sub-Cabinet position
- Resilient infrastructure fund needs to prioritize frontline communities
- Pro-actively mitigate adverse impacts in DACS from proposed:
 - Insurance premium surcharges
 - Strategies to address underinsurance
 - Managed retreats and buyouts of properties
- Make online tools that support vulnerability assessments available in multiple languages

Adaptation & Resilience continued...

- Maintain ongoing analysis of health implications of new climate projections on heat increases
- Incorporate air quality into heat warning systems
- Update DOS Costal Management Program to require diesel emission reductions from land and water based vehicles

WATER & ELECTRICITY

- Lower water heater temperature to 120°F degrees.
- Have insulation added to water heater and hot water pipes.
- Use water-conserving showerheads and faucet aerators.
- Replace old light bulbs with compact fluorescent bulbs.
- Invest in Energy Star-qualified appliances.
- Turn off lights and other appliances when not in use.
- If available, use the energy savings settings on your dishwasher and washing machine and consider air-drying your clothes.
- Take a shorter shower.
- Turn down the brightness on your TV and computer monitor.
- Use power strips to power down electronics that are not in use.
- Don't keep your refrigerator or freezer too cold. Set refrigerator to 36-38°F; freezer, 0-5°F.

HEAT

- Lower your thermostat before leaving the house and before going to sleep.
- Add insulation, caulking and weather stripping around doors, windows, attics and other possible heat leaks.
- Ensure floor and wall vents are not blocked by furniture, rugs or other objects.
- Open blinds and drapes during the day to allow in sunlight.
- Buy insulated drapes to keep cold air out at night.
- Check outdoor areas of your heating system for any obstructions.
- Remove air conditioners from windows, or cover to prevent drafts.
- Make sure flue damper is closed on fireplaces not in use.
- Clean your furnace's filter monthly.
- Consider installing energy efficient windows or storm windows.
- Ask your heating fuel provider about payment and price protection plans.
- Request early fuel delivery to avoid emergency or 'off cycle' surcharges.
- Shop around for fuel providers and carefully review contracts and receipts.

AUTO

- Save gas by driving sensibly and observing the speed limit.
- Limit idling and engine warm-up, even on cold mornings.
- Accelerate and decelerate as slowly and steadily as possible.
- Close windows when traveling at highway speeds.
- Ensure your car is running well with regular maintenance.
- Avoid rough roads whenever possible.
- Inflate all tires to maximum pressure.
- Remove excess weight from trunk and inside of car.
- Organize a car pool with friends or co-workers.
- Combine short errands into a single trip.
- Instead of driving, use public transportation if possible.

For more information, visit energystar.gov

- Enhance and leverage the NYS WAP to better protect inhabitants from extreme weather



NYC Thermal Imagery

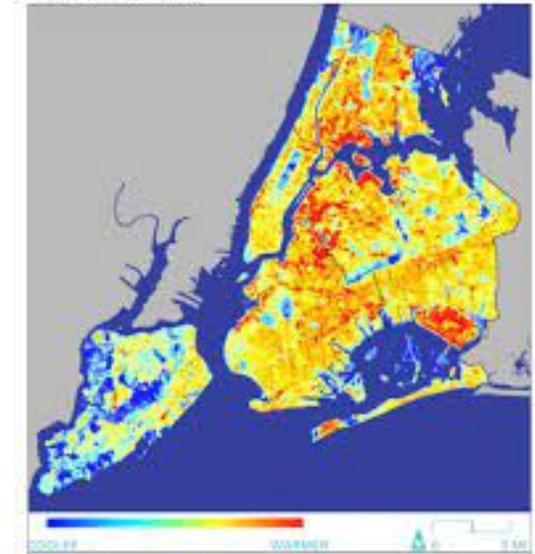


Figure 1: Some NYC communities experience higher temperatures than others. Variation in NYC's densely built environment results in disparate neighborhood-level risks. Source: LANDSAT Thermal Data, 2009



- Directly fund efforts to build and maintain nature based infrastructure and natural areas
- Along with including EV charging as part of resilience plans, add an overall response that prepares communities for evacuation needs, and values solar + storage and V2G benefits

Make 'Smart Growth' truly intelligent and equitable!

- Adopt flexible definition of smart growth to include various mixed used developments
- Acknowledge difference in rural, urban, and suburban areas

- Make concentrated effort to avoid burdening DACs in the prioritization of conservation areas and degrowth of high climate risk and ecologically sensitive areas



- Meaningfully engage communities in the planning and implementation of projects. Consider creating a 'Climate Justice through Community Planning and Action' grant program to fund local capacity building in DACs for project planning and review processes



Smart Growth continued...

- Ensure there is an 'E' before T-O-D to avoid gentrification/displacement!
- Prioritize investments in high density, transit underserved and high pollution burden areas

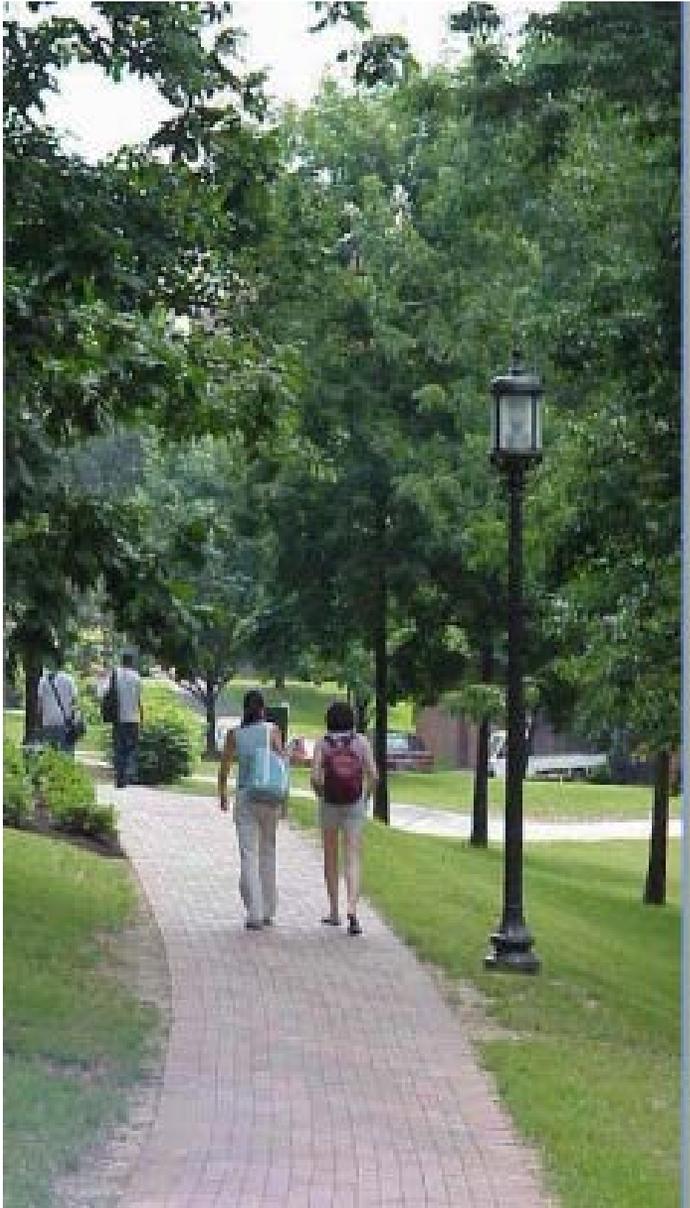


- Promote open spaces and recreation, not just TOD in new commercial/residential development

Let's avoid this! >>>>



- Establish a clear definition of GEIS to ensure it doesn't obliterate municipal land review requirements
- Reform REDCS to include diverse DAC representation
- Adopt explicit land use strategies to reduce GHGs and co-pollutants in DACs



Clean Energy

– *By and large, we support the recommendations in this section. It's important to note that:*

- Technical support to local governments would allow these often understaffed entities to take better advantage of opportunities
- Projects that recover methane from wastewater treatment facilities should be onsite only and not be used to justify pipeline expansion
- Develop a statewide dashboard of community greenhouse gas emissions inventories
- We are enthusiastic about plans to decrease waste and increase recycling and electrify municipal and school district fleet but encourage the State to be thoughtful in how DAC's are defined to qualify for TVIP funds to ensure equitable participation
- NYPA should play a larger role in working with municipalities to support renewables deployment
- On Community Choice Aggregation explicit focus must be on removing barriers to entry and safeguards for households in DACs



Carbon Sequestration through conservation

DAC benefits must be prioritized in investments to restore and protect aquatic habitats, including in the Environmental Bond Act and Environmental Protection Fund, DEC Water Quality Improvement Program and NYS Conservation Partnership



Avoided land conversion is crucial for carbon sequestration, VMT reduction, enhanced farms, and food security

Overall Impression of Ag & Forestry panel recommendations:

Unfortunately, they are insufficient to the task:

- A 30% GHG reduction target is inadequate when the CLCPA requires elimination of all anthropogenic emissions (except from livestock sources)
- Doesn't totally address systemic racism
- Still enables harmful, large scale farm operations
- Relies on false solutions like biogas and biomass
- Maintains use of fracked gas in fertilizers
- Fails to spur robust organic farming
- Too many voluntary incentives and not enough mandatory actions



Take a holistic approach that not only reduces GHGs, but improves crop yields and protects drinking water!

We can do it! Examples:

A recent Genesee Valley of NY study proved the numerous benefits of better soil management and use of strip-till, cover crops, and nutrient management

- Grants offered by the Watershed Agricultural Council and NYC enhance drinking water and climate mitigation and resilience!
- The NYS Legislature just enacted the Soil Health and Climate Resiliency Act (S4722A/A5386A). The CAC must see to it that NYS vigorously implements it!





CAC should incorporate climate justice principles to ensure that:



- BIPOC farmers are able to participate throughout the process including design and implementation
- Policies designed to lower GHGs don't increase - and in fact decrease - the use of harmful toxic pesticides
- Disproportionate barriers for small to mid-size farms and for social disadvantaged farmers aren't created

A 30% net GHG cut from present day levels by 2050 is inadequate. CAC should pursue more ambition and steps like:

- Adopt the climate goals set in the federal Agriculture Resilience Act – which requires cutting GHGs in half from 2010 levels by 2030 and to net zero by 2040
- Reform method of distributing State funds to NY farms to make it equitable, rather than disproportionately benefiting GHG intensive operations like large scale dairy farms



- Make the Transition Just for workers! – Include safeguards to enable equitable workforce training and compensation

- Impose a fee on fertilizers that funds a transition to organic farming. This would meaningfully reduce GHGs and protect precious public waterways and private water wells from runoff

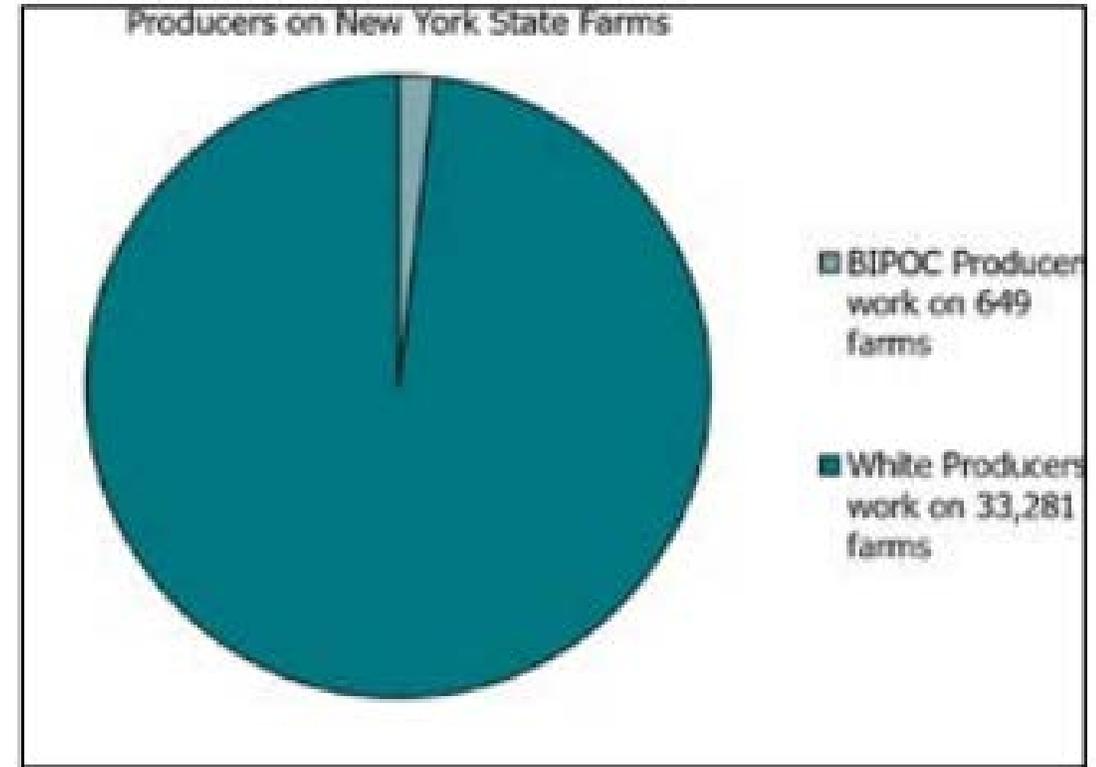
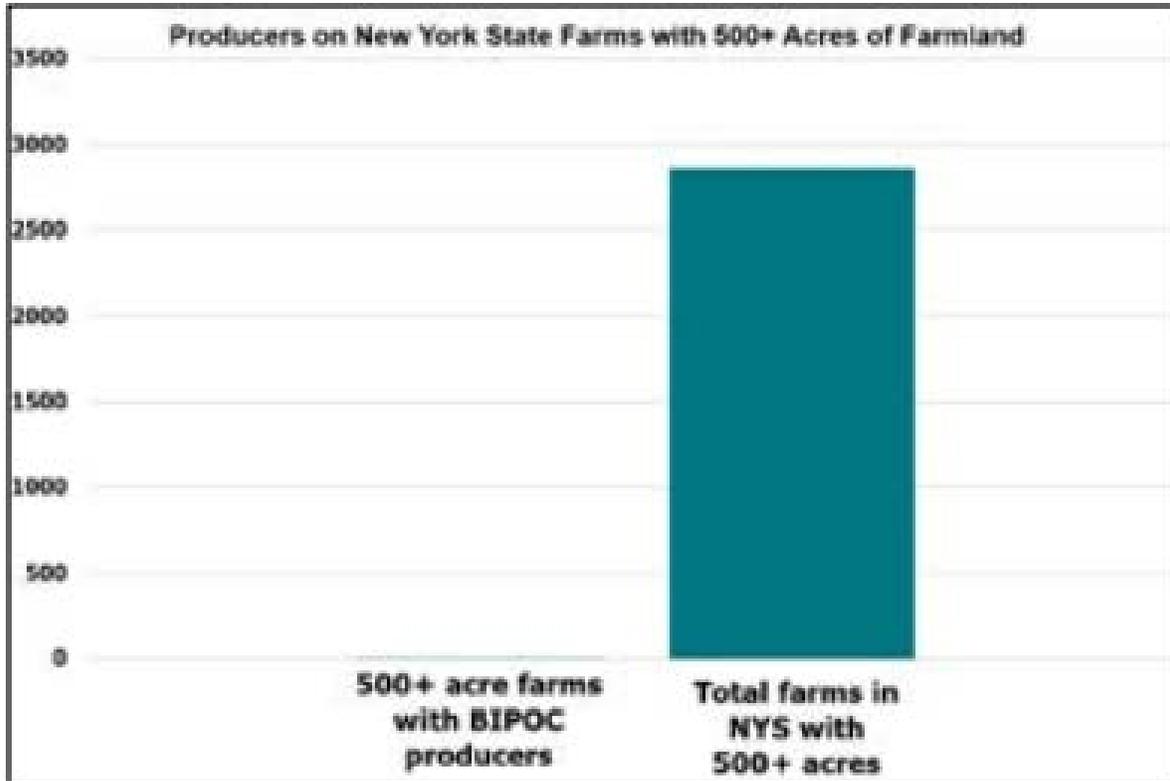
CAC should adopt real and not false farm energy solutions:

- Do not utilize biomass
 - Like biofuels, burning trees isn't a smart solution
- Do not support the installation of biodigesters at CAFO's – these are inherently unsustainable!



- Create a pathway for 100% zero emissions farm vehicles and equipment
- Fund transformative practices upstream of manure storage and towards practices that smaller producers can adopt

Uproot systemic racism in NYS farming!



- Meaningfully involve BIPOC farmers in the creation of incentive programs – consider setting up an Advisory Board that would make recommendations on program design
- Offer incentives in the form of grants instead of loans and eliminate the match requirements for grants

Graph Sources: Diversity and Racial Equity Working Group Report, NYAGM

- Support community gardens and protect them from development
- Provide land to BIPOC farmers and farmer workers that have been historically excluded from farming opportunities

Integration Analysis: Scenario Planning

Integration Analysis Scenario Planning Discussion

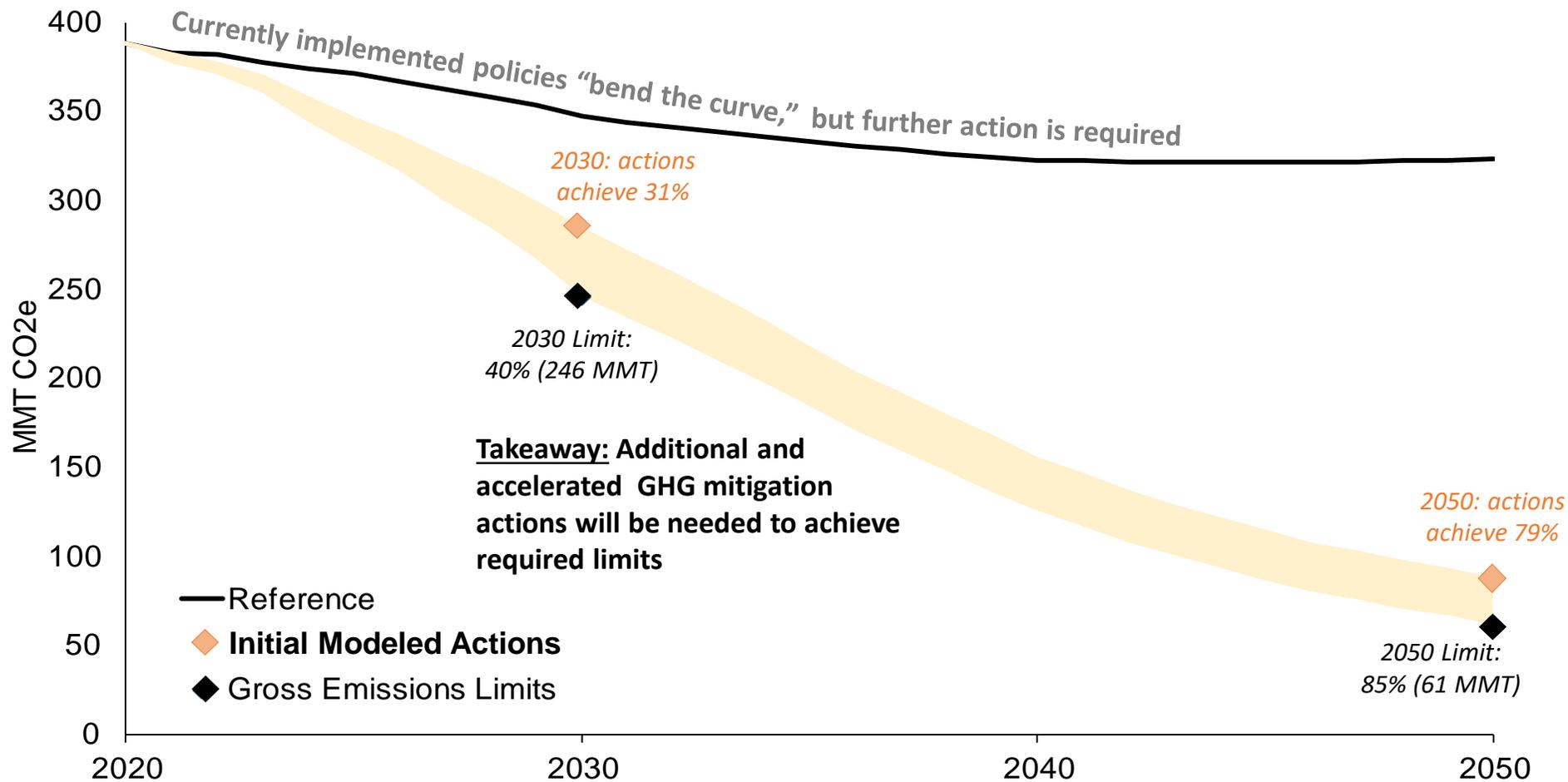
September 13, 2021



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The Required Effort to Achieve the Climate Act

Emissions Reductions Mandates Will Require Transformational Changes



> CLCPA requires:

- 40% emissions reductions by 2030
- 85% emissions reductions by 2050

> Under initial CAC modeling, **emissions decline deeply, but fall short** of these limits – even with ambitious actions included

Summary of Feedback from Climate Action Council

Scenario Design

Sector/Topic	Measures/Policies
Buildings/ Natural Gas System	<p data-bbox="463 491 2321 648">Examine the use of natural gas equipment and the natural gas delivery system as a method of decarbonization, including hybrid heating systems, RNG, and hydrogen, and carbon capture and storage</p> <p data-bbox="463 719 2397 876">Examine a future where bioenergy is not pursued as a method of decarbonization and that excludes hydrogen blending as an option for space heating (given technical limits on hydrogen blending with natural gas and energy losses in producing green hydrogen)</p> <p data-bbox="463 948 2372 1048">Examine cross-cutting solutions and timing for decommissioning the natural gas system during the transition to electrified buildings</p> <p data-bbox="463 1119 2270 1219">Examine end-of-life replacement for residential/small customers equipment, and accelerated retirement for large customers equipment</p>
Other Methane	<p data-bbox="463 1280 2262 1380">Examine various levels for reducing methane leakage from waste facilities, including landfills, sewage treatment plants, and abandoned oil and gas wells.</p>

Scenario Design

Sector/Topic	Measures/Policies
Transportation	<p data-bbox="463 501 1589 546">Examine various levels for reducing vehicle miles travelled</p> <p data-bbox="463 615 2221 661">Expanding public transit to reduce personal miles traveled while electrification is occurring</p>
Power Generation	<p data-bbox="463 748 1123 793">Examine 8+ GW of energy storage</p> <p data-bbox="463 862 2303 965">Conduct sensitivities on the build-out of OSW beyond 9 GW, as discussed in the Zero Emissions Study for 2040.</p> <p data-bbox="463 1033 2354 1136">Consider the advantages/disadvantages of interchange with neighboring RTOs via existing or new ties</p> <p data-bbox="463 1205 1941 1250">Consider a scenario where zero-emissions electricity is met five years earlier</p>

Scenario Design

Sector/Topic	Measures/Policies
Energy System Dynamics	<p data-bbox="479 501 2379 601">Increased focus on demand solutions to meet load, rather than increased supply and transmission upgrades.</p> <p data-bbox="479 672 2244 715">Consider benefits and opportunities offered by micro grids as a distributed energy resource</p> <p data-bbox="479 786 2372 886">Take a holistic look at energy storage, including distributed battery storage and thermal storage in buildings and the energy storage potential of EVs.</p> <p data-bbox="479 958 2448 1058">Examine ground source heat pumps vs. air source heat pumps in terms of energy generation, storage, and grid needs</p> <p data-bbox="479 1129 2023 1172">Consider source of electricity used to produce hydrogen given upstream impact</p>

Scenario Design

Sector/Topic	Measures/Policies
Federal Policies/Other Jurisdictions	Examine carbon reduction measures being pursued by “other states, regions, localities, and nations” Include the proposed Federal Clean Electricity Standard

General Input

- Analyze the impact of carbon pricing on decreasing fossil fuel consumption (both investment impacts and behavioral changes)
 - Different carbon tax levels? Taxing other GHGs
 - Alternatives to carbon pricing (e.g., taxing ICE vehicles)
- Explore distributed energy resource ownership options, including community ownership and utilities
- Plan for distribution system upgrade costs as electric load increases
- Reform building codes and improve energy efficiency standards to expedite electrification and reduce HFC emissions.
- Examine the role of state and local government in advancing climate solutions, for example accelerating electrification of space heating and cooking in public housing
- Elevate economic development as a pathway to achieve CLCPA Goals, while promoting community self-determination, including economic development of preferred sites (brownfields and rust belt neighborhoods)
- Assess resiliency of New York's energy system and economy to the changing climate and adaptation needs/opportunities
- All materials and input used to develop the Integration Analysis Scenarios should be provided to the CAC
- If the CAC has not received the insights and recommendations from Working Groups, Advisory Panels, and complimentary studies, they should be made available to the CAC

Integration Analysis Scenario Planning

Mitigation Scenario Planning

- > Integration Analysis would assess three core mitigation scenarios that achieve GHG limits
 - Common key assumptions across **all** mitigation scenarios
 - Zero emission power sector by 2040
 - Additional transit & vehicle miles traveled reduction
 - More rapid and widespread end-use electrification & efficiency
 - Higher methane mitigation in agriculture and waste
 - End-use electric load flexibility reflective of high customer engagement and advanced techs
- > Sensitivity analysis will examine key variables

Proposed Core Scenarios

- **Strategic use of low-carbon fuels**
- **Accelerated transition away from fuel combustion**
- **Beyond 85% reduction in 2050
(combines elements of other scenarios)**

Sensitivity Analysis

- Range of fuel costs and technology costs to capture uncertainty
- Innovation making new technologies available sooner and at lower cost
- Electric sector sensitivities (land use constraints, technology mix, long-duration storage solutions, and levels of end-use load flexibility)
- Transportation sector sensitivities (reduction in vehicle miles of travel)
- Mix of heat pump system configurations (e.g. air-source, ground source, and district thermal solutions) and flexible load options to test peak impacts
- Range of upstream emissions from natural gas, including higher upper bound

Note: Hydrogen will be assumed to be produced using renewable electricity across all scenarios

Mitigation Scenario Planning (cont'd)

Proposed Core Scenarios

	Strategic use of Low-Carbon Fuels	Accelerated Transition Away from Combustion	Combined: Beyond 85% Reduction
Buildings & Industry	High electrification and widespread efficiency; Mix of elec. heating system configs; Strategic role for RNG and H2 combustion for difficult to electrify applications	Accelerated electrification and widespread efficiency; Greater role for GSHP & district thermal systems; low-to-no RNG and H2 combustion	Accelerated transition + Low-carbon fuels
Transportation	High transit and smart growth; High electrification across vehicle classes, including fuel cell vehicles; Strategic role for biofuels	High transit and smart growth; Accelerated electrification across vehicle classes, including fuel cell vehicles; low-to-no biofuels	Accelerated transition + Low-carbon fuels; explore additional VMT reduction
Waste & Agriculture	High capture of methane; High reuse to deliver energy services	High capture of methane; Low reuse to deliver energy services	High capture of methane; High reuse to deliver energy services

Power Sector Sensitivities

Wind, water, sunlight, demand-side flexibility, and storage provide foundation across all scenarios:

- With and without moratorium on new fossil fuel capacity
- With and without upstate nuclear relicensing
- With and without renewable natural gas combustion
- With and without hydrogen combustion
- Includes “no combustion” scenario with proxy assumption for long-duration, seasonal storage

Note: Hydrogen will be assumed to be produced using renewable electricity across all scenarios

Next Steps

Next Steps

October 2021	<u>CAC meeting: October 1, 10 AM - 1 PM</u> <ul style="list-style-type: none">• Updated Climate Assessment• Integration Analysis presentation and discussion<ul style="list-style-type: none">◦ Initial scenarios results, including emissions reductions with energy transitions and technology evolution assumptions• CJWG input <u>CAC meeting: October 14, 2-5 PM</u> <ul style="list-style-type: none">• Integration Analysis presentation and discussion<ul style="list-style-type: none">◦ Final scenarios results, including full benefits and costs• Draft Scoping Plan walk-through• CJWG input <u>Scoping Plan</u> <ul style="list-style-type: none">• Initial draft Scoping Plan (including draft DAC criteria) provided to CAC members (late-Oct.)
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November 2021	<u>CAC meeting: <i>TBD</i></u> <ul style="list-style-type: none">• Discussion of initial draft Scoping Plan• CJWG input <u>Scoping Plan</u> <ul style="list-style-type: none">• CAC member feedback on initial draft Scoping Plan (~11/17)• Revise draft based on CAC member feedback
December 2021	<u>CAC meeting: <i>TBD</i></u> <ul style="list-style-type: none">• Discussion and action on draft Scoping Plan <u>Scoping Plan</u> <ul style="list-style-type: none">• Revised draft Scoping Plan to CAC members (~12/10)

End