New York State
Climate Action Council

December 15, 2020

Meeting 6

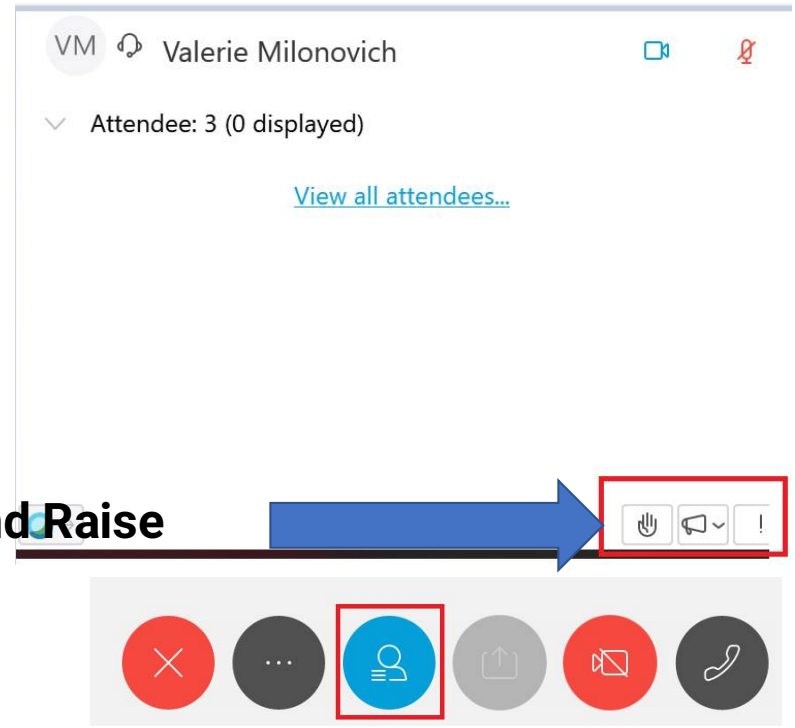
NEW YORK STATE OF OPPORTUNITY. | Climate Action Council

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 Jacob Erickson: Jacob.Erickson@cadmusgroup.com

You'll see when your microphone is muted



Agenda

- Welcome
- General Updates
- Consideration of November 24, 2020 Minutes
- Co-Chair Remarks and Reflections
- Waste Advisory Panel Work Plan
- Advisory Panel and Working Group Chairs Progress Reports
- Climate Justice Working Group Update
- Next Steps

General Updates

Consideration of November 24, 2020 Minutes

Co-Chair Remarks and Reflections

NYS Pension Fund Divests from Fossil Fuels

> Following through on Governor Cuomo's call to adopt a serious and responsible plan to decarbonize its retirement assets, Comptroller DiNapoli announced the commitment to get New York's Common Retirement Fund – comprising over $220 billion in assets – to a net-zero emissions portfolio by 2040 and divest from fossil fuel companies.

- The first U.S. state and the largest pension fund in the nation to remove oil and gas stocks from its financial portfolio
- Will also sell shares in other companies that contribute to climate change by 2040

> The work between the Governor and Comptroller, complemented by an advisory panel of experts, has provided a feasible and actionable decarbonization roadmap to help guide the Fund toward new clean energy and other responsible investment opportunities.

Recent Announcements

NYSERDA Just Transition RFP

- State of the State 2020: Gov. Cuomo directed NYSERDA to deploy $5m to support power plant host communities around site planning and reuse
- Summer 2020: NYSERDA released **Just Transition Request for Information (RFI) for Site Reuse Planning Resources**
- Fall 2020: NYSERDA released **Request for Proposals (RFP) 4563 "Just Transition Technical Assistance and Planning Services"**
  - Consultant funding to perform site reuse studies
  - Funding to develop statewide site reuse toolkit

Deep Decarbonization Workshop

- NYSERDA and DEC event
- 300 attendees
- Technical experts presented on:
  - Carbon Capture, Utilization, & Storage
  - Long Duration Storage
  - Green Hydrogen
  - HFC Replacements
- Environmental Justice Leaders Roundtable

Recent Announcements: Climate Innovation

Locating Orphaned Oil & Gas Wells

- NYSERDA and DEC partnership
- Using drone-mounted detection to locate unmapped sites
- Increase speed and reduce cost in locating and prioritizing for closure
- Expands DEC well plugging efforts
- Reduces methane emissions

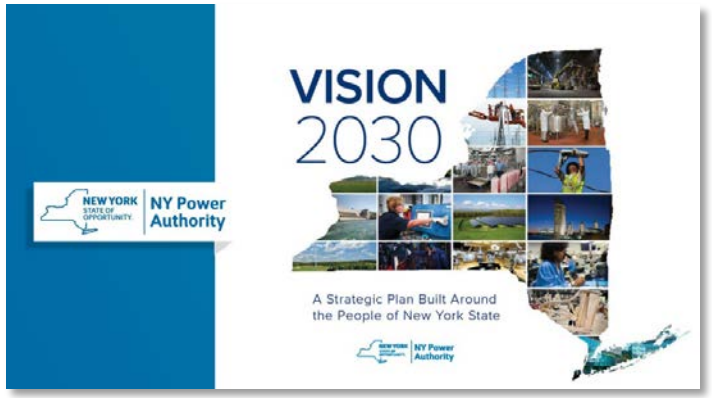
New RGGI Regulations Reduce Cap by 30%

> Governor Cuomo announced the adoption of new regulations by DEC and NYSERDA to strengthen the Regional Greenhouse Gas Initiative (RGGI)

> The regulations advance New York's portion of the 30% regional cap reduction from 2021 to 2030, ensuring that regional emissions are 65% below the 2009 starting cap level by 2030

> Serves to help meet the goals of the CLCPA, including for disadvantaged communities, and the Governor's January 2017 State of the State Challenge

NYPA Approves VISION2030 to Provide Clean Energy Roadmap for Next Decade



- Lead by Example by transitioning Natural Gas Power Plant Fleet and Retail Electric Supply to Carbon-Free Electricity by 2035
- Priorities Include Partnering with Customers to Meet Clean Energy Goals, Pioneering the Path to Decarbonization and Growing Transmission to Connect More Renewables to the State's Power Grid
- Energized Commitment to Fight Against Climate Change and Lead Transformation to Cleaner, More Resilient and Affordable Electric Grid in New York State

LIPA Clean Energy Progress

- Supporting the permitting of the transmission cable for **New York's first offshore wind project**
- Studying transmission reinforcements needed for **9,000 MW of offshore wind**
- **Retiring 68 MW of peaking units** at Glenwood Landing and West Babylon in 2020 and 2021
- **Studying the retirement of 400 to 600 MW** of power plants by 2022
- Signing a power purchase agreement for **23 MW solar project in Calverton**
- Launching Solar Communities to expand **community solar access for low-income residents**

Waste Advisory Panel Work Plan

Waste Emissions

Chair: Martin Brand
Department of Environmental Conservation

Waste Emissions Advisory Panel Work Plan – Scope

Topic	Cross-panel (Y/N)	Relevant Advisory Panels
Maximize efficient recovery and local-scale processing of recyclable materials	Y	Transportation, Climate Justice, Land Use/Local Gov
Reduce burden on low-income communities from large waste handling facilities		
Reduce truck and rail transportation impacts		
Reduce methane and other emissions from landfills and waste management facilities	Y	Ag & Forestry
Reduce quantity of organic waste (biosolids, food waste, paper, etc.) landfilled, optimize operations and process controls to reduce leaks		
Increase waste diversion and reduce disposal	Y	Land Use and Local Gov
Increase and incentivize waste reduction, reuse and recycling programs		

Waste Emissions Advisory Panel Work Plan – Scope

Topic	Cross-panel (Y/N)	Relevant Advisory Panels
Expand Extended Producer Responsibility (EPR) and Product Stewardship Programs	N	
Shift responsibility to product manufacturers		
Transform wastewater treatment plants to water resource recovery facilities	Y	Energy Efficiency
Expand anaerobic digestion and energy efficiency and use onsite and offsite		
Reduce methane and other emission leaks		
Align and expand incentives for energy recovery from waste	Y	Energy/Power Generation
Including digesters, landfills, combustors		
Ensure waste infrastructure exists to serve the needs of communities	N	

Waste Emissions Advisory Panel Work Plan – Timeline

Date	Topics	Other Panels / Groups Engaged
Nov & Dec-2020	Preliminary information compiled for Panel	Ag&Forestry
Nov-2020	Waste Emissions Panel approved by CAC	N/A
Dec-2020	Finalize Workplan and Draft Panel Recommendations	
Jan & Feb-2021	Public Meeting(s)	
Feb-2021	Panel Recommendations	Ag&Forestry, Transportation, Energy Intensive, Justice, Others TBD
Mar-2021	Panel Recommendations	Ag&Forestry, Transportation, Energy Intensive, Justice, Others TBD
Apr-2021	Panel Recommendations	

Waste Emissions Advisory Panel Work Plan – External Engagement

> Collect ongoing input from the public and industry at waste.climate.comments@dec.ny.gov

> Perform outreach to existing in-state industry and government representatives to assess potential for emission reductions.

> Engage experts to present information to the Panel.

> Hold at least one virtual public input session, targeted for January 2020, to gather comments and recommendations for this topic.

Suggested: Waste Advisory Panel

Martin Brand, Chair
Deputy Commissioner: Dept. of Environmental Conservation

Brigitte Vicenty
Founder, Inner City Green Team

Jane Atkinson Gajwani
Director, Energy & Resource Recovery Programs, NYC DEP

Michael Cahill
Partner, Germano & Cahill, P.C.

John W. Casella
Chairman & CEO. Casella Waste Systems

George Bevington
Senior Project Manager, Barton & Loguidice

Steve Changaris
Vice President, Northeast Region. National Waste & Recycling Association

Resa Dimino
Senior Consultant, Resource Recycling Systems

Dan Egan
Executive Director, Feeding New York State

Paul Gilman
VP and Chief Sustainability Officer, Covanta

Dereth Glance
Executive Director, Onondaga County Resource Recovery Agency

Eric Goldstein
Sr. Attorney & NYC Environment Director, Natural Resources Defense Council

Allen Hershkowitz
Chairman & Founding Director, Sport & Sustainability International

Bernadette Kelly
International Representative & Recording Secretary Teamsters Local 210

Tok Michelle Oyewole, PhD
Policy & Comms Organizer: NYC EJA

Lauren Toretta
President, CH4 Biogas

Advisory Panel and Working Group Chairs Progress Reports

- Transportation
- Power Generation
- Energy-Intensive and Trade-Exposed Industries
- Just Transition

Transportation

Chair: Marie Therese Dominguez
Department of Transportation

Transportation Mitigation Strategies, slide 1/4

Scope topic/Subgroup: Transportation Electrification	
Strategy under consideration	• Adopt regulatory approaches and supporting policies to increase the sale of M/HD ZEVs to 30% by 2030 and the sale of LD ZEVs to 100% by 2035, and require greater use of ZEV non-road vehicles.
Rationale	• Zero emission vehicles (ZEVs) are rapidly becoming commercially available in many subsectors, offer low lifecycle GHG emissions and zero or low emissions of local pollutants; • NYS can accelerate this transition to ZEVs through regulatory actions, market-based policies, and supporting activities including incentives, public-private partnerships, and private financing; • ZEVs save consumers and businesses money otherwise spent on fuels and maintenance.
Equity considerations	• Prioritize M/HD ZEVs in locations impacting overburdened communities (e.g., ports, heavy traffic areas) through strategies such as green zones – these are the largest sources of local air pollution in the transportation sector; • Focus on making clean transportation available to all, including low-income and rural New Yorkers, through measures such as enhanced incentives, targeted infrastructure investment; • Avoid transferring pollution from vehicles to peaking power plants located in disadvantaged communities.
Potential Implementation challenges	• The policy levers for this strategy are well established but many require additional resources and financing tools; • Initial purchase costs of vehicles (esp. M/HD ZEVs) and charging stations, including electric grid upgrades, remain high; • Policies and programs need to encourage replacement of existing vehicles, open up EV market to more companies; • Ecosystem improvements require local regulations, workforce training, improving consumer awareness.
Issues to explore	• Suitability of mandates like CA Advanced Clean Trucks, 100% ZEV sales targets, state procurement of non-road vehicles; • Ways to reduce the cost of EVs through incentives or feebates, used EV rebates, scrappage programs; • Ways to accelerate charging station installations and bring down their cost; • Electric tariff changes that encourage off-peak charging, address demand charges, and make EVs more affordable to operate; • Revenue and financing options, opportunities to create broader economic ecosystem around EVs.
Additional thoughts	• Need for engagement with Power Generation Advisory Panel, Climate Justice WG, Just Transition WG. • Evaluate market-based mechanisms to reduce carbon emissions and provide longer-term funding for implementation of strategies. • Evaluate various financing strategies, including Green Bank and other tools to leverage private investment

Transportation Mitigation Strategies, slide 2/4

Scope topic/Subgroup: Clean Fuels	
Strategy under consideration	Adopt a market-based approach and supporting policies to increase the availability and affordability of clean transportation fuels (renewable biofuels, green hydrogen, electricity) in NYS.
Rationale	• Pathways identifies role for diesel substitutes in decarbonizing transportation; • Some hard-to-electrify uses may be decarbonized with low-carbon fuels (e.g. aviation, long-distance trucking); • Potential interim role in other uses as we move towards electrification (e.g. medium/heavy duty trucking).
Equity considerations	• Importance of reducing co-pollutants in overburdened areas, particularly w/r/t diesel truck and bus pollution; • Siting of renewable/clean fuel production, storage and refueling facilities; • Avoid policies and activities that expand fossil fuel infrastructure.
Potential Implementation challenges	• Low Carbon Fuel Standard (LCFS) is a complex regulatory program requiring substantial development; opportunity to partner with other states; potential impact on fuel prices.
Issues to explore	• Availability of various biofuels; best uses for limited availability (with other panels); • Other policy mechanisms to support clean fuels production and deployment; • Interaction with other policies, e.g. LCFS can support electrification • GHG accounting, including accounting for out-of-state life cycle emissions, including land use impacts.
Additional thoughts	• Consider CLCPA statutory constraints; • Coordinate with Agriculture, Waste Panels and CJWG.

Transportation Mitigation Strategies, slide 3/4

Scope topic/Subgroup: Public Transportation	
Strategy under consideration	• Identify policies and programs that would double the availability/accessibility of upstate and downstate suburban public transportation services statewide by 2035; • Identify policies and programs to support system reliability/network expansion projects identified by MTA in their twenty-year needs study.
Rationale	• Transportation generates approximately 40 percent of all greenhouse gases, primarily single-occupant light/heavy-duty vehicles; • Unparalleled State support for public transportation directly attributable to New York using the least energy per capita for transportation purposes than any state in the nation; • Results in net reduction of more than 17 million metric tons of carbon annually; • High-frequency/high quality public transportation services provide options to single-occupant vehicles and benefits users/non-users.
Equity considerations	• Ensuring affordability of passenger fares/expanding transportation availability/options in rural/underserved communities; • Integrating safe/accessible pedestrian/bicycle infrastructure in un-served/underserved areas; • Reducing carbon emissions in overburdened areas; • Implementing complementary zero-emission public transportation rollingstock/supportive infrastructure/land use considerations.
Potential Implementation challenges	• Funding and finance strategies to sustain/enhance public transportation services; • COVID-19 revenue loss replenishment needs; • Technological impacts on existing workforce/workforce training and development; • Existing federal rules constrain planning for projects to those activities that are fiscally constrained, conflicts with ambition.
Issues to explore	• Exploring Tax Increment Financing and other revenue strategies to support increased public transportation; • Transitioning performance measures for traditional transportation investments from Level of Service to reduced Vehicle Miles Traveled, Equity, Greenhouse Gas Emissions avoided, health, other. • Incentivizing transit supportive land use/development policies; • Strategies for addressing Last-mile/transit desert connectivity; • Deploying technology that makes transit easier to use.
Additional thoughts	• Requires strong coordination with Land Use and Local Government and Energy Efficiency and Housing Advisory Panels; and Just Transition Working Group. • Evaluate market-based mechanisms to reduce carbon emissions and provide longer-term funding for implementation of strategies.

Transportation Mitigation Strategies, slide 4/4

Scope topic/Subgroup: Smart Growth and Transportation System Efficiency	
Strategy under consideration	• Transportation-Oriented Development—Align roadway, residential and commercial development to be proximate and accessible to public transportation and consider holistic GHG emissions in smart growth developments; • Low- and Zero-Carbon Transportation Modes—Expand access to low- or zero-carbon transportation modes (biking, walking, carpooling) for first mile/last mile connections to transit and destinations.
Rationale	• Expansion of transit is ideal opportunity to align development and low- or zero-carbon transportation options; • Well-considered development and provision of appropriate transportation options leads to land use/transportation location efficiencies that support efficient VMT and reduce transportation-based and other greenhouse gas emissions.
Equity considerations	• Overcome the spatial mismatch between housing and jobs for LMI households, which traditionally spend more time and percentage of income on commuting; • Ensure affordable housing in and around transportation-oriented developments; • Provide low- or zero-carbon transportation modes that are accessible and affordable for LMI households; • Support land uses that account for freight without creating areas with poor air quality.
Potential Implementation challenges	• Greater level of inter-governmental land use/transportation coordination, private sector engagement, and local buy-in (through land use planning and zoning), particularly for more compact, mixed-use, mixed-income development; • Incentives and technical support will likely be needed to achieve local buy-in; • Financial support may be needed to roll out new transportation options in smaller cities and towns.
Issues to explore	• Mechanisms and opportunities for delivering land use/transportation coordination on this level, mechanisms for delivering new transportation modes in diverse settings; • Ways to designate local/county/regional priority growth areas that are aligned with public transportation investments; • Ways to support projects that improve safety and ease of use of low- or zero-carbon transportation modes; • Changes to SEQRA process to remove barriers to transportation-oriented development while maintaining community input.
Additional thoughts	• Collaborate with Land Use and Transportation Advisory Panel to ensure adequate local land use support.

Power Generation

Chair: John Rhodes
Public Service Commission

Power Generation Advisory Panel Mitigation Strategies - Overview

- Equity Subgroup
  - Community Impact – Develop recommendations to identify and proactively address community impacts relating to health concerns, access to renewables and energy efficiency, and siting
  - Access and Affordability for all (Enabling) – Develop recommendations to ensure New Yorkers have access and can afford to participate meaningfully in NYS's clean energy future
  - Workforce Development (Enabling) – Develop recommendations to enable an equitable clean energy workforce
- Barriers Subgroup
  - Clean Energy Siting
  - Energy Delivery & Hosting Capacity
- Solutions for the Future Subgroup
  - Technology and Research Needs
  - Market Solutions – Maximize the market participation of different technologies in a way that adds to system efficiency & send correct price signals to resources over time
- Resource Mix Subgroup
  - Growth of renewable generation and Energy Efficiency
  - Effectively Transitioning away from Fossil Fuel Energy Generation
  - Deploying Energy Storage and Distributed Energy Resources (DERs)

Power Generation Mitigation Strategies, slide 1/10

Scope topic/Subgroup: Equity Subgroup	
Strategy under consideration	Community Impact – Develop recommendations to identify and proactively advance opportunities to address health disparities associated with hosting pollution sources, new renewable energy, access to energy efficiency, and siting
Rationale	Each region of NYS has specific community impacts and concerns that should be considered and addressed in relation to the future of power generation under the CLCPA
Equity considerations	• Reduce disproportionate impacts in overburdened communities (e.g. the operation of high emission power generation facilities result in significant health concerns for neighboring communities) • Consider means for increasing access to energy efficiency, solar, and community distributed generation projects to specifically assist disadvantaged communities • The siting of renewable projects and their potential impact on local communities both in the short and long term, particularly in rural areas • The impacts on communities (e.g. jobs, revenues, etc.) where energy facilities are being retired
Potential Implementation challenges	• NYS should prioritize replacing high emissions power generation in disadvantaged communities • NYS will swiftly need to increase access to energy efficiency & solar and community distributed generation projects to disadvantaged communities by 2030 • NYS will need to encourage the development of large scale renewables downstate, large scale renewables directly connected to downstate, distributed generation, and energy storage • Some community members may have questions/concerns when it comes to the siting of local renewable projects and the potential impacts of these projects • How to assist communities where energy facilities will be retired • Stronger valuing of renewables from community owned/lead projects in the VDER value stack
Issues to explore	• What types of clean power generations technologies (e.g., wind, roof-top solar, tidal, etc.) can enhance the generation mix to meet peak demands • How developing/strengthening partnerships with community organizations and affordable housing providers to develop local solutions can lead to the equitable access of solar energy • How continued efforts to communicate with members of local communities for siting of local renewables and development of best practices with those communities can help with siting issues • Consider the wide range of aspects involving impacts to communities where energy facilities will be retired and how NYS can assist with the transition through economic support, job training/jobs and more • Providing financial support to the pairing of Community Distributed Generation with energy efficiency, electrification and DR interventions

Power Generation Mitigation Strategies, slide 2/10

Scope topic/Subgroup: Equity Subgroup	
Strategy under consideration	Access and Affordability for all (Enabling) – Develop recommendations to ensure New Yorkers have access and can afford to participate meaningfully in NYS's clean energy future
Rationale	Equity includes access to affordable solutions, good paying jobs, and alleviating the disproportionate burden on communities. A majority of low and moderate-income residents, as well as small businesses, have a high energy burden and are already experiencing difficulties paying their bills.
Equity considerations	NYS must invest in residential energy efficiency and clean energy solutions in a manner that benefits disadvantaged communities, which includes low-moderate income individuals, while also considering support for small businesses.
Potential Implementation challenges	• Costs including upfront/future costs – How can such costs be subsidized to not overburden low-moderate income residents/small businesses • Lack of options for renters/subsidized housing (including NYCHA) • Difficulty spreading information regarding existing programs to the community • Lack of flexibility in utility billing increases customer confusion (e.g. flexibility in billing systems, consolidated billing, etc.) • Additional rates for electric heating and cooking only • Limited availability of the Solar for All program • Federal Action – Loss on Investment Tax Credits for renewable energy development and tariffs on solar • Predatory ESCOs • Expand state funding/incentives for LMI energy efficiency and clean distributed generation • Need solutions to reduce cost burdens to rate payers for improvements to the transmission grid & rate designs for behind the meter electric generational projects
Issues to explore	• Identifying short/long terms costs so that there is a plan to reduce cost to low-moderate income renters/homeowners/affordable housing providers/small businesses • Evaluating existing incentives, low-income programs, and more to ensure they can adequately assist low-moderate income residents/small businesses with increased costs • Can alternative rate design be used to help control increased costs on NYS's most vulnerable • How to help renters • How to strengthen community outreach/education efforts regarding new/existing programs • Providing financial support to the pairing of Community Distributed Generation with energy efficiency, electrification and DR interventions • Increased financing options for energy efficiency, renewable energy, and distributed generation • How to equitably distribute the cost of transmission system upgrades
Additional thoughts	• Low income customers should not bear the brunt of the burden for stranded assets • Explore how the state has handled previous accelerated depreciation events (e.g. Rochester thermal system 1984) • Explore how warranty of habitability laws can be leveraged to ensure the equitable provision of utilities it the future

Power Generation Mitigation Strategies, slide 3/10

Scope topic/Subgroup: Equity Subgroup	
Strategy under consideration	Workforce Development (Enabling) – Develop recommendations to enable an equitable clean energy workforce
Rationale	NYS should increase opportunities for members of disadvantaged communities to economically benefit from future investments in clean energy and supporting infrastructure
Equity considerations	Disadvantaged communities suffer disproportionately adverse environmental, economic, educational and health realities when compared to other communities. Investments in workforce development will need to be aggressive and targeted, and likely for longer periods of time than what is afforded through existing models (possibly throughout an individual's career), and ensure that jobs created result in meaningful, long duration careers, rather than short term job opportunities.
Potential Implementation challenges	• Pre-apprenticeship programs and apprenticeship programs • Given long term goals of NYS, workforce development may need to begin before H.S. to ensure a sizable flow of candidate for positions as they become available • Address environmental injustices which led to inequitable and disproportionately exposure to airborn toxics resulting in school absenteeism • Coordination and development with existing programs (e.g. Green City Force, Sustainable South Bronx, WeACt, etc.) • Working with state and communities to ensure these jobs are NY jobs • NYS should support and incentivize renewable supply chain and infrastructure projects in environmental justice communities
Issues to explore	• How to increase diversity in all aspects of the industry • How to increase awareness of the growing industry and need for workforce • How the equity subgroup can coordinate with the Just Transition working group • How will these efforts increase support from communities and how can these efforts be tailored to community needs in order to reduce the potential for further amplifying the inequities already present
Additional thoughts	• As the demand for jobs in renewable energy sector grows, it is important to remember that the wages and benefits are just as important as the job itself • NYS should continue to include prevailing wage in large scale renewables RFPs • Some clean energy jobs (offshore wind steelworkers, building energy management workers, etc.) are more likely to be union jobs than others

Power Generation Mitigation Strategies, slide 4/10

Scope topic/Subgroup: Barriers Subgroup	
Strategy under consideration	Clean Energy Siting
Rationale	• There will need to be rapid deployment of renewables to meet the CLCPA goals • Optimizing the locations of these projects and the regulatory process will be necessary to meet the timeline and ensure an effective and efficient transition of the grid
Equity considerations	• Ensuring benefits from renewables are accessible by all, in both rural and urban environments • Developing principles of justice for requiring renewable developers to provide benefits to communities, particularly disadvantaged communities • Investing community benefits funds in ways that would improve the economic, social, and environmental of the surrounding area
Potential Implementation challenges	• Current NYS statutes that inhibit renewable energy deployment • Aging transmission infrastructure • Collocating storage with renewable energy sources • Renewable energy siting and energy delivery planning processes are not coordinated • Providing incentives for decision makers to embrace the siting of well-designed renewable projects
Issues to explore	• Optimizing new transmission builds • Collocated storage with renewable energy projects • Correctly designing clear and transparent price signals for both energy and interconnection costs • Provide standardized property tax assessments for renewable projects • Encouraging more robust host community and PILOT plans to increase benefits for community members • Explore reducing timeframe and restrictions for siting on brownfields and unused industrial land • Siting projects closer to end user areas • How to properly track progress and make course corrections as process progresses
Additional thoughts	

Power Generation Mitigation Strategies, slide 5/10

Scope topic/Subgroup: Barriers Subgroup	
Strategy under consideration	Energy Delivery & Hosting Capacity
Rationale	Renewable energy must be reliably delivered to the load. How can NYS increase the hosting capacity and ease interconnections for renewable energy and distributed energy resources? Without transmission and distribution level upgrades there will be significant renewable energy curtailments compromising achievement of the CLCPA goals.
Equity considerations	• Developing principles of justice for requiring transmission and energy storage developers to provide benefits to impacted communities, particularly in disadvantaged communities • Reduce cost burdens for improvements to the transmission and distribution grid, particularly in disadvantaged communities
Potential Implementation challenges	• Regulatory processes that increase the time needed or cost for transmission development and interconnection, or that decrease the effectiveness and coordination of transmission projects • Encouraging stakeholder involvement in the transmission planning process • Coordination amongst OSW developers for cohesive transmission development • Renewable generation pockets leading to curtailments occur today and are likely to further develop unless the build out of renewables is well coordinated with a focus on energy deliverability
Issues to explore	• Upgrading aging infrastructure and optimizing the location and operation of new transmission projects, including transmission of OSW, and removing regulatory barriers that make optimization difficult • Upgrading the transmission system to be able to host more distributed energy resources • Easing interconnections on both the bulk and distribution levels • Energy delivery extends beyond transmission to include storage, especially as the saturation of intermittent resources increases • How should the economic tradeoff between new transmission, energy curtailment, and energy storage be considered • How to properly track progress and make course corrections as needed
Additional thoughts	• Is the current cost allocation for interconnection, where the burden is on the energy developers, the best model?

Power Generation Mitigation Strategies, slide 6/10

Scope topic/Subgroup: Solutions for the Future Subgroup	
Strategy under consideration	Technology and Research Needs
Rationale	• A variety of energy technologies will be needed to meet CLCPA goals, especially in 2040, to effectively transition to a clean, affordable and reliable power system • To accelerate progress NYS needs a structured and focused approach to determine which technologies are needed and how to best accelerate commercial deployment at scale
Equity considerations	• Ensuring that new technology deployment is collaborative and complimentary to other grid investments such that the lowest overall cost is incurred to achieve the CLCPA goals. • Ensure new technologies do not burden communities where environmental justice is a concern.
Potential Implementation challenges	• Adoption of new technology to enable CLCPA goals must be integrated with more traditional investments for continued safe and reliable operation of the grid • Timeframes for adoption of new technology on the electric grid must be accelerated from the typical timeline of 5+ years from initial commercial product availability to deployment at scale • Demonstration and validation of technology frequently requires large scale projects in real work use cases that are both costly and require coordination of many entities. • Maintaining flexibility to allow for new solutions that are not contemplated or ready yet • Cost and funding source for any new investments/pilots
Issues to explore	• Determination of key technologies needed for the 2030 and 2040 goals, and whether these technologies align with the mandates and intentions of the CLCPA • Are there research and development needs for these technologies and where is it not needed • How can adoption and integration of new technologies be accelerated while managing performance, cost, and longevity risks • How can markets help encourage new technologies? • How will the progress regarding new technology development be considered in conjunction with the transition away from fossil?
Additional thoughts	• For new technologies, the environmental and equity burdens must be analyzed.

Power Generation Mitigation Strategies, slide 7/10

Scope topic/Subgroup: Solutions for the Future Subgroup	
Strategy under consideration	Market Solutions – Maximize the market participation of different technologies in a way that adds to system efficiency & send correct price signals to resources over time
Rationale	• Allowing participation and utilization of all resource types will maximize potential contributions system-wide • Sending more granular and correct price signals at both the wholesale and retail level will encourage desired and efficient behavior as the system changes over time • Increasing transparency of market data and system conditions will allow all market participants to make informed decisions
Equity considerations	• Ensuring that energy markets allow for system-wide benefits and system-wide costs to be fairly distributed across all New York ratepayers
Potential Implementation challenges	• Will require several forward-looking market designs and the implementation of each design must be structured in a way that sends the correct price signal at the appropriate time
Issues to explore	• Participation Rules/Tariff Design • Market Rule Changes/Additional Products • Retail Rate Structures
Additional thoughts	

Power Generation Mitigation Strategies, slide 8/10

Scope topic/Subgroup: Resource Mix Subgroup	
Strategy under consideration	Growth of renewable generation and energy efficiency
Rationale	The CLCPA requires 70% renewable electricity by 2030 and 100% carbon free electricity by 2040. We anticipate demand growth of 65% to 80%, dependent on the scale and timing of electrification and whether there are clean alternatives for transportation and buildings, such as bioenergy. The level of electrification needed to achieve GHG reduction goals will increase overall electric load and shift the system peak from summer to winter. There remains a large amount of renewables that must be procured and developed to reach the goals and NYS needs to incorporate flexibility and controllability as we electrify these sectors in order to create a more manageable system.
Equity considerations	• Community concerns/opposition related to the impact of renewables, particularly for large-scale renewables upstate when viewed as supplying downstate load • Wholesale markets must evolve to support the climate goals of the state while producing the most efficient investment and operational decisions at the lowest cost to consumers. • How do we ensure solutions are accessible to everyone and how do we keep costs affordable for everyone?
Potential Implementation challenges	• Renewable generation pockets leading to curtailments occur today and are likely to further develop unless the build out of renewables is well coordinated with a focus on energy deliverability • NYISO's Buyer Side Mitigation rules may increase the cost of integrating renewables • Will need to develop incentives to invest in the technology and encourage consumer behavior to allow for smart Electric Vehicle charging and building systems that allow electric demand to be managed efficiently • Wholesale market-based mechanisms combined with effective rate design will be needed
Issues to explore	• Are current policies in programs sufficient in order to meet our clean energy deployment goals? • Are there space limitations preventing more renewable deployment downstate? • Are there innovative solutions for siting renewables downstate? • What considerations should the panel suggest regarding the planning work to integrate Off-Shore Wind (OSW)? • The E3 work shows a significant scaling of renewable build out is required beyond the amount codified in the CLCPA – for example, land-based wind of 4.7GW by 2030 and 8.9GW by 2050 and offshore wind of 15.5GW. Investment driven by market incentives must accompany Renewable Energy Credits and contract-based approaches. • How do we ensure continued year-round reliability and flexibility of the electric system as both demand grows and more clean resources (that are often intermittent) supply the grid?
Additional thoughts	• Energy conservation and efficiency efforts will be important to reduce the impact of electrification on load and reduce costs.

Power Generation Mitigation Strategies, slide 9/10

Scope topic/Subgroup: Resource Mix Subgroup	
Strategy under consideration	Effectively transitioning away from fossil fuel energy generation
Rationale	• As renewable penetration increases, how do we transition away from fossil fuels while maintaining reliability and safety standards? • Older fossil fuel fired "peaking" resources have typically been relied upon to provide the final megawatts in the supply stack and reserves to provide contingency response. • The natural gas infrastructure is an extensive statewide network that must be considered in the energy transition, particularly regarding methane leakage, decommissioning of obsolete infrastructure, and maintaining reliability while electric demand grows.
Equity considerations	• Disproportionate impacts on environmental justice communities from high-emitting peaking units and methane leakage from the natural gas system • Consideration of job training for those who will need to transition away from the work associated with maintaining the current system
Potential Implementation challenges	• We need to carefully consider whether use of efficient, low-emitting, fossil peaking resources may be needed for a period of time in certain load pockets where energy delivery may be limited, requiring energy to be created and delivered within the load pocket itself or if other solutions are or will be available to address load pocket concerns. If it is concluded that peaking resources will continue to be needed, we need to and if so, how long those resources may be needed and whether it is possible to mitigate the impact on environmental justice communities. • Will need sustained durations of dispatchable/flexible power generation to replace base load resources • The speed of technology development that can replace fossil fuel generation • How do we address the potential for stranded resources associated with natural gas infrastructure? • Introduction of regulation for leak detection and repair may result in concern over: o Reliability of fuel to generate electricity to the electrical grid o Reliability for home heating o Small business (well operators) financial impacts
Issues to explore	• How long will we need to rely on fossil fuel generators natural gas infrastructure to decarbonize effectively and reliably in terms of energy, response time, duration, contingency response, etc.? Can we move towards complete shutdown, or will we first need to move towards lower-emitting and higher-efficiency resources? • How can we maximize market and policy signals to support the transition away from fossil fuel generation, how does the 2019 NYSDEC Peaker Rule factor in? • What are the clean dispatchable technologies that we can replace fossil fuels with? • Where are the most significant leaks located and is there an adequate method for estimating leaks? How do we address leaks in infrastructure in a way that doesn't extend the life of the gas system? What existing NYSDEC/NY PSC/Utility processes can be leveraged?
Additional thoughts	

Power Generation Mitigation Strategies, slide 10/10

Scope topic/Subgroup: Resource Mix Subgroup	
Strategy under consideration	Deploying Energy Storage and Distributed Energy Resources (DERs)
Rationale	• Energy storage resources can be useful for the grid to shift daily consumption and supply patterns which can help grid operators handle peak demand, manage variability of intermittent resources, and potentially defer transmission upgrades in some instances. • DERs can improve system resiliency, energy security, and fuel diversity • DERs can also lower consumer prices, improve market efficiency, reduce energy losses, and allow consumers to take greater control of their electricity use and costs
Equity considerations	• Storage and DERs can be utilized to integrate renewables, maximize benefits (financial, environmental, etc.) and reduce peak emissions in communities where environmental justice is a concern. • Siting must still take community values into account • Must ensure access to DERs and their benefits to disadvantaged communities
Potential Implementation challenges	• Flexible market rules and hybrid resource models to ensure full benefits from storage • Buyer-side Mitigation is obstacle • Creating appropriate development pathways and policies. • Development of business model choices to disseminate maximum benefits to communities • Identification of high benefit locations and operation is difficult due to data limitations on distribution networks • The current NERC definition of DERs includes smaller, unregulated combustion sources.
Issues to explore	• What improvements to wholesale opportunities are needed for flexible resources like storage? • Are there more ways to utilize distributed storage and DER to maximize grid flexibility system benefits? • What is the optimal mix of storage and transmission for near- and long-term system needs (i.e., renewable integration, transmission, congestion)? • What are the different storage technologies that may be applied to the grid? Pros/cons of each • Can DERs and storage be utilized as part of portfolio approach for high-emitting fossil peaking replacement or transmission needs, especially as costs decline?
Additional thoughts	• Do the wholesale energy storage market rules implemented in August 2020 coupled with hybrid storage rules starting in 2021 and 2022 and DER rules in 2022 align with the timeline of expected build out of resources, as is indicated by the resources in the NYISO's interconnection queue? • Integrated planning between T&D systems will likely be necessary by 2040 to ensure optimal portfolio of solutions • Do the wholesale energy storage market rules implemented in August 2020 coupled with hybrid storage rules starting in 2021 and 2022 and DER rules in 2022 align with the timeline of the expected build out of resources, as is indicated by the resources in the NYISO's interconnection queue?

Energy-Intensive and Trade-Exposed Industries

Chair: Eric Gertler
Empire State Development

EITE considerations for Industrial emission mitigation strategies

- Industrial sectors within EITE panel scope (Manufacturing, Mining, Construction) total ~7% of State emissions.
- "Heterogeneous" nature may result in higher cost per emissions reduced.
- "EITE" industries are likely to represent a high share of industry sector emissions; non-incentive-oriented approaches may cause leakage.
- Emissions will decline with decarbonization of Power Generation sector; near-term opportunities likely focused on energy efficiency, while most deep decarbonization (carbon capture, low-carbon fuels, etc.) is estimated to occur further in the future as new technologies scale, mature and become more viable.

EITE approaches to industrial emission mitigation

Emission Mitigation:

- Financial assistance
- Technical assistance
- Low-carbon procurement & supply chain policies
- Research, development & demonstration/innovation
- Workforce development
- Emission reporting

Economic Incentives

EITE Strategies, slide 1/6

Scope topic: Provide financial incentives and technical assistance for the decarbonization of EITE sectors	
Strategy under consideration	• Provide technical assistance to help identify economically viable decarbonization pathways and to provide comprehensive energy management planning • Provide financial incentives for decarbonization projects • Refer economic assistance recipients to resources that will result in lower-emitting projects • Leverage low-cost hydropower to provide support for industry
Rationale	Decarbonizing EITE sectors will require overcoming significant barriers related to lack of financial, technical, and personnel resources. Technical assistance provides increased evidence of the financial and operational viability, as well as emissions savings persistence, of decarbonization measures and energy management. Financial incentives help speed the transition of stock turnover and adoption of decarbonization projects.
Equity considerations	• Technical assistance to consider equity considerations • Goal of directing public resources towards disadvantaged communities (at least 40% of benefits) • Targeted outreach to facilities located in disadvantaged communities to make aware and assist of emission reduction programs
Potential Implementation challenges	• Heterogeneity of solutions vary across energy-intensive industries (not one-size fits all solutions) • Disclosure of intellectual property to other industrial competitors may cause apprehension to participate in state run programs
Issues to explore	• Funding source and duration • Coordination with investor-owned utility programs to deliver comprehensive strategies to market

EITE Strategies, slide 2/6

Scope topic: Create incentives for business to capitalize on low-carbon economy opportunities	
Strategy under consideration	• Create preferential standards for the public procurement of low-carbon building materials
Rationale	• Advantages in selection for public procurement provide a revenue stream for low-carbon replacement products • Early development of low-carbon products will position NY state manufacturers on the leading edge as more markets require such products
Equity considerations	N/A
Potential implementation challenges	• Success will require robust carbon accounting standards and life-cycle analyses specific to each product class
Issues to explore	• Cross-collaboration with Energy Efficiency and Housing as well as Agriculture and Forestry advisory panels • Incremental cost impact to the state • Estimated impact on private procurement of similar materials

EITE Strategies, slide 3/6

Scope topic: Identify and support technological innovation to enable deep industrial decarbonization	
Strategy under consideration	• Develop a comprehensive Innovation Roadmap to address knowledge gaps and to guide key priorities for deep decarbonization investment in the areas of carbon-tech, low-carbon fuels, and carbon removal • R&D funding for early stage decarbonization technologies • Demonstration pilot funding for high impact solutions in coordination with private market • Identify potential for innovation clusters to leverage supply chains and infrastructure for novel solutions
Rationale	• Road-mapping initiative is needed to determine key areas of investment across multiple interconnected sectors (e.g. manufacturing, transportation, power generation) • Significant technological advances are required to meet long-term emissions targets
Equity considerations	• All activities would include equity and environmental justice as a key parameter in determining recommendations and/or funding decisions
Potential implementation challenges	• To be determined; challenges to implementation will be identified as part of the road-mapping exercise
Issues to explore	• Low-carbon fuel generation and midstream infrastructure • Geologic storage and mineralization capacity for CO2 • Cost/benefit analysis of research investment; techno-economic analysis of solution viability • Opportunities for pilot and demonstration funding

EITE Strategies, slide 4/6

Scope topic: Workforce development training to support Energy-Intensive and Trade Exposed (EITE) industries	
Strategy under consideration	Provide workforce development on existing and new innovative emission reduction technologies that effect EITE industries
Rationale	Expands pool of workforce with skills needed to address emission reduction strategies increasing confidence and reducing risk to EITE industries.
Equity considerations	Advance disadvantaged individuals including MWBE firms with job opportunities
Potential implementation challenges	• Matching supply and demand of trained workforce with companies • Funding sources
Issues to explore	Cross cutting strategy in many other advisory panels from Transportation, Power Gen, Just Transition

EITE Strategies, slide 5/6

Scope topic: Increase the available data on industrial GHG emissions to help prioritize efforts and monitor progress	
Strategy under consideration	Expand the universe of industrial facilities that are required to report on their GHG emissions.
Rationale	Collecting emissions data from a larger universe of industrial facilities will enable a more complete picture of greenhouse gas emissions, allowing the State to better track its emission reduction progress, identify the potential for additional EITE sectors and prioritize emission reduction efforts.
Equity considerations	N/A
Potential implementation challenges	Limited challenge in regulatory development. Potential challenge with outreach to ensure all effected facilities report timely and accurately.
Issues to explore	Establishing a GHG emissions threshold at which reporting will be required; concern about placing additional regulatory requirements on facilities already highly regulated by DEC; evaluate whether to align with reporting already done to meet EPA GHG Reporting Program.

EITE Strategies, slide 6/6

Scope topic: Provide economic incentives to grow the green economy	
Strategy under consideration	Leverage the State's climate policies to develop an in-state supply chain of green economy companies by engaging in business development discussions and offering incentives through programs such as NYSTAR, NY Ventures and Excelsior Tax Credits.
Rationale	Green economy industries are poised for significant growth, and anchoring an in-state supply chain of growing green businesses will both make it easier for the State to achieve its climate goals while also attracting new investments and jobs. ESD invests in green/cleantech start-ups through NY Ventures, funds R&D centers to help commercialize new technologies through NYSTAR, and offers Green Economy Tax Credits for job, investment and R&D commitments through Excelsior.
Equity considerations	Project location decisions are typically business-driven, not State-driven (e.g., whether they may be inside of a Disadvantaged Community).
Potential implementation challenges	N/A – Ongoing
Issues to explore	Initiatives to connect non-green EITE businesses to green economy opportunities.

Summary of preliminary EITE strategies

1. Provide financial incentives and technical assistance for the decarbonization of EITE sectors
2. Create procurement incentives for business to capitalize on low-carbon economy opportunities
3. Identify and support technological innovation to enable deep industrial decarbonization
4. Workforce development training to support Energy-Intensive and Trade Exposed (EITE) industries
5. Increase the available data on industrial GHG emissions to help prioritize efforts and monitor progress
6. Provide economic incentives to grow the green economy

Just Transition Working Group

Chairs: Roberta Reardon and Doreen Harris
Department of Labor and NYSERDA

Just Transition Workstream, slide 1/5

Scope workstream: Just Transition Principles	
Description and objective(s)	• Draft research-based, New York-specific principles of a just transition for purposes of guiding WG/AP recommendations to the CAC • Principles address community, business, workforce needs, equity considerations and disadvantaged communities
Status	• Preliminary categories identified • First draft of corresponding principles language under discussion with JTWG
Issues to explore	• Timing of delivery to advisory panels
Additional thoughts	• Share across all advisory panels in advance of their final recommendations

Just Transition Workstream, slide 2/5

Scope workstream: Power Plant Inventory and Site Reuse	

Description and objective(s)	• Subgroup formed to lead development of two main work-products:
	  • Inventory – identifying generation facilities that "may be closed as a result of a transition…"
	  • Issues & Opportunities – identifying issues and opportunities presented by site reuse
	• Objectives: 1) create informational inventory collecting objective data on relevant plant characteristics; 2) highlight prominent issues and objectives that inform plant site reuse
	• Emphasis on understanding and managing workforce transition impacts and priorities

Status	• Preliminary data categories identified for inventory, research efforts underway to collect data • Preliminary list of issues and opportunities presented by site reuse identified • NYSERDA's RFP released to provide site reuse planning resources for power plant host communities; similar resources being explored for power plant workforce assessment and support
Issues to explore	• How wide to cast the net in populating the inventory with facilities based on salient characteristics
Additional thoughts	• December discussion featured cross-panel engagement with interested representatives from the Power Gen. and Land Use & Local Government Advisory Panels; planning further engagement

Just Transition Workstream, slide 3/5

Scope workstream: Business Impacts	

Description and objective(s)	• Subgroup of 10 JTWG (6) and EITE (4) members to support JTWG
	  • Identify energy-intensive industries and related trades
	  • Advise on the potential impacts of carbon leakage risk on New York state industries and local host communities
	  • Develop recommendations on how to address issues and opportunities related to energy-intensive and trade-exposed industries and measures to minimize the carbon leakage risk and minimize anti-competitiveness impacts of any potential carbon policies and energy sector mandates

Status	• Presented existing methods of identifying EITE • Preliminary EITE definitional approach identified • Beginning assessment of NYS EITE • Begin initial issues and opportunities identification
Issues to explore	• What thresholds will be used to identify EITE? • What are the implications of EITE designation? • Who are the EITE related trades and workers? • What are the business opportunities and how can New York seize? • What are some measures that can prevent emissions and business leakage? • What research is available on the effectiveness of these measures?
Additional thoughts	• Continuing coordination and collaboration with EITE members on solutions

Just Transition Workstream, slide 4/5

Scope workstream: Jobs Study	
Description and objective(s)	• CLCPA explicitly requires the JTWG to execute a study to analyze a broad set of employment impact questions related to achieving the statute's goals • Particular attention to employment in the state's disadvantaged communities
Status	• Contractor selected by scoring committee from Request for Proposal • Scope of work [initiated]
Issues to explore	• The number of jobs created to counter climate change, which shall include but not be limited to the energy sector, building sector, transportation sector, and working lands sector • The projection of the inventory of jobs needed and the skills and training required to meet the demand of jobs to counter climate change • Workforce disruption potential due to community transition from a low carbon economy
Additional thoughts	• Methodology to focus on macroeconomic analysis and modeling and workforce development and labor economics. A broader set of employment impact issues will be developed as needed to support JTWG recommendations.

Just Transition Workstream, slide 5/5

Scope workstream: Workforce	
Description and objective(s)	• Make recommendations on how to build talent pipelines that focus on the trades, disadvantaged communities and underrepresented segments of the population, and transitioning power plant workers, and public sector employees, including with respect to the transferability of skills
Status	• Collected examples of workforce development programs and initiatives from WG members • Leveraging training inventories being developed by the Workforce Development Institute and clean energy training programs identified in the Clean Energy Industry Report • Identifying lessons learned from current programs to support talent pipeline programs such as NYSERDA's Heat Pump career pathway program focusing on disadvantaged workers and NYSDOL and NYSERDA's unique partnership in implementing clean energy OJT and Internship programs • NYSERDA partnering with DOL and SUNY to develop the OSW Training Institute and, in the near-term, to develop an offshore wind training solicitation focused on supply chain needs and career pathways for entry-level workers from disadvantaged communities
Issues to explore	• Impacts of COVID on employment & training, opportunities for innovation (e.g., virtual training) • Coordination and leveraging across state agencies workforce training programs through the Governor's Office of Workforce Development
Additional thoughts	• Targeted engagement with sector-based panels to discuss major workforce needs, opportunities • Use results of Jobs Study to refine current programs, make recommendations for new programs

Climate Justice Working Group Update

Climate Justice Working Group

- List of potential criteria compiled
- Developing an evaluation rubric to narrow criteria
- Seeking to identify criteria that best represent the goal of identifying disadvantaged communities.
- Advisory Panel engagement
  - Early engagement to discuss equity and considerations the panels should include in their process
  - Transportation and Land Use and Government panels at December 2 meeting
  - Rest of the panels at December 16 meeting
  - Follow up engagement as they progress through their work

Next Steps