

New York State Climate Action Council

September 29, 2022
Meeting 25



**Climate Action
Council**

Agenda

- > Welcome and Roll Call
- > Consideration of August 23, 2022, Minutes
- > Consideration of September 13, 2022, Minutes
- > Consideration of Bylaws Amendments
- > Co-Chair Remarks and Reflections
- > Integration Analysis Update
- > Subgroup Progress Reports
- > Discussion of Feedback by Topic:
 - Adaptation & Resilience
 - Just Transition
- > Next Steps

Consideration of August 23, 2022, Minutes

Consideration of September 13, 2022, Minutes

Consideration of Bylaws Amendments

Bylaws Amendment

Appends to section V the following:

- (h) As provided for by NYS Public Officers Law Section 103-a, upon its adoption of a resolution by the Council providing for such, and in accordance with the written procedures of the Council contained within V.(h) through V.(l) herein, videoconferencing may be used by the Council to conduct its meetings for any meeting where a minimum number of members are present to fulfill the Council quorum requirement in the same physical location (or locations) where the public is permitted to attend.
- (i) Regarding the use of videoconferencing, absent a declared State or local disaster, Members of the Council shall be physically present at any location designated for in-person public attendance for Council meetings, unless a Member is unable to be physically present at any such meeting location due to extraordinary circumstances.
 - (1) Extraordinary circumstances shall include disability, illness or other medical condition, caregiving responsibilities, military service, death of a relative, or other urgent or unexpected circumstances that prevents the Member's physical presence.
 - (2) An extraordinary circumstances notification shall be made to the Executive Director as soon as practicable prior to the meeting.
 - (3) The minutes of the meeting shall include which, if any, Member participated by videoconferencing from a private location due to such extraordinary circumstances, in addition to identifying all other Members who participated remotely at publicly accessible locations.
 - (4) A Member who is participating by videoconference from a private location due to extraordinary circumstances shall not count toward a quorum but may participate and vote if a quorum of Members is attending at physical locations open to the public.
- (j) Except in the case of Executive Sessions, the Council shall ensure that Members can be heard, seen, and identified while the meeting is being conducted, including for motions, proposals, resolutions, and any other matter formally discussed or voted upon. For Members attending in person, this shall include placards physically placed in front of Members with first and last name and for Members attending by videoconferencing, such Members shall ensure that their first and last name appears on their videoconferencing screen or by placard.
- (k) Absent a declared State or local disaster, the public may attend meetings of the Council at the designated physical location or locations where a collective quorum of the Council is present. The physical location(s) will be conspicuously posted prior to each scheduled Council meeting.
- (l) Consistent with NYS Public Officers Law Section 103-a, Sections V (h), (i), (j), and (k) are in effect until July 1, 2024, unless otherwise extended by statute.

Co-Chair Remarks and Reflections

Recent Announcements

Recent activity from New York State

- **09/29/2022** This morning at an event in White Plains, Governor Hochul announced she is directing DEC to take major regulatory action, Advanced Clean Cars II, that will require all new passenger cars, pickup trucks, and SUVs sold in New York State to be zero emissions by 2035.
 - Also announced \$10 million added to NYSERDA's Drive Clean Rebate program to help consumers purchase or lease an electric vehicle to put more clean vehicles on the road by 2035; and NYPA recently celebrated the milestone of its 100th high-speed charger installation in its EVolve NY statewide network.
- **9/27/2022** Governor Hochul applauds the approval of New York's Electric Vehicle Infrastructure (NEVI) Deployment Plan by the U.S. Department of Transportation.

Announcements during Climate Week in New York:

- **09/23/2022** [Governor Hochul Signs Legislation to Study Extreme Heat Conditions in Disadvantaged Communities | Governor Kathy Hochul \(ny.gov\)](#)
- **09/23/2022** [Governor Hochul Announces Milestone of More Than 100 Evolve NY Electric Vehicle Fast Chargers Installed | Governor Kathy Hochul](#)
- **09/22/2022** [Governor Hochul Announces Nearly \\$7.9 Million to Help New York Farms Address Impacts of Climate Change | Governor Kathy Hochul \(ny.gov\)](#)
- **09/22/2022** [Governor Hochul Announces the Office of Renewable Energy Siting Has Approved Two Major Solar Energy Facilities | Governor Kathy Hochul \(ny.gov\)](#)

Recent Announcements

Additional recent activity from New York State

- **09/21/2022** [Governor Hochul Announces Four Gigawatts of Distributed Solar Installed in New York and Largest Single-Rooftop Solar Array in Manhattan | Governor Kathy Hochul \(ny.gov\)](#)
- **09/21/2022** [Governor Hochul Announces New Competitive Solicitation Calling for 2,000 Megawatts or More of New Large-Scale Renewable Energy Projects | Governor Kathy Hochul \(ny.gov\)](#)
- **09/20/2022** [Governor Hochul Announces New York State Awarded \\$60 Million in Federal Funds to Advance Smart Climate Practices for New York Farms and Forests | Governor Kathy Hochul \(ny.gov\)](#)
- **09/20/2022** [Governor Hochul Issues New Executive Order During Climate Week Announcing Nation-Leading Sustainability Operations | Governor Kathy Hochul \(ny.gov\)](#)
- **09/19/2022** [Governor Hochul Announces State Surpasses 100 Certified 'Climate Smart' Communities | Governor Kathy Hochul \(ny.gov\)](#)
- **09/16/2022** [Governor Hochul Announces New York State Now Accepting Applications For More Than \\$3 Billion in Available Federal Funding to Boost Resiliency and Mitigate Impacts of Climate Change | Governor Kathy Hochul \(ny.gov\)](#)

Integration Analysis Update

Integration Analysis Update

1. Inflation Reduction Act analysis

2. Sensitivities

- High Fuel Price sensitivity
- High Tech Cost sensitivity

3. Key takeaways and next steps

Inflation Reduction Act Analysis Modeling Approach

> Modeling does:

- Estimate IRA funding available to offset cost to achieve CLCPA and the impact of federal funding on scenario Benefit-Cost Analysis, ie IRA helps achieve already ambitious adoption trajectories of mitigation scenarios
- Focus on climate and energy provisions with largest buckets of funding with clearest implementation
- Model a range of outcomes to reflect uncertainty for the impact of key parameters, e.g. domestic content provisions, income caps, tax liability

> Modeling does not:

- Model impacts of all funding, e.g. manufacturing grants, early-stage innovation, block grants. These incentives will play an important role in keeping NY on track and driving equitable outcomes, but were too uncertain to model
- Calculate distribution of funding. Rather, we maintain a societal cost perspective

Inflation Reduction Act components

● Clean electricity

New tax credits for emissions-free electricity sources and storage
Including wind, solar, geothermal, advanced nuclear, etc.

Extending existing tax credits for wind and solar power

Tax credit for existing nuclear reactors
To prevent them from closing

Extend energy credit
Through 2024

Clean energy rebates and grants for residential buildings
Rebates for installing heat pumps and retrofitting homes

Financing for energy infrastructure
Updates and expands lending programs to make energy generation and transmission more efficient

Tax credit for carbon capture and storage

● Manufacturing

Clean manufacturing incentives
Incentives for companies to manufacture clean energy technologies in the U.S. rather than abroad, through tax credits and the Defense Production Act

Reduce emissions from energy-intensive industries
Such as concrete production

● Individual clean energy incentives

Green energy credits for individuals
Extends and increases tax credits for energy-efficient properties

● Clean fuel and vehicles

Tax credits for new and used electric cars
Incentives for purchasing emissions-free vehicles, with income limits, and for installing alternative fueling equipment.

Clean hydrogen production

Fuel tax credits
Creates new credits for low-carbon car and airplane fuels, and extends credits for biodiesel and other renewable fuels

Financing for clean energy vehicles
Loans and grants for the production of hybrid, electric and hydrogen fuel cell cars

● Air pollution

“Green bank” for energy investments
For investments in clean energy projects, particularly in poor communities

Other air pollution reduction
Includes funding for monitoring and reducing pollution, and grants for disadvantaged neighborhoods

● Conservation, rural development and forestry

Agricultural conservation
Funding for agricultural practices that improve soil carbon, reduce nitrogen losses and decrease emissions

Rural development
Investments in clean energy technology in rural areas

Forest conservation and restoration
Includes funding to reduce risk of wildfires

● Transportation and infrastructure

Improvements to federal buildings and highways

Electric transmission
Loans and grants to finance electricity transmission, including for offshore wind energy generation

● Other climate spending

Drought resilience

Weather and climate resilience
Includes investments in coastal areas and weather forecasting resources

Other federal research, projects and oversight
Includes funding for FEMA, D.H.S. and D.O.E.

Zero-emissions U.S. PS. trucks

National Park Service funding
Includes funds for climate resilience and habitat preservation

Data collection and environmental reviews

Other

Tribal funding
Clean energy, electrification, drought relief and climate resilience for federally recognized tribes.

Wildlife recovery and habitat climate resilience

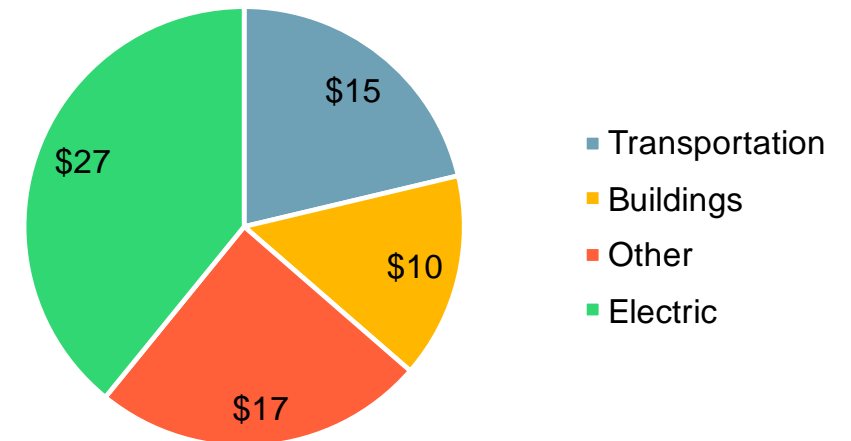
Key Modeling Assumptions

	Lower Benefit	Higher Benefit
Electric Sector	<ul style="list-style-type: none">• Credits available through 2032 plus safe harbor• Projects only qualify for prevailing wage bonus	<ul style="list-style-type: none">• Credits available through 2042 plus safe harbor• Some additional benefit from low-income and domestic content bonuses
Buildings	<ul style="list-style-type: none">• Credits and grants available through 2032 for EE and heat pumps• Lower program uptake	<ul style="list-style-type: none">• Credits and grants available through 2032 for EE and heat pumps• Higher program uptake
Transportation	<ul style="list-style-type: none">• Credits for vehicles and chargers• Lower uptake, less compliance with sourcing provisions, fewer chargers in low-income or non-urban tracts	<ul style="list-style-type: none">• Credits for vehicles and chargers• Higher uptake, more compliance with sourcing provisions, more chargers in low-income or non-urban tracts
Alt. Fuels	<ul style="list-style-type: none">• Production tax credit for H2, in-state renewable diesel production• Lower uptake of credit	<ul style="list-style-type: none">• Production tax credit for H2, in-state renewable diesel production• Higher uptake of credit
Other sectors	Not modeled	Not modeled

Key Findings – up to ~\$70B of incentives for New Yorkers through 2050

- > IRA will reduce the costs to New York to meet the requirements of the CLCPA by \$43-68B
- > Within the electric sector, there is an increased demand for in-state wind (vs. imported) and offshore wind
- > Within the transportation sector, IRA will reduce vehicle and charger costs by \$3-\$19B, though uncertainty remains around supply chain ability to meet content and production requirements, especially in near term
- > Incentives will reduce the cost of transition to an efficient, electrified building stock by \$7-\$11B. Additional grants for low-income participants can ensure broader adoption and further increase benefits
- > Significant production tax credit will lower the cost of procuring hydrogen and other advanced renewable fuels to decarbonize hard to electrify end uses by \$4-\$16B
- > Additional, unmodeled provisions (e.g. used vehicle incentive) will lead to further benefits

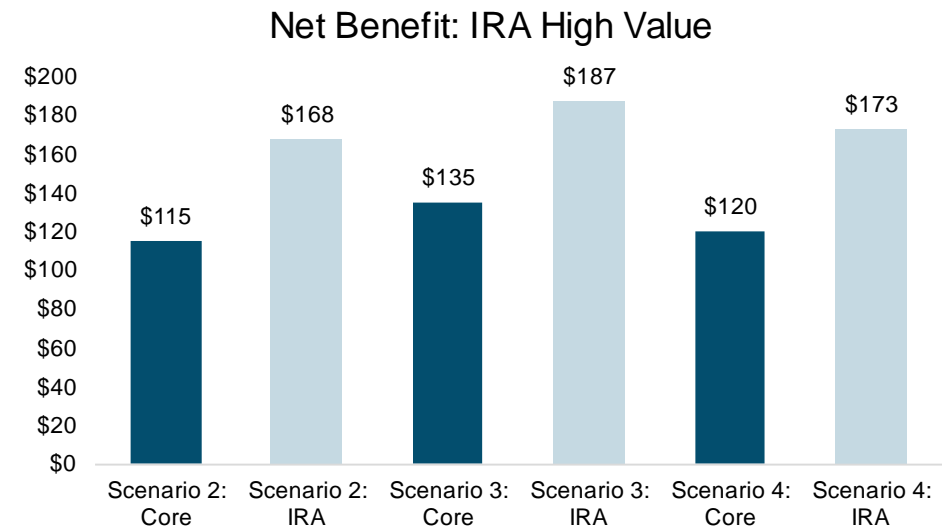
Scenario 2 IRA Value
High Case



Note: other includes incentives for H2, alternative fuels, and industrial CCS

Key Finding: IRA will increase the net benefit of the mitigation scenarios by up to ~\$50B

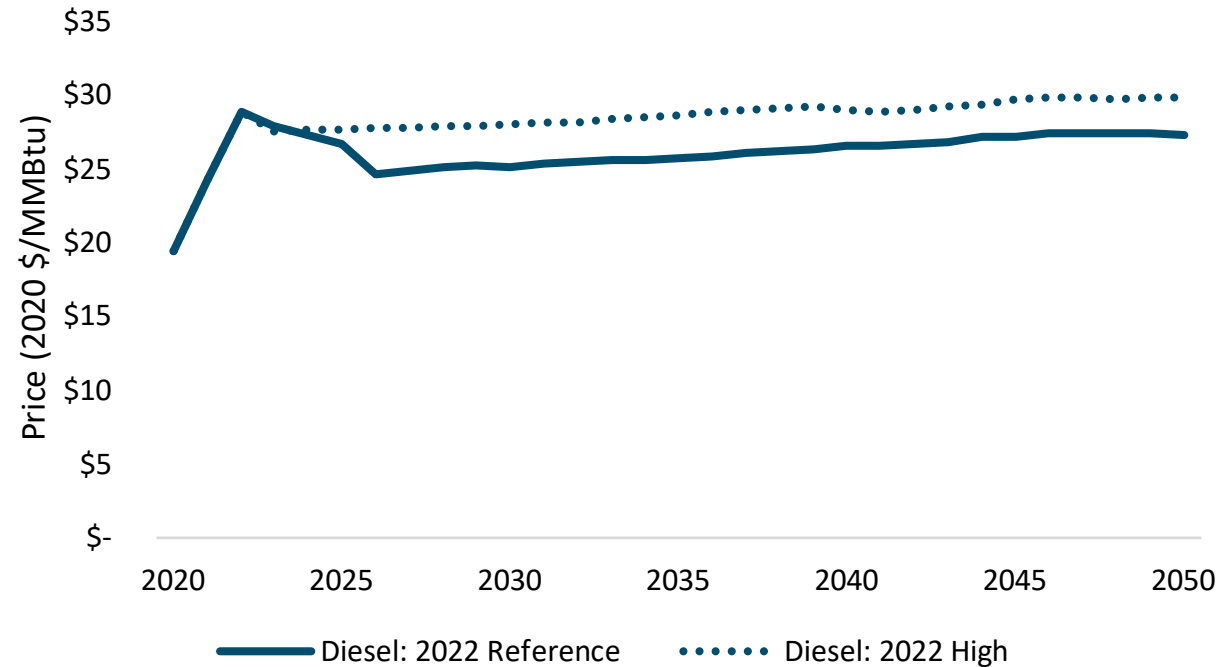
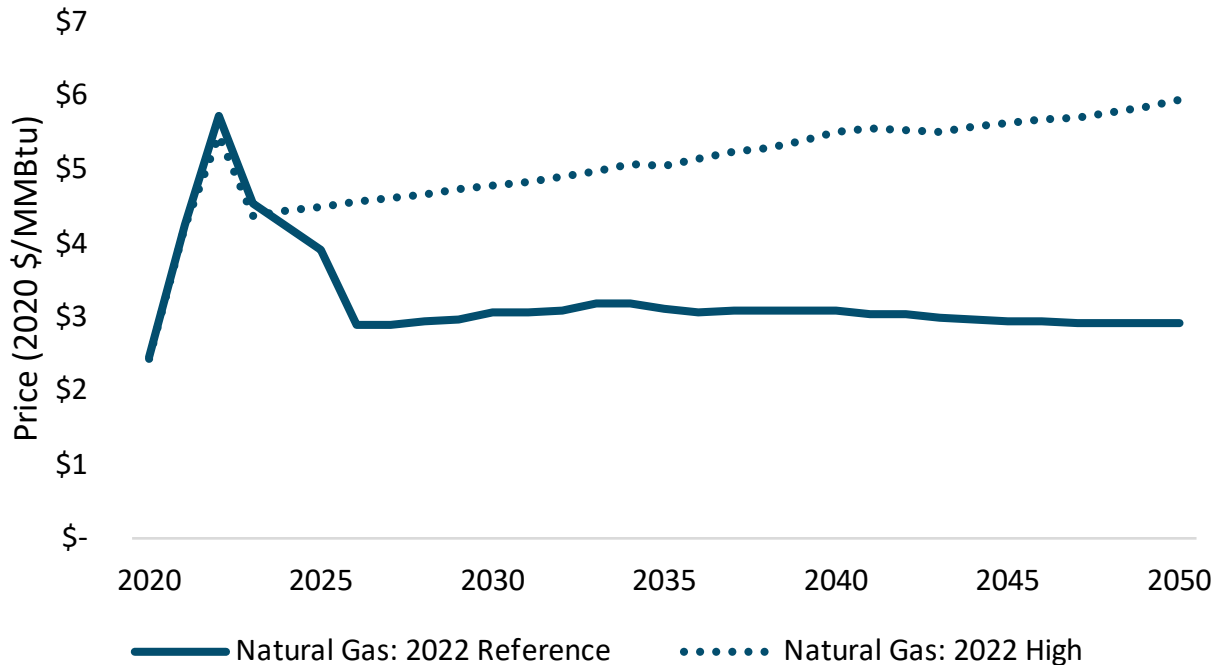
- > IRA incentives are higher in the Mitigation Cases than in the Reference case, due to greater adoption of clean technologies eligible for incentives, e.g. EVs, heat pumps, hydrogen
- > As a result, IRA increases net benefits of the Mitigation cases by up to ~\$50B, compared to core 2022 vintage



Integration Analysis Update

1. Inflation Reduction Act analysis
2. Sensitivities
 - **High Fuel Price sensitivity**
 - High Tech Cost sensitivity
3. Key takeaways and next steps

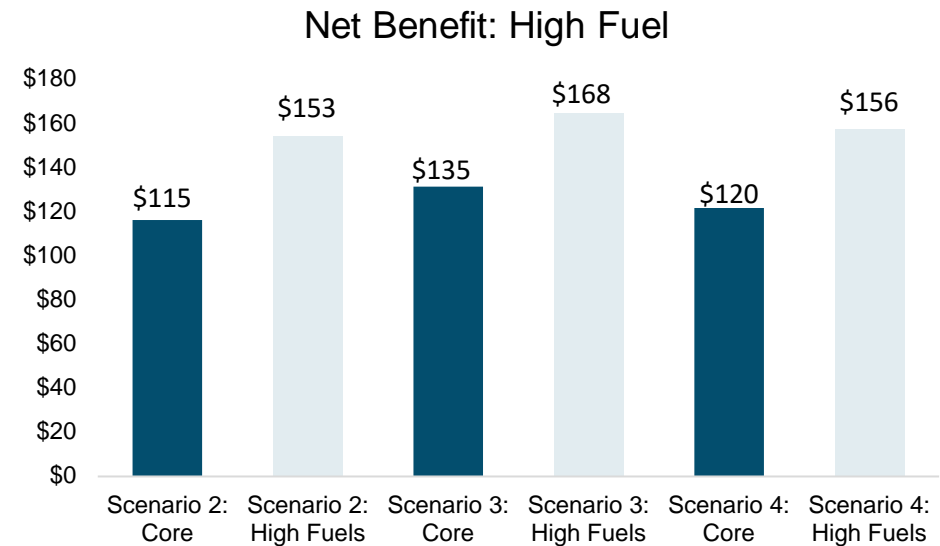
High Fuel Price Sensitivity



- > High Fuel Price Sensitivity (dotted line) reflects higher fossil fuel price in the short-run and a long-run trajectory where prices remain elevated
- > Trajectory aligned with AEO STEO forecast in the short-run and AEO High case in the long-run

Key findings

- > High fossil fuel prices increase the costs of all cases, but most acutely the Reference Case where a higher share of consumption remains fossil
- > This dynamic increases the net benefit of the Mitigation Scenarios (\$32-38B) compared to the original runs
- > In the electric sector, higher fossil fuel prices increase the demand for renewables, especially in the Reference Case (+5 GW solar, +3 GW land-based wind, +2 GW storage), to reduce the use of higher cost gas (-2GW)
- > This sensitivity underscores the value of a transition to renewables to reduce exposure to higher fossil fuel prices
- > This also underscores the need for the inclusion of low-income communities in the transition, as these communities will have the most difficulty bearing higher fossil fuel costs



Integration Analysis Update

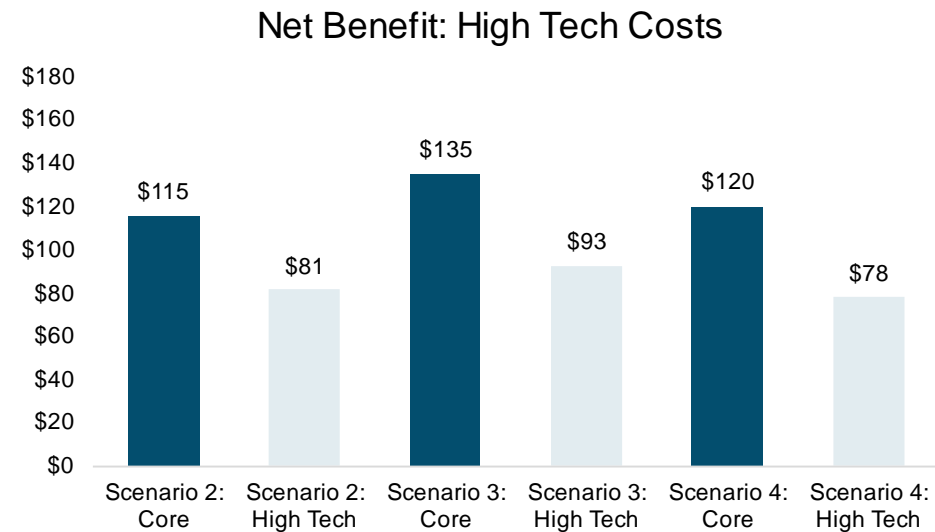
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High Tech Cost Sensitivity

- > Background: 2021 modeling included a low-tech cost sensitivity to incorporate more industry learning than was included in the core modeling cases
- > Purpose: to explore the effects of higher prices for cleaner alternatives from near-term supply chain issues that could persist
- > Key assumptions:
 - Transportation – BEVs experience higher costs that stagnate through 2024 and take longer to achieve upfront cost parity (e.g. 2035 for LDVs, 2040 for trucks)
 - Buildings – heat pump and shell improvement prices increase 15% (aligned with recent industry announcements) and take until 2035 to revert to core case assumptions
 - Electricity – no modification. Core cases reflect conservative cost trajectory and storage cost disruptions, and near-term contracts mitigate exposure to near-term supply chain issues

Key findings

- > Higher tech costs would particularly increase the cost of the mitigation scenarios which have higher adoption of heat pumps and electric vehicles
- > This in turn reduces the net benefits of the mitigation scenarios compared to the Reference Case (\$34-42B)
- > The IRA will help to mitigate some of the higher costs that could materialize. Grant funding for low-income participation is particularly important in scenarios where the cost of low carbon alternatives remain elevated
- > This sensitivity underscores the need for measures to mitigate potential supply chain disruptions, e.g. worker training and local production



Integration Analysis Update

1. Inflation Reduction Act analysis
2. Sensitivities
 - High Fuel Price sensitivity
 - High Tech Cost sensitivity
3. **Key takeaways and next steps**

Key takeaways and next steps

Key takeaways

1. IRA will increase net benefits to New York up to ~\$50B
2. Sensitivities reinforce prior findings that even under a variety of price conditions, net benefits of decarbonization greatly exceed net costs
3. IRA will provide important benefits that can alleviate societal costs, help achieve rapid adoption required, and insulate from potential price increases
4. Converting to renewables will help insulate consumers from higher fossil fuel price

Next steps (October 13th and 25th)

- > Will explore the impacts of building sector assumptions and distribution system uncertainties on key output metrics (e.g. system peak and costs)

Subgroup Progress Reports

Gas System Transition

Meeting Dates	Tentative Agenda	Status
Meeting 1 – June 2	<ul style="list-style-type: none"> • Workplan development • NYS gas system, end uses, regulatory framework, current gas transition efforts 	✓
Meeting 2 – June 23	<ul style="list-style-type: none"> • Development of matrix of key considerations for framework 	✓
Meeting 3 – July 6	<ul style="list-style-type: none"> • Affordability, safety, reliability, & just transition considerations • Presentation from Utility Consultation Group 	✓
CAC Meeting – July 11	<ul style="list-style-type: none"> • <i>Provide progress report and seek feedback</i> 	✓
Meeting 4 – August 3	<ul style="list-style-type: none"> • Electric system expansion, alignment with gas system transition 	✓
CAC Meeting – August	<ul style="list-style-type: none"> • <i>Provide progress report and seek feedback</i> 	✓
Meeting 5 – August 17	<ul style="list-style-type: none"> • Equity and affordability criteria and continue discussions on framework 	✓
Meeting 6 – August 31	<ul style="list-style-type: none"> • Policy and program barriers for implementation • Role of alternative fuels in gas system planning 	✓
Meeting 7 – Sept. 12	<ul style="list-style-type: none"> • Review public comments and CJWG feedback and consider revisions to framework and Gas System Transition chapter of draft Scoping Plan 	✓
CAC Meeting – Sept. 13	<ul style="list-style-type: none"> • <i>Provide progress report and seek feedback</i> 	✓
Meeting 8 – Sept. 16	<ul style="list-style-type: none"> • Review and finalize recommended framework for Council consideration 	✓
Meeting 9 – Sept. 20	<ul style="list-style-type: none"> • Review alternative fuel considerations in frameworks and finalize considerations to guide proposed revisions for Council consideration 	✓
CAC Meeting – Sept. 29	<ul style="list-style-type: none"> • <i>Provide final report out on framework</i> 	✓

Subgroup Members

- **Doreen Harris**
- **Roberta Reardon**
- **Mario Cilento**
- **Rory Christian**
- **Donna DeCarolis**
- **Gavin Donohue**
- **Dennis Elsenbeck**
- **Bob Howarth**
- **Raya Salter**
- **Paul Shepson**

Gas System Transition – Draft Framework

Key Considerations	Guidance
Ensure gas transition plan meets greenhouse gas (GHG) emission reduction targets	<ul style="list-style-type: none">• Develop plans for how individual gas utilities and the State’s gas distribution system overall will reduce GHG emissions by 2030 and by 2050, as required to contribute to achieving the Statewide GHG limits established in the Climate Act.• Include utility-specific and system-wide forecasts for the reduction in gas sales and decreasing numbers of gas customers connected to the gas distribution system over time, as large numbers of customers transition to electrification and community thermal for heating, hot water, and other energy end-uses.• Require gas utilities to publicly file annual GHG emissions reports.
Reduce energy burdens and ensure energy affordability	<ul style="list-style-type: none">• Identify ways to mitigate impacts on remaining gas customers as customers transition to electrification and away from use of the gas distribution system, with a particular focus on low-income consumers• Include a review of the costs and benefits associated with both the transition to electrification and potential adoption of alternative fuels (RNG, hydrogen) for decarbonizing the gas system to evaluate the impact on overall affordability. This should include a review of electric grid and related electric transmission and delivery system buildout costs; avoided costs of appliance electrification; gas system investments and appliance modifications to enable use of alternative fuels; fuel production costs; and costs at the homeowner/business level.• Prioritize and target public financial support of energy efficiency upgrades and electrification initiatives for distressed housing, low- and moderate-income households, affordable and public housing, and buildings in disadvantaged communities in advance of or paired with electrification of heating and in a manner that lessens cost burdens on customers who currently rely on gas for home heating and who can least afford energy cost increases. Further consider prioritization and targeting of initiatives to support energy efficiency and dual-fuel solutions for subsets of NY’s building stock that will be unaffordable to electrify or where full electrification is not yet feasible.• Further define energy affordability (e.g., PSC Energy Affordability Policy’s target energy burden is set at or below 6 percent of household income for all low-income households)

Gas System Transition – Draft Framework

Key Considerations	Guidance
<p>Prioritize continued and improved safety and reliability</p>	<ul style="list-style-type: none"> • Include an analysis on what technologies will be necessary to maintain the safety and reliability of the energy systems as we transition the gas system including, but not limited to, zero-emission dispatchable generation. • Ensure both energy supply and demand are thought about in parallel. • Ensure the buildout of the electric system can accommodate additional electrification needs but that this should be done in a way that ensures energy affordability and considers regional differences.
<p>Consider role of alternative fuels and technologies in future gas system planning</p>	<ul style="list-style-type: none"> • Consider strategic use of alternative fuels, aligned with the Integration Analysis scenarios, to meet customer needs for space heating or process use where electrification is not yet feasible or to decarbonize the gas system as it transitions. • Alternative fuel use should contribute to achieving the overarching emissions reduction goals of CLCPA or recommendations of the Scoping Plan on the need to significantly decarbonize the building sector. • Consider the use of non-wire and non-pipe alternatives (microgrids, energy storage, district thermal energy systems, heat pumps, dual/hybrid heat solutions, etc.) and demand management and reduction for customer space heating and electricity needs to reduce current and future constraints on the electric grid as the State makes significant upgrades to the electric generation and distribution system. • Ensure that any use of alternative fuels, including green hydrogen and renewable natural gas, does not result in increased leaks and emissions within the entire lifecycle of the development and use of alternative fuels. • Prior to the consideration of pilots for use of alternative fuels, evaluate the technical, environmental, and financial feasibility of the pilots, including for consistency with the CLCPA. Where feasible and subject to any required state, local, and/or federal approvals, these pilots can serve as a means for testing the impacts of the use of these fuels in gas system planning.
<p>Include a detailed timeline for transition</p>	<ul style="list-style-type: none"> • Include a clear timeline for the gas system transition that aligns with the Scoping Plan’s recommendations while assuring grid and energy delivery reliability is met. For example, the plan should align with the target dates included in the Integration Analysis and Buildings chapter of the Scoping Plan related to building electrification. • Timeline should include information for labor, local governments, utilities, power producers, community groups, Disadvantaged Communities, etc. on what this transition means and when.

Gas System Transition – Draft Framework

Key Considerations	Guidance
<p>Ensure close coordination with electric system expansion</p>	<ul style="list-style-type: none"> • To ensure grid reliability needs are met, ensure the transition is completed in parallel with the NYISO’s Reliability Needs Assessment. This should include a detailed, strategic and coordinated approach to optimization of the electric and gas systems, and any contracting of the gas distribution system considers end-use customers who are highly reliant on gas, economic impacts, feasible alternatives, and growth in the power generation sector with electrification. • Coordinate the statewide gas planning processes with the electric system planning processes at the NYISO to ensure grid readiness at both the wholesale power generation and transmission and distribution level for electrification efforts in a given region or area of the gas distribution system. • Consider a strategic and coordinated approach to electrification and gas system transition that includes a review of different regions, timeframes, existing headroom and capacity issues (coordinating with other transmission and distribution level proceedings), and utility investments needed to inform efforts to transition customers from gas to electric heating. Review local distribution capacity and supply both in terms of meeting CLCPA goals, supporting economic development, and other key considerations. • Include a focus on innovation, including pilots with industry, necessary to transform the electric grid alongside the transition of the gas system.
<p>Ensure equitable access to alternative heating options in Disadvantaged Communities</p>	<ul style="list-style-type: none"> • Prioritize technical and financial assistance to enable households in communities that the CLCPA acknowledges were historically underinvested in to make energy efficiency upgrades and electrify and decarbonize affordably. • Ensure that as new technologies, including in energy efficiency, and funding opportunities become available, benefits to and suitable programs for disadvantaged communities are prioritized. • Address the concern that investments in building decarbonization may increase the rental cost of housing, particularly for low-income customers and Disadvantaged Communities.
<p>Consider health benefits & cumulative impacts, including historical burdens</p>	<ul style="list-style-type: none"> • Include analysis to determine the feasibility, climate impacts, and health impacts of current infrastructure, new technologies, and alternative fuels prior to infrastructure investment. • Coordinate with NYS Department of Health on data for health impacts.

Gas System Transition – Draft Framework

Key Considerations	Guidance
<p>Ensure a just transition for gas industry workforce</p>	<ul style="list-style-type: none"> • Include a clear plan for the just transition of the gas industry workforce including what the current workforce can expect as part of the transition and the opportunities associated with it. • Include consideration of leveraging gas utility workers’ skillsets for the decarbonization and operation of the gas delivery system with alternative fuels, buildout and operation of district thermal energy systems and for support of dual or hybrid heating pathways • Leverage the work of the Just Transition Working Group to evaluate and provide gas workforce needs to meet the demand of the future heating industry and safely transition the existing gas distribution system, including prioritizing reemployment of displaced workers and bridging gaps for retirement eligibility. Additionally, the plan should identify potential funding sources and support for programs focused on workforce development and training including for individuals in Disadvantaged Communities. • Include development of health and safety standards and protocols both for the decarbonization of the existing system and with respect to how to adapt to use of new technologies. • Ensure strong communication with labor and employers as new technologies are adopted or considered.
<p>Prioritize emissions and co-pollutant reductions in Disadvantaged Communities and ensure no disproportionate burden</p>	<ul style="list-style-type: none"> • Ensure that GHG emissions reductions and co-pollutant reductions are prioritized in Disadvantaged Communities. • Ensure no disproportionate burden for Disadvantaged Communities including when considering infrastructure project locations and emissions and co-pollutant impacts. • Utilize the statewide GHG inventory data on emissions and co-pollutant reductions, the Disadvantaged Communities criteria analysis, air monitoring data and other research to be able to track progress towards reducing those emissions and co-pollutants. Review of how this data can inform current GHG emissions levels and enforcement of the GHG emissions limits.
<p>Identify needed changes to laws & regulations for alignment with Climate Act</p>	<ul style="list-style-type: none"> • Review the creation of new or modifications to existing statutory provisions or regulations needed to accomplish the decarbonization of the gas system and potential use of alternative fuels like renewable natural gas and hydrogen.

Gas System Transition – Draft Framework

Key Considerations	Guidance
<p>Consider use of existing gas infrastructure</p>	<ul style="list-style-type: none"> Investments in traditional infrastructure will still be necessary to maintain reliability and safety and to achieve emissions reduction targets using a decarbonized gas system. However, the plan should require greater scrutiny of investments in infrastructure that will be necessary to maintain reliability and safety for remaining customers of the existing gas delivery system, to ensure they do not result in stranded assets from infrastructure and make it more expensive to decarbonize the gas distribution system. This scrutiny should include a determination of the need for the project to ensure safe and reliable service, cost impacts of additional investments to stranded asset costs, CLCPA compliance, and technical feasibility of the investment.
<p>Identify additional analyses needed</p>	<ul style="list-style-type: none"> Independent analysis of alternative fuels, including green hydrogen and renewable natural gas, should include impacts on affordability, GHG emissions impacts, safety and reliability considerations (including pipeline safety and gas system impacts), engineering and environmental considerations, potential for continued reliance on gas. Comprehensive evaluation of practical cost impacts and benefits of the implementation of the State's energy transformation on individuals, businesses, and industries in New York. Identify innovative uses of capital and alternative funding mechanisms, including federal funding, for building electrification, energy efficiency, and decarbonization of the gas system.
<p>Include a communications strategy and customer education plan</p>	<ul style="list-style-type: none"> Include a communication strategy of benefits and associated costs (inclusive of societal cost impacts, health benefits and impacts, environmental and economic benefits, etc.) from the transition to cleaner alternatives and away from use of fossil gas to consumers. Include a detailed strategy to educate the workforce on the benefits of transition to cleaner alternatives and job opportunities associated with it. Include opportunities for significant public comment and engagement in the development of the gas transition plan. Include a review of current policies to ensure better public engagement and robust stakeholder participation processes. Outline how this communication strategy and customer education plan will be executed. Provide information on how the transition of the gas system will expand consumer choice; increased utility energy offerings and business model reforms; and enhance resiliency as opposed to reducing it with increased energy-efficient electrification, energy storage, reduced price volatility due to less reliance on fossil fuels, and potential consideration of alternative fuels.

Economy-wide Strategies Subgroup - Purpose

- > This subgroup will provide further evaluation and guidance regarding the three economy-wide approaches identified in the Draft Scoping Plan.

Economy-wide Strategies Subgroup - Workplan

Meeting Date	Meeting Focus
Meeting 1 – June 27 2:00-3:30 PM	Setting the Table for the Work Ahead/Refining and Prioritizing Criteria
Meeting 2 – June 29 9:30 – 11:00 AM	RFF Presentation/Identifying Further Clarity Needed
Meeting 3 – July 20 9:00 – 11:00 AM	Rationale Discussion/Finalizing & Applying Criteria (Emissions)
Meeting 4 – July 25 2:00 – 4:00 PM	Applying Criteria (Certainty and Sufficiency of Funding and Use of Proceeds and Consistency with Other Regulatory Programs; Equity)
Meeting 5 – August 8 2:00 – 4:00 PM	Applying Criteria (Economic; Incorporating Multi-Jurisdictional Programs and Maintaining Administrative Simplicity)
Meeting 6 – August 22 2:00 – 4:00 PM	Setting Priorities for an Economywide Policy
Meeting 7 – August 29 2:00 – 4:00 PM	Comparing and Contrasting Potential Approaches/Incorporating Public Comment
Meeting 8 – September 12 2:00 – 4:00 PM	Finalizing Recommendation



Economy-wide Strategies Subgroup - Key Takeaways

- > The subgroup agreed on the rationale for implementing an economywide strategy.
- > The subgroup agreed to present two recommendations for the CAC to consider.
 - Design elements of a Carbon Tax
 - Design elements of a Cap-and-Invest
 - The subgroup recommended deferring consideration of Clean Energy Supply Standard to sectoral deliberations.
- > The majority of the subgroup indicated support for a Cap-and-Invest policy.

Economy-wide Strategies Subgroup - Rationale for an Economy-wide Strategy

- > The Economywide Strategies Subgroup finds that an appropriately designed economywide strategy would help ensure the State advance its goals. Such an economywide strategy would serve as an economic signal to market participants and provide a regulatory backstop to ensure economywide emission limits are met, while mitigating leakage. It would serve as a mechanism to generate revenue that can support strategies advanced in the Scoping Plan, including clean energy activities in Disadvantaged Communities. Equity should be integrated into the design of any advanced economywide strategy, accounting for emissions impacts in Disadvantaged Communities and costs realized by low- and moderate-income New Yorkers. Finally, an economywide strategy would be implemented as a complement to, not as a replacement for, other strategies in the Scoping Plan.

Economy-wide Strategies Subgroup - Priorities for an Economywide Policy Recommendation

- Emissions
 - **Certainty of emission reductions to comply with state limit**
 - Potential for minimizing carbon price and/or maximizing abatement/\$
 - Application economy wide or to specific sectors
 - Reduction of co-pollutant emissions
- Economic
 - **Price certainty**
 - **Mitigating risk of leakage**
 - **Supporting economic development and innovation**
 - **Maintaining affordability for consumers/businesses**
 - Regional equity
- Equity
 - **Prioritizing emissions and pollutant reductions in DACs/avoiding hotspots**
 - **Affordability and avoiding regressive impacts**
- Programmatic
 - Certainty and sufficiency of funding and use of proceeds
 - Incorporating multi-jurisdictional programs
 - Consistency with other regulatory programs
 - Maintaining administrative simplicity

Economy-wide Strategies Subgroup - Potential Design Elements: Carbon Tax

Potential High-Level Design of a Carbon Tax

- > Sectoral coverage
 - Covered: Fuel and energy use in all sectors; industry emissions
 - Open question about how to treat electricity sector given regulation under RGGI
 - Not covered: waste sector methane leakage; agricultural process emissions; aviation and ocean-going vessels. EITE emissions discussed under leakage below
- > Certainty of emission reductions: Price would be adjusted based on progress towards meeting statewide emission limits.
 - Program design would hardwire increasing prices if progress is inadequate
- > Price certainty
 - Escalating price would be established for each year, subject to any adjustments based on progress towards meeting statewide emission limits.
 - Set price based on projected price level needed to stimulate technology development and deployment as needed to meet emission limits.
 - Could provide EGUs credit for RGGI price.

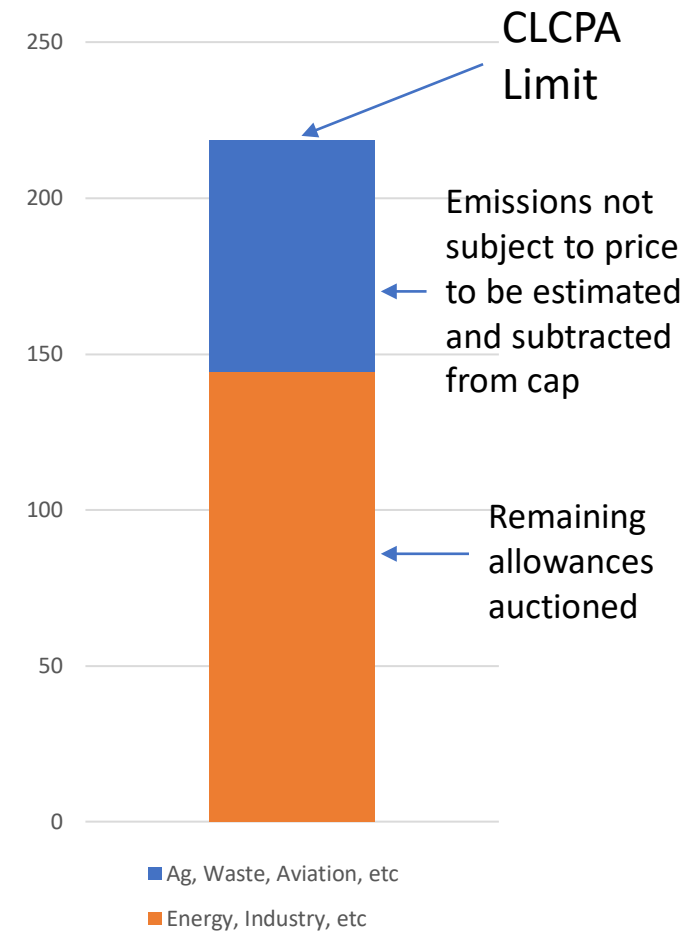
Potential High-Level Design of a Carbon Tax (cont.)

- > Addressing climate justice
 - Investments: Meet/exceed CLCPA requirement for investment in DACs
- > Affordability
 - Start with lower price; increase to level targeted to meet 2030 emission limit as choices become available
 - "Rebates" to LMI households
- > Mitigating leakage
 - Provide rebate to EITE industries from revenues; investments can support emission reductions, including for small businesses
 - Undertake periodic review of extent of leakage to inform program adjustments
- > Implementation
 - Requires legislation

Economy-wide Strategies Subgroup - Potential Design Elements: Cap-and- Invest

Potential High-Level Design of Cap-and-Invest

- > Sectoral coverage: All Climate Act emissions attributed to New York, including energy, industrial process, waste, agriculture, etc.
 - Subject to allowance budget: energy emissions except those that can't legally be covered (e.g. aviation), industrial process emissions
 - Open question about how to treat electricity sector given regulation under RGGI
 - Under cap but not under allowance budget (due to legal and substantive challenges) -- budget is set by subtracting these sectors' emissions from cap: agricultural process emissions; aviation and ocean-going vessels; potentially waste sector methane leakage
- > Certainty of emission reductions
 - Provided rigorous cap and allowance budget design, strong certainty of emissions reductions, including capturing interaction between allowance budget and non-allowance budget sectors



Potential High-Level Design of Cap-and-Invest (cont.)

> Addressing climate justice

- Program design options:
 - Trading limits between DAC and non-DAC areas for stationary sources
 - Non-tradeable facility-specific caps on GHGs or co-pollutants on stationary sources in DAC areas; penalties for exceeding cap levels
 - Linkage predicated on environmental justice impacts
- Investments: Meet/exceed CLCPA requirement for investment in DACs

> Affordability

- Consignment mechanism for gas and electric utilities where they own allowances, sell them in state auctions and spend revenue on:
 - Fully mitigating any LMI impact, including impacts from transportation and heating fuels that are not delivered by utilities
 - Securing other benefits for ratepayers, including non-volumetric rebates
- If not covered by utility rebates, direct rebates based on additional cost burden for fuels not delivered by utilities

Potential High-Level Design of Cap-and-Invest (cont.)

> Price certainty

- Create price floor and reserve mechanisms (emissions containment and allowance price containment) to mitigate fluctuations

> Mitigating leakage

- Identified EITE sectors will receive no cost allowances proportional to the facility's output, a benchmark against a best-in-class comparable facility, and potentially a cap-decline factor
- Undertake periodic review of extent of leakage to inform program adjustments
- Provide for banking of allowances to smooth reduction obligations by all entities, but consider limitations on banking that are needed to achieve annual targets

> Implementation

- Likely can be done via administrative authority
- Legislature may need to appropriate proceeds for some investment categories

Discussion of Feedback: Adaptation and Resilience

Summary Themes

Equity and just transition

- > Incorporation of equity and just-transition considerations into adaptation and resilience programs and the use of such programs to address injustices and inequities was a recurrent theme, summarized by this comment,
 - "Policymakers have failed to establish a comprehensive set of goals, processes and selection criteria for identifying and implementing protective resiliency projects that involve meaningful community consultation and empowerment, especially in frontline and Black, Indigenous, and People of Color (BIPOC) and economically disadvantaged communities."

Municipal and stakeholder support

- > Several comments supported enhanced state funding, guidance and technical assistance to municipalities and other stakeholders to facilitate regional and local adaptation planning, and disaster response and recovery, including enactment of the Emergency Responder Act.

Natural resilience measures

- > Preference for use of natural resources and nature-based features, including urban forests, was also a recurrent theme, including targeting disadvantaged communities.

Summary Themes

Protective, design guidelines and regulations

- > Several comments emphasized need for more protective design guidelines and regulations for buildings and natural systems.
- > A few comments addressed incorporation of the value of ecosystem services into decision making.

Outreach, education and information

- > Several comments suggested K-12 climate education or public outreach campaigns.
- > Others suggested more readily available climate change information, including enacting of a flood risk disclosure law.

Unresolved CJWG Feedback

Unresolved CJWG Comment	Staff Response
Provide clarity on the positioning of the Adaptation & Resilience Sub-Cabinet position	Staff recommends that the state resilience officer report to the director of state operations and that the sub-cabinet comprise heads of relevant agencies or their designees.
Update DOS Coastal Management Program to require diesel emission reductions from land and water based vehicles	Coastal management policies are focused on land use and development and are not applicable to vehicular emissions. This feedback is better directed toward the transportation policies.

Staff Recommendations

Equity and just transition

- > Strengthen language throughout chapter to emphasize commitment to incorporate equity and just-transition considerations into adaptation and resilience programs, including in appointment of a chief state resilience officer and prioritization of resilience investments in frontline communities.
- > Develop more detailed recommendations for programs to address past and current injustices and inequities.

Municipal and stakeholder support

- > Consider support for the Emergency Responder Act.
- > Develop a recommendation to encourage development of resiliency zones/hubs, especially in frontline communities.
- > Recommend prioritized investment in frontline communities.
- > Recommend guidance materials be provided in several languages.
- > Recommend guidance on development of evacuation plans and use of solar+storage and V2G systems in local plans.

Staff Recommendations

Protective, design guidelines and regulations

- > Recommend assessment of need for additional standards to ensure resilience of manufactured and mobile homes.
- > Recommend all comprehensive plans be required to address forest and farmland protection.
- > Recommend more flexible permitting for adaptation projects.
- > Recommend policy and guidance on incorporation of value of ecosystems in decision making.
- > Emphasize preference for use of nature and nature-based features to enhance resilience, including in frontline communities.

Outreach, education and information

- > Emphasize importance of both school-based and public education.
- > Support a flood risk disclosure law.

Discussion of Feedback: Just Transition

Summary Themes

Job loss avoidance, worker protection, and job quality

- > NY must minimize job loss, ensure jobs created are union jobs, ensure reemployment support/protections for any worker facing displacement, and protect public jobs from outsourcing/privatization

Additional clarity needed by workforce on timelines for sectors and technologies

- > FSP needs to more directly tie together sectoral transition timelines and likely workforce impacts and opportunities
- > Commenters identified technical updates to JTWG Jobs Study (and NYSERDA CEIR), plus future analytical work priorities

Labor/worker groups seek more expansive approach to technology/resource mix (all-of-the-above approach)

- > Focus includes use of nuclear, hydrogen, and bioenergy – in addition to emerging approaches like community thermal

State/agency structure to deliver and fund support for workers and communities

- > Establishment of state Office of Just Transition and Workforce and Community Assurance Fund
- > Early retirement and pension support (for existing/displaced workers); local funding support (for host communities)
- > For these and other actions: commenters highlighted need to identify funding streams to support a just transition

Emphasis on strengthened and expanded application of labor standards (PW, PLA, LPA, BA/BNY)

- > Strengthening in sectors w/ existing labor standards (OSW, large-scale renewables, community solar, Bond Act) – e.g., for O&M work
- > Ensure application of labor standards are included in emerging sectors such as hydrogen; EV charging; etc.

Summary Themes (cont'd)

Intersection of Just Transition and Climate Justice

- > Need engagement with underserved communities in a measurable way; ensure targeted investment in programs like pre-apprenticeship direct entry programs for underserved communities and others historically lacking access to energy/construction jobs, such as women, people of color, and veterans.
- > Engage and consult the Haudenosaunee Confederacy/indigenous nations in transition planning

Inclusive workforce development, education, and training

- > Equitable, interdisciplinary, justice-centered K-12 climate education and workforce development, informed by involvement from BIPOC communities; workforce development programming should prioritize support for displaced workers as well as new entrants

Power Plant Site Reuse

- > Encourage and plan for adaptive reuse of fossil fuel plants and closed nuclear sites with battery storage and/or renewable infrastructure
- > Avoid/reduce ripple effects such as property tax base reductions from plant closure or decline, plus indirect/induced job ripple effects

Holistic consideration of business impacts

- > Desire for minimizing the impact of climate policies on industries writ-large (i.e., beyond the energy sector), thereby reducing the number of displaced workers; and concern about risk of negative impacts for certain energy sub-sectors such as service station industry, fossil gas distribution, and waste
- > Other EITE/Industry chapter comments have bearing on “Business Impacts” portion of the Just Transition chapter
 - Topics include: Definitions of EITE industries; extent of compliance costs and mitigation measures; leakage and competitiveness; alternative compliance mechanisms; GHG emissions benchmarking and reporting
- > Use Buy New York/Buy American policies to prioritize companies that support local hire and bring high-roads green jobs to NY

Staff Recommendations

Provide enhanced clarity on job impacts/opportunities vis-à-vis core transition timelines

- > Staff recommend directly integrating Jobs Study results and descriptive timelines prominently into main sectoral chapters (e.g., buildings/gas transition, transportation, power generation); ensure coordination and sequencing between clean energy timelines and transition from legacy systems

Incorporate targeted references to new CLCPA-aligned technology opportunities where appropriate

- > Work with respective Chapter leads to add emphasis on community thermal, enhanced geothermal, advanced nuclear, and more

Advance and further define concept of a state office/fund for just transition and support for a green economy

- > Staff recommend a framework for a state office/fund be added to FSP, with a potential linkage to any funding mechanisms identified

Ensure the application of labor standards to all appropriate technology sectors

- > Staff recommend more granular spotlight on need for labor standards in emerging sectors in FSP (H2, EVSE, etc.) as well as updates to FSP to reflect recent state legislative progress and federal developments

Bolster transition-related workforce development, education, and training, and community support activities

- > Workforce training and dev. provisions included in DSP can/should be broadened and made more specific, including w/r/t K-12 climate education, and career training/upskilling for both existing conventional energy workers as well as new workers from underserved communities/priority populations
- > Host community support provisions already in plan and in place can/should be expanded and made more specific as well

Just Transition spotlight on new federal opportunities created by IIJA, CHIPS, and IRA

- > Add section to FSP outlining priority federal opportunities that NY should pursue to support a just transition (e.g., PW/apprenticeship reqs; clean energy manufacturing; T&D funding; clean H2 tax credits; advanced nuclear R&D; financing for infra. reuse; & more)

Next Steps

Next Steps

Tentative Council Meetings and Topics

Thursday, October 13, 2 – 5 pm	Integration Analysis Update Discussion of Feedback: Gas System Transition, Buildings, Health, Industry chapters
Tuesday, October 25, 2 – 5 pm	Integration Analysis Update Discussion of any remaining feedback topics
Monday, November 7, 2 – 5 pm	Discuss redlines of interest
Monday, November 21, 9 am – noon	Discuss redlines of interest
Monday, December 5, 2 – 5 pm	Final resolution of outstanding items
Monday, December 19, 2 – 5 pm	Vote on Final Scoping Plan, member statements