

**Advisory Panel on:**

***Energy-Intensive and  
Trade-Exposed Industries***

February 10, 2021  
Meeting 7

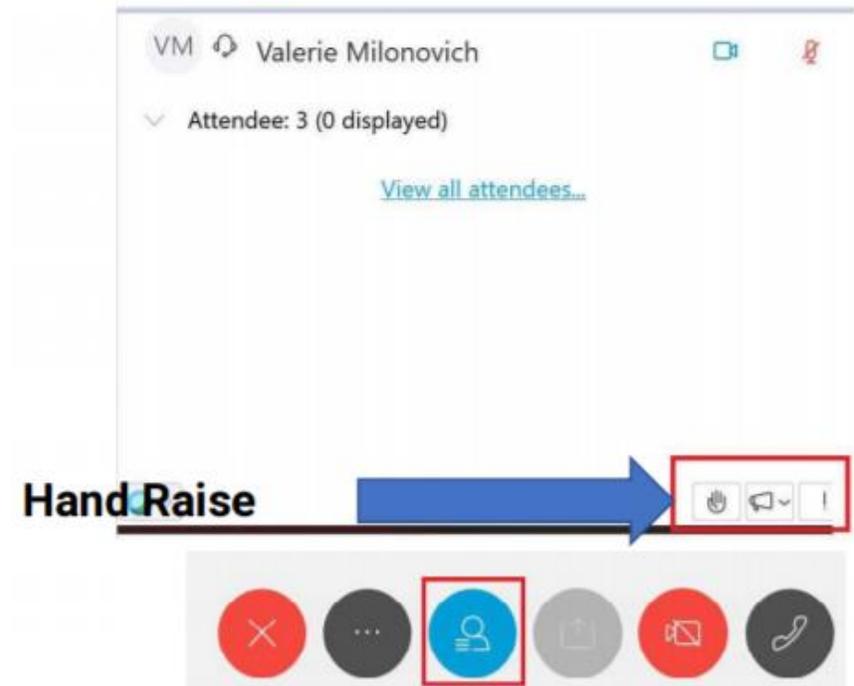


**Climate Action  
Council**

# Logistics and Meeting Procedures

## Before beginning, a few notes to ensure a smooth discussion:

- > Panel Members should be on mute if not speaking
  - If using phone for audio, please tap the mute button
  - If using computer for audio, please click the mute button on the computer screen (1<sup>st</sup> visual)
- > Video is encouraged for Panel Members, in particular when speaking
- > In the event of a question or comment, please use the hand raise function (2nd visual). You can get to the hand raise button by clicking the participant panel button (3rd visual). The Chair will call on members individually, at which time please unmute.
- > If technical problems arise, please contact [Jacqueline.Sharry@cadmusgroup.com](mailto:Jacqueline.Sharry@cadmusgroup.com) or (774)437-9196.



# Recap of progress to-date

- Defined panel scope and work plan
- Reviewed industrial emission sources, technology and process solutions for reducing emissions
- Identified potential policies to foster deployment of solutions
- Synthesized preliminary emission reduction strategies
- Collected public input on preliminary strategies

# Meeting Objectives

- Review public input on preliminary EITE strategies
- Provide panel input on draft of final recommendations for Climate Action Council

# Agenda

- Welcome and updates
- Recap of public input
- Discuss draft of EITE panel final recommendations
- Next steps

# Energy-Intensive and Trade-Exposed Industries Advisory Panel

**Eric Gertler, Chair**  
President & CEO:  
Empire State  
Development

**Keith Hayes,  
Co-Chair**  
Senior VP of Clean  
Energy Solutions:  
NYPA

**Heather Briccetti**  
President & CEO: The  
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**Tristan Brown**  
Associate Professor of  
Energy Resource  
Economics: SUNY ESF

**Jason Curtis**  
Vice President &  
General Manager:  
Nucor Steel

**Carlos García**  
Energy Policy Planner:  
New York City  
Environmental Justice  
Alliance

**Leah George  
VanScott**  
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Development: Greater  
Rochester Enterprise

**Doug Grose**  
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**Michael LeMonds**  
Vice President of  
Environment, Land  
and Government  
Affairs: Lafarge

**Melanie Littlejohn**  
Vice President and  
Regional Executive  
Director-Upstate New  
York: National Grid

**Elisa Miller-Out**  
Managing Partner:  
Chloe Capital

**Stephen Tucker**  
President & CEO:  
Northland  
Workforce Training Ctr

**David Wasiura**  
Assistant to the  
Director: United  
Steelworkers District 4

**Lourdes Zapata**  
President & CEO:  
South Bronx Overall  
Econ. Devt. Corp.

# Energy-Intensive and Trade-Exposed Industries Staff Working Group

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# Updates

- Review Just Transition Principles
- Update on Biogas/Renewable Natural Gas Discussion

# Principles for a Just Transition (from JTWG)

## *Background*

- Developed to support a fair and equitable movement
  - from fossil-fuel based economies
  - toward a carbon-neutral future
- Will serve to guide Advisory Panel recommendations
- Each principle may have different applicability in different economic sectors

# Principles for a Just Transition (from JTWG)

## *List of Principles (1 of 2)*

- Stakeholder-Engaged Transition Planning
- Collaborative Planning for a Measured Transition Toward Long-Term Goals
- Preservation of Culture and Tradition
- Realize Vibrant, Healthy Communities Through Repair of Structural Inequalities
- Equitable Access to High Quality, Family-Sustaining Jobs

# Principles for a Just Transition (from JTWG)

## *List of Principles (2 of 2)*

- Redevelopment of Industrial Communities
- Development of Robust In-State Low-Carbon Energy and Manufacturing Supply Chain
- Climate Adaptation Planning and Investment for a Resilient Future
- Protection and Restoration of Natural and Working Lands Systems & Resources
- Mutually-Affirming Targets for State Industrialization & Decarbonization

# Update on Biogas Discussion: *Summary of EITE Perspectives*

- Biogas may be a potential substitute for some natural gas use.
- However, biogas capacity is insufficient to replace all natural gas use.
- Biogas may reduce GHG emissions in the short-term for targeted industries in which electrification is not currently cost-effective.
- Despite its potential, certain issues are desired to be further studied:
  - Technology must be proven at scale
  - Accounting methods are needed to measure lifecycle GHG impact
  - Techniques must be developed to address co-pollutants
  - Use of biogas should not delay the deployment of clean energy

# Update on Biogas Discussion

## *Next Steps*

- EITE staff and panel members have shared initial learnings on biogas with other staff working groups.
- Bioeconomy subgroup of Agriculture & Forestry is expected to hold additional discussions on this topic; EITE Panel members are invited to join future discussions.
- Not yet a clear mitigation strategy related to biogas for EITE Panel (vs. Ag & Forestry, Waste or Power Gen); instead, plan to continue sharing feedback with other panels and working groups, including the Climate Action Council, as appropriate based on Industry as an end user.

# **Recap of Public Input -**

***Preliminary Industrial GHG Emission  
Mitigation Strategies and Enabling  
Initiatives***

# *Reminder: Public and Stakeholder Input Process*

- All EITE Advisory Panel meetings have been open for viewing by the public; all meeting presentations and notes have been posted to [climate.ny.gov](https://climate.ny.gov).
- December – input from Climate Action Council, Climate Justice Working Group
- January – input from public in virtual forum (verbal and written)
- Ongoing – written comments accepted at:
  - E-mail (preferred): [climate@esd.ny.gov](mailto:climate@esd.ny.gov)
  - Letter:
    - EITE Advisory Panel
    - c/o Empire State Development
    - 633 Third Avenue
    - New York, NY 10017
- April 2021 and beyond – public input will be collected on Climate Scoping Plan, which will consider and incorporate EITE, other panel recommendations under the guidance of the Climate Action Council

# Summary of Key Topics Raised in Public Input

- Potential energy cost increases
- Implementation of the CLCPA
- Feasibility of reaching the targets and other goals
- GHG emissions reporting
- Leakage
- Reliability of the power system
- Environmental impacts of renewable energy development
- Use of renewable natural gas
- Adaptive re-use of electric generating facilities

# Discussion: Panel Reflections on Public Input

**For Discussion -**

***Draft of ELTE Recommended  
Strategies for Climate  
Action Council Consideration***

# *Reminder:* EITE considerations for Industrial emission mitigation strategies

- Industrial sectors within EITE panel scope (Manufacturing, Mining, Construction) total a small share of State emissions
  - ***Construction emissions are now being addressed by the Transportation Advisory Panel.***
- "Heterogeneous" nature may result in higher cost per tons of 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 est. to occur further into the future as new technologies scale, mature and become more viable.

# Reminder: Preliminary EITE Strategies

**Mitigation strategies:** Directly reduce emissions and contribute to the achievement of the GHG emission limits or carbon seq. needed to achieve net zero, where applicable:

1. Provide financial incentives and technical assistance for the decarbonization of EITE sectors
2. Create procurement incentives for business to capitalize on low-carbon economic opportunities

**Enabling initiatives:** No direct emissions benefit, but enable or magnify the mitigation strategies, enhance climate justice, or just transition. (*Examples: outreach, education, and awareness; capacity building; workforce development; and research and development.*)

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

# Mitigation strategy – Initiative #1: Financial and Technical Assistance Overview

|   |  |                               |      |
|---|--|-------------------------------|------|
| <b>Description:</b>                     | Provide technical assistance to help identify economically viable decarbonization projects and provide comprehensive energy management planning. Provide financial assistance for decarbonization projects and leverage low-cost hydropower to support industry. |                               |      |
| <b>Action type:</b>                     | Engineering support and financial incentives   |                               |      |
| <b>GHG reduction by 2030:</b>           | Low  | <b>GHG reduction by 2050:</b> | High |
| <b>Cost and funding considerations:</b> | Costs to support industry can be through utility collections of a System Benefits Charge, agency funding or federal grants and support.  |                               |      |
| <b>Ease of implementation:</b>          | Easy   |                               |      |
| <b>Example case studies:</b>            | NYSERDA's Clean Energy Fund, NYPA's Low-Cost Power Program, Investor-Owned Utility Energy Efficiency Programs.   |                               |      |

| <b>Risks / Barriers to success</b>   | <b>Possible mitigants</b>   |
|--|---|
| Industries' internal competition for resources may prohibit investment in implementation of GHG reduction strategies | Provide clear market signals of long-term resource commitments and benefits to industry |

# Mitigation strategy – Initiative #1: Financial and Technical Assistance

## Components of the strategy

| <b>Components required for delivery</b><br><i>(Brief description of action required)</i>  | <b>Implementation lead</b><br><i>(Entity responsible for completing)</i> | <b>Time to implement</b><br><i>(Time required to implement)</i> | <b>Other key stakeholders</b><br><i>(Entities that need to be engaged)</i> |
|---|--|---|--|
| NYSERDA financial and technical initiatives <ul style="list-style-type: none"> <li>• Approval of continuation of Clean Energy Fund</li> <li>• Market Engagement and Outreach</li> </ul> | NYSERDA  | Ongoing   | DPS, NYSERDA, NYPA<br>Utilities, Regional Economic Development Councils    |
| Utility Energy Efficiency Programs  | Utilities  | Ongoing   | DPS, NYSERDA, NYPA   |
| Low-cost Hydro Power Programs   | NYPA   | Ongoing   | DPS, Utilities   |

# Mitigation strategy – Initiative #1: Financial and Technical Assistance

## Benefits and impacts

### Anticipated Benefits and Impacts

|  |   |
|--|---|
| <b>Disadvantaged communities</b>                           | Industrial facilities implementing GHG emission reduction projects or receiving low-cost hydro power may be located within a disadvantaged community.   |
| <b>Health and co-benefits</b>                              | Significant health benefits are expected from lowering GHG emission reductions at energy intensive industrial facilities in which some facilities are in heavily populated areas.   |
| <b>Just transition: businesses and industries, workers</b> | Over 127,000 clean energy jobs exist in energy efficiency in New York and as increased investments in GHG emission reduction projects occur opportunities exist for job growth in the sector.*<br><br>*2020 New York Clean Energy Industry Report, p. 37. |
| <b>Other</b>   |   |

# Mitigation strategy – Initiative #2: Low-Carbon Procurement Policies Overview

|  |  |                               |        |
|--|--|-------------------------------|--------|
| <b>Description:</b>  | Develop preferential procurement standards for low-carbon building materials. Low-carbon materials will be required to reduce emissions in the built environment. Providing a value proposition for manufacturers to produce low-carbon products will help reduce process related emissions. |                               |        |
| <b>Action type:</b>  | Legislative/Regulatory   |                               |        |
| <b>GHG reduction by 2030:</b>  | Low  | <b>GHG reduction by 2050:</b> | Medium |
| <b>Cost and funding considerations:</b>  | Low-carbon products available in the near have comparable cost characteristics to legacy materials. Long-term costs can be controlled by capping preferential standards (e.g. maximum % discount on bid price when proposal contains low-carbon products)                                    |                               |        |
| <b>Ease of implementation:</b>   | Medium   |                               |        |
| <b>Example case studies:</b>   | Buy Clean California; EU 2014 Public Procurement Directives  |                               |        |
| <b>Risks / Barriers to success</b>   | <b>Possible mitigants</b>  |                               |        |
| <ul style="list-style-type: none"> <li>• Availability of different types of low-carbon products</li> <li>• Life Cycle Analyses (LCAs) of products require standardized accounting frameworks to ensure accurate accounting of emission reduction.</li> </ul> | <ul style="list-style-type: none"> <li>• RD&amp;D funding for product development</li> <li>• Work with other states and municipalities on LCA best practices to ensure that compliance is favorable to business interests.</li> </ul>  |                               |        |

# Mitigation strategy – Initiative #2: Low-Carbon Procurement Policies

## Components of the strategy

| Components required for delivery<br><i>(Brief description of action required)</i> | Implementation lead<br><i>(Entity responsible for completing)</i> | Time to implement<br><i>(Time required to implement)</i> | Other key stakeholders<br><i>(Entities that need to be engaged)</i> |
|---|---|--|---|
| Establishment of eligible product list  | OGS   | <1 year  | NYSERDA, DEC, DOT, PANYNJ   |
| Global Warming Potential (GWP) assessment framework                               | NYSERDA   | <1 year  | DEC   |
| Environmental Product Declaration verification and compliance process             | OGS   | 1-2 years  | NYSERDA, DOT, PANYNJ  |
| Continuous monitoring and updating of standards                                   | NYSERDA   | 1-2 years  | DEC   |

# Mitigation strategy – Initiative #2: Low-Carbon Procurement Policies

## Benefits and impacts

### Anticipated Benefits and Impacts

|  |   |
|--|---|
| <b>Disadvantaged communities</b>                           | The production methods utilized to manufacture low-carbon products often reduce other harmful co-pollutants relative to the production of the legacy products being replaced. As a result, production of low-carbon products may have beneficial local health impacts in disadvantaged communities where industrial facilities are often located.         |
| <b>Health and co-benefits</b>                              | See above.  |
| <b>Just transition: businesses and industries, workers</b> | Development of low-carbon products and associated markets will offer new business opportunities, including to NYS-certified M/WBE and SDVOBs. Technologies that will enable large scale production of low-carbon goods will be developed by startups and other new business ventures that will spur job growth and new innovative industries in NY State. |
| <b>Other</b>   |   |

# Mitigation strategy summary

| Initiative # | Description   | Action type                        | Emissions impact | Ease of implementation | Cost   |
|--------------|---|------------------------------------|------------------|------------------------|--------|
| 1.           | Provide financial incentives and technical assistance for the decarbonization of EITE sectors | Financial and technical assistance | High             | Easy                   | \$\$\$ |
| 2.           | Create procurement incentives for business to capitalize on low-carbon economy opportunities  | Low-carbon procurement policies    | Low              | Medium                 | \$\$   |

# Enabling initiative – Initiative #3: Research Development & Demonstration Overview

|  |  |  |
|--|--|--|
| <b>Description:</b>  | Develop a comprehensive Innovation Roadmap to guide key priorities for deep decarbonization investment in the areas of low-carbon fuels and carbon removal that considers intersection of industrial/manufacturing, agriculture, transportation, and power generation sectors. |  |
| <b>Action type:</b>  | Research initiative  |  |
| <b>Cost and funding considerations:</b>  | <\$1 million required for initial roadmap analysis with additional funding for additional research and early-stage pilots to be determined pending the outcome of analysis.  |  |
| <b>Ease of implementation:</b>   | Easy   |  |
| <b>Example case studies:</b>   | <i>Getting to Neutral; Clearing the Air; National Academies Negative Emissions Research Agenda (2019)</i>  |  |
| <b>Risks / Barriers to success</b>   | <b>Possible mitigants</b>  |  |
| <ul style="list-style-type: none"> <li>Research scope will need to be tightly defined to ensure meaningful recommendations can be ascertained</li> </ul> | <ul style="list-style-type: none"> <li>Form collaborative stakeholder group to provide input on research scope</li> </ul>  |  |

# Enabling initiative – Initiative #3: Research Development & Demonstration

## Components of the initiative

| <b>Components required for delivery</b><br><i>(Brief description of action required)</i> | <b>Implementation lead</b><br><i>(Entity responsible for completing)</i> | <b>Time to implement</b><br><i>(Time required to implement)</i> | <b>Other key stakeholders</b><br><i>(Entities that need to support)</i> |
|--|--|---|---|
| Development of research agenda scope   | NYSERDA  | < 1 year  |   |
| Release of solicitation to perform research  | NYSERDA  | 1-2 years   |   |
| Fund research and pilot/demonstration projects   | NYSERDA  | Ongoing   | ESD, NYPA, DEC  |

# Enabling initiative – Initiative #3: Research Development & Demonstration: Benefits and impacts

## Anticipated Benefits and Impacts

### Disadvantaged communities

Research must take into account environmental justice concerns when making recommendations for areas of action and investment.

### Health and co-benefits

Research must take into account public health concerns when making recommendations for areas of action and investment.

### Just transition: businesses and industries, workers

A robust RD&D program will attract private investment, highly skilled personnel resources, and new businesses to NY state.

### Other

# Enabling initiative – Initiative #4: Workforce Development Overview

|   |   |
|---|---|
| <b>Description:</b>                     | Provide workforce development training on existing and new innovative emission reduction technologies   |
| <b>Action type:</b>                     | Regulatory (Clean Energy Fund)-- NYS Labor  |
| <b>Cost and funding considerations:</b> | Costs for training are mitigated by expanding job opportunities for clean energy workforce in addition to cost savings at facilities as GHG strategies are implemented. |
| <b>Ease of implementation:</b>          | Easy  |
| <b>Example case studies:</b>            | NYSERDA Workforce Development Programs , NYS Dept of Labor Programs   |

| <b>Risks / Barriers to success</b>  | <b>Possible mitigants</b>  |
|---|--|
| <ul style="list-style-type: none"> <li>• Training programs not aligned with business needs</li> <li>• Risk aversion for businesses to invest in training</li> <li>• Long lead time to find skilled workers</li> </ul> | <ul style="list-style-type: none"> <li>• Develop and or expand training to meet the needs and capacity</li> <li>• Offset cost of training</li> </ul> |

# Enabling initiative – Initiative #4: Workforce Dev.

## Components of the initiative

| <b>Components required for delivery</b><br><i>(Brief description of action required)</i>   | <b>Implementation lead</b><br><i>(Entity responsible)</i> | <b>Time to implement</b><br><i>(Time required to implement)</i> | <b>Other key stakeholders</b><br><i>(Entities supporting)</i> |
|--|---|---|---|
| <p><b>NYSERDA will partner with training organizations and businesses to expand training capacity in NY and update training content to prepare workers for jobs with clean energy technologies.</b></p> <ul style="list-style-type: none"> <li>• Issue Competitive Solicitations</li> <li>• Develop strategic partnerships with industry organizations</li> <li>• Support training activities that will include job preparation and job placement initiatives</li> <li>• Support business-facing intermediaries such as community-based organizations</li> </ul> | <p>NYSERDA</p>  | <p>Ongoing</p>  | <p>NYSDOL, ESD, Utilities</p>                                 |
|  |   |   |   |

# Enabling initiative – Initiative #4: Workforce Development

## Benefits and impacts

### Anticipated Benefits and Impacts

#### Disadvantaged communities

Many industrial facilities are in or near disadvantaged communities, efforts will encourage participation by and job placement for disadvantaged workers.

#### Health and local air quality

Significant health benefits are expected from lowering GHG emission reductions at energy intensive industrial facilities, some of which are in heavily populated areas.

#### Just transition: businesses and industries, workers

Opportunities exist for worker training, especially within disadvantaged communities, including partnering with unions, engineering companies, energy efficiency service providers.

#### Other

# Enabling initiative – Initiative #5: GHG Reporting Overview

|   |   |
|---|---|
| <b>Description:</b>                     | Expand the universe of industrial facilities that are required to report on their GHG emissions.                  |
| <b>Action type:</b>                     | Regulatory  |
| <b>Cost and funding considerations:</b> | Reporting facilities would be the bearer of cost. DEC would be the bearer of cost for data collection and review. |
| <b>Ease of implementation:</b>          | Medium – regulation adoption takes 12-24 months typically, but process is well established.                       |
| <b>Example case studies:</b>            | Existing regulations (6 NYCRR Part 202-2) that require GHG reporting for major sources of criteria pollutants.    |

| <b>Risks / Barriers to success</b>  | <b>Possible mitigants</b>   |
|---|---|
| <ul style="list-style-type: none"> <li>- Establishing a GHG emissions threshold at which reporting will be required and there will likely be disagreement between state and regulated community as to what the threshold should be.</li> <li>- Concern about placing additional regulatory requirements on facilities already highly regulated by DEC.</li> </ul> | <ul style="list-style-type: none"> <li>- Evaluate whether to align with reporting already done to meet EPA GHG Reporting Program.</li> <li>- To the extent possible the regulatory requirements should tie into existing regulatory requirements for facilities.</li> </ul> |

# Enabling initiative – Initiative #5: GHG Reporting

## Components of the initiative

| Components required for delivery<br><i>(Brief description of action required)</i> | Implementation lead<br><i>(Entity responsible for completing)</i> | Time to implement<br><i>(Time required to implement)</i> | Other key stakeholders<br><i>(Entities that need to support)</i>   |
|---|---|--|--|
| Develop Rule Initiation Memorandum (RIM)  | DEC   | 1 month  | N/A  |
| Initial draft of GHG reporting regulation   | DEC   | 4 months   | N/A  |
| Public outreach to get input on initial draft regulation                          | DEC   | 4 months   | Regulated facilities, business council, industrial sector organizations, environmental advocacy organizations. |
| Finalize draft regulation   | DEC   | 3 months   | N/A  |
| Public notice of draft regulation   | DEC   | 1 – 2 months   | As above   |
| Prepare response to comments and finalize regulation                              | DEC   | 3 months   | N/A  |
| Adopt regulation  | DEC   | 1 month  | N/A  |

# Enabling initiative – Initiative #5: GHG Reporting

## Benefits and impacts

### Anticipated Benefits and Impacts

#### Disadvantaged communities

Having a more complete picture of GHG emitting facilities will allow a more focused effort to reduce GHG emissions as much as possible. Since most often GHG emissions are the result of fuel combustion any reduction in fuel combustion will also result in lower emissions of criteria and hazardous air pollutants, which tend to be elevated in Disadvantaged Communities.

#### Health and local air quality

As described the initiative has the potential to result in lower criteria pollutant emissions. Reductions in criteria pollutant emissions have long been known to be beneficial to the health of individuals.

#### Just transition: businesses and industries, workers

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 reductions in the EITE sectors and prioritize emission reduction efforts.

#### Other

# Enabling initiative – Initiative #6: Economic incentives

## Overview

| <b>Description:</b>  | 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 loans, grants, tax credits, and other economic incentives.   |
|--|--|
| <b>Action type:</b>  | Economic Incentives  |
| <b>Cost and funding considerations:</b>  | Costs are offset by attracting additional spending, which produces State and local tax revenues; State programs already in existence: Excelsior Jobs Program, NY Ventures, NY Green Bank, etc.   |
| <b>Ease of implementation:</b>   | Easy / Operational   |
| <b>Example case studies:</b>   | <p>In April 2020, New York State created special "Green Economy Tax Credits" as economic incentives under the Excelsior Jobs Program, which have helped to attract several projects, including:</p> <ul style="list-style-type: none"> <li>• Li-cycle: Will recycle lithium-ion batteries, resulting in 100 jobs. NYS committed \$5 million.</li> <li>• Plug Power: Will produce hydrogen fuel cell stacks and electrolyzers, resulting in 377 jobs. NYS committed \$13 million in tax credits.</li> </ul> |
| <b>Risks / Barriers to success</b>   | <b>Possible mitigants</b>  |
| <ul style="list-style-type: none"> <li>• Many green industries will require additional conditions to grow in NYS; greater market demand, workforce and suppliers.</li> <li>• Many jurisdictions are competing for green economy jobs.</li> </ul> | <ul style="list-style-type: none"> <li>• To be effective, economic incentives may need to be supported by workforce planning and other efforts to stimulate demand (e.g., clean energy and low-carbon procurements).</li> </ul>  |

# Enabling initiative – Initiative #6: Economic incentives

## Components of the initiative

| <b>Components required for delivery</b><br><i>(Brief description of action required)</i>  | <b>Implementation lead</b><br><i>(Entity responsible)</i> | <b>Time to implement</b><br><i>(Time required to implement)</i> | <b>Other key stakeholders</b><br><i>(Entities supporting)</i> |
|---|---|---|---|
| <ul style="list-style-type: none"> <li>• <b>Offer economic incentives to secure green economy attraction and expansion projects, including:</b> <ul style="list-style-type: none"> <li>○ Engagement with green economy businesses to identify potential in-state economic opportunities;</li> <li>○ Engagement with awardees and suppliers of State green procurements (e.g., offshore wind energy and port investment solicitation) and contests (e.g., 76 West clean energy business plan competition) to discuss potential in-state economic opportunities;</li> <li>○ Coordinating with State partners to identify all relevant incentives (ESD, NY Green Bank, NYPA, etc.)</li> <li>○ Offering and administering economic incentives where necessary.</li> </ul> </li> </ul> | ESD   | Ongoing   | NYSERDA, NYPA   |
| <ul style="list-style-type: none"> <li>• <b>Implement complementary initiatives to grow workforce, supplier base and market demand.</b></li> </ul>  | Various   | Ongoing   | NYSERDA, NYPA, SUNY   |

# Enabling initiative – Initiative #6: Economic incentives

## Benefits and impacts

### Anticipated Benefits and Impacts

#### Disadvantaged communities

- Green economy projects may occur within disadvantaged communities. Project location decisions are typically business-driven, not State-driven.

#### Health and local air quality

- Certain green economy projects, while bringing local jobs and investment, may also bring air quality or other environmental impacts, which would be need to be reviewed under State law.

#### Just transition: businesses and industries, workers

- Certain former power plant facilities may be available to be repurposed for green economic development projects – e.g., offshore wind projects that leverage fossil fuel electric generation facilities as interconnection points – potentially offsetting economic losses from decarbonization.
- Green economy companies may provide supplier opportunities to EITE businesses, and vice versa.

#### Other

- 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.

# Enabling initiatives summary

| Initiative # | Description   | Action type                    | Ease of implementation | Cost |
|--------------|---|--------------------------------|------------------------|------|
| 3.           | Identify and support technological innovation to enable deep industrial decarbonization                 | Research, Dev. & Demonstration | Medium/Hard            | \$\$ |
| 4.           | Workforce development training to support Energy-Intensive and Trade Exposed (EITE) industries          | Workforce development          | Easy                   | \$\$ |
| 5.           | Increase the available data on industrial GHG emissions to help prioritize efforts and monitor progress | Reporting requirement          | Medium                 | \$   |
| 6.           | Provide economic incentives to grow the green economy   | Economic incentives            | Easy                   | \$   |

Discussion:

*Panel Reflections on Strategies*

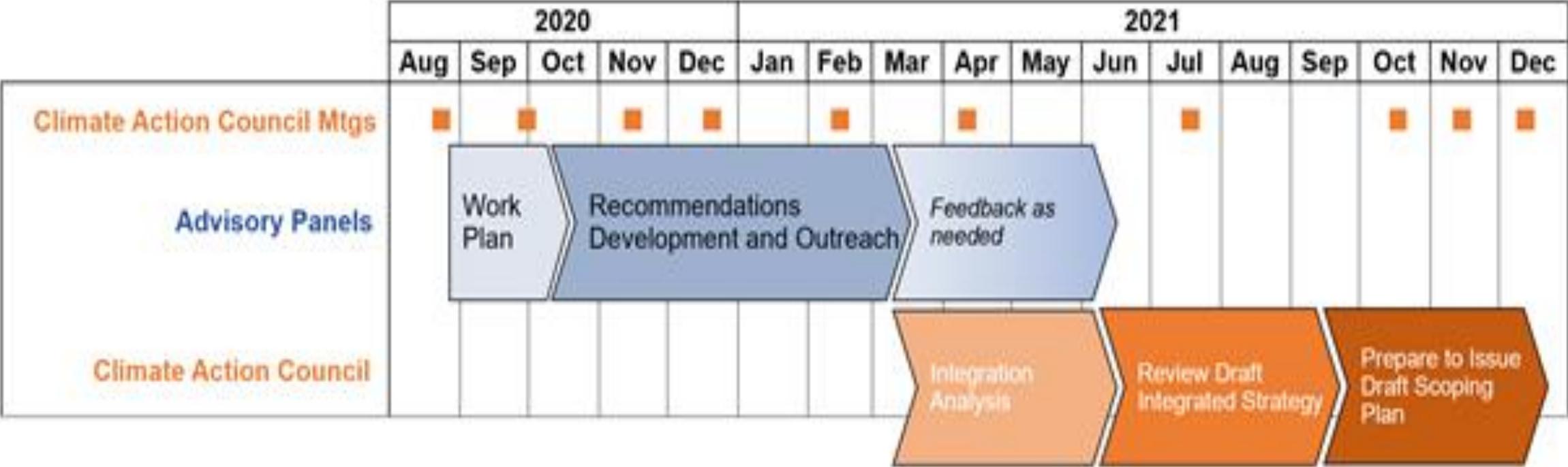
# Next Steps

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- > Next EITE panel meeting will be held on 3/10 to:
  - Finalize recommendations to Climate Action Council.
  - Future Panel meetings will then shift to an as needed basis for further potential collaboration and recommendation refinement during the remaining Scoping Plan process.
- > Panel and public can still submit comments to [climate@esd.ny.gov](mailto:climate@esd.ny.gov).

# Appendix

# Reminder: Timeline Overview



# Reminder: EITE Advisory Panel Work Plan – Draft Timeline of Meetings, Expertise Provided

| Date             | Group    | Anticipated Panel-Related Topics   | Expertise Provided to Panel for Meeting  |
|------------------|----------|--|--|
| <b>Oct 8.</b>    | CAC      | ➤ EITE Chair to present Work Plan and solicit input from CAC   |  |
| <b>Late Oct.</b> | EITE     | <ul style="list-style-type: none"> <li>• Discuss any CAC input on Work Plan</li> <li>• Review potential technologies and policies</li> </ul> | <ul style="list-style-type: none"> <li>• Deep dives on: i) industry emission sources; ii) technologies &amp; policies to reduce emissions.</li> </ul>                                  |
| <b>Nov.</b>      | CAC      | ➤ EITE Chair to present progress and solicit input from CAC  |  |
| <b>Nov.</b>      | EITE     | <ul style="list-style-type: none"> <li>• Identify potential recommendation options</li> </ul>  | <ul style="list-style-type: none"> <li>• Input from JTWG, CJWG and EJAG</li> <li>• List of potential recommendations compiled by Panel, staff, Industry, public, engagement</li> </ul> |
| <b>Dec.</b>      | CAC      | ➤ EITE Chair to present potential recommendation options and solicit input from CAC  |  |
| <b>Dec.</b>      | EITE     | <ul style="list-style-type: none"> <li>• Select preliminary recommendations and any input on goals</li> </ul>                                | <ul style="list-style-type: none"> <li>• Initial evaluation of identified recommendations</li> </ul>   |
| <b>Jan.</b>      | EITE     | <ul style="list-style-type: none"> <li>• Public, panel/working group, and/or expert input session(s)</li> </ul>                              |  |
| <b>Feb.</b>      | EITE     | <ul style="list-style-type: none"> <li>• Identify potential refinements to recommendations and goals</li> </ul>                              | <ul style="list-style-type: none"> <li>• Summary of input from public, JTWG, CJWG, EJAG</li> <li>• Ongoing evaluation of recommendations</li> </ul>                                    |
| <b>Feb.</b>      | CAC      | ➤ EITE Chair to attend CAC Meeting   |  |
| <b>Mar.</b>      | EITE     | <ul style="list-style-type: none"> <li>• Finalize panel recommendations and any input on goals</li> </ul>                                    | <ul style="list-style-type: none"> <li>• Evaluation of potential refinements</li> </ul>  |
| <b>Apr.-June</b> | CAC/EITE | <ul style="list-style-type: none"> <li>• Respond to CAC inquiries as necessary.</li> </ul>   |  |

Note: EITE Staff Working Group also expects to hold internal meetings on an approximately weekly basis.

# Reminder: Key Scoping Assumptions

- 1. What types of emissions should the Panel's recommendations address?**
  - Assumption: On-site fuel combustion, On-site non-combustion process emissions and indirect emissions from electricity use. (Excludes *product use emissions*)
- 2. What industrial activities fall within Panel's "Industry" designation?**
  - Assumption: Manufacturing and Mining. (Excludes *Agriculture (Ag & Forestry)*, *Construction (Transportation)* and *Waste (Waste)*, which are expected to be addressed by other panels.
- 3. How does the EITE Advisory Panel's responsibility differ from the Just Transition WG?**
  - Assumption: Panel will recommend Industry emission reduction strategies and goals while considering EITE sectors and leakage; JTWG will lead the definition of EITE sectors and the development of policies to mitigate anti-competitiveness (with EITE Panel providing input).

# Reminder: Key Scoping Assumptions (Cont.)

4. **What types of technologies should the Panel consider for reducing emissions?**
  - Assumption: energy efficiency, low-carbon thermal solutions, cleaner fuels, electrification, carbon capture utilization and storage.
  
5. **What types of policies should the Panel consider for reducing emissions?**
  - Assumptions: emission reduction incentives, emission regulations, rate design; market preference for goods produced with minimal greenhouse gas emissions, enabling strategies.
  
6. **What types of policies should the Panel consider to mitigate leakage?**
  - Assumptions: rate design; low-cost power programs, market preference for goods produced with minimal emissions, opportunities to support clean technology supply chains.

# Reminder: Emission Reduction Goals

- Pathways Analysis currently reflects Industry sector goals of:
  - From 2016 levels: 6% reduction by 2030, 81%-82% reduction by 2050
  - Both goals are for on-site fuel combustion only
- Pathways Analysis contains no reduction goals yet for:
  - Non-combustion industrial process emissions
  - Product use emissions (not part of panel scope)
  - Indirect emissions associated with electricity (in Power Generation panel scope)
- EITE Advisory Panel to advise CAC on goals and should consider goals when making Industry sector recommendations.

# *Reminder - Key Takeaways:* Technology and Process Solutions

- > Short-term emission reduction opportunities are likely in energy efficiency and electrification of low-temperature process heat
- > Long-term emission reduction technologies, including carbon capture, utilization, and storage and low-carbon fuel alternatives, require significant study and investment
- > Manufacturing subsectors are heterogenous and require unique solutions for reducing emissions
- > Increased organizational focus and personnel capacity can lead to sustained energy efficiency and conservation opportunities that reduce emissions

# *Reminder - Key Takeaways: Overview of NYS Programs Applicable to Industry*

- > The State offers many existing programs in *financial assistance, technical assistance, low-cost power and workforce development* to:
  - **lower the emissions produced** by industrial activities in New York State;
  - **support the transition** of energy-intensive and trade-exposed industries throughout the decarbonization of the state's economy; and
  - **mitigate leakage** from energy-intensive and trade-exposed industries by supporting their attraction, retention and expansion.

# Empire State Development (ESD) Programs

| Program   | Purpose  |
|---|--|
| Excelsior Jobs Program, including Green Economy Tax Credits                     | Provides performance-based refundable tax credits to private businesses in exchange for achieving annual milestones in employment, investment and R&D spending, with enhanced benefits for green economy projects. \$5 million is reserved for the workforce training Employee Tax Incentive Program credit.   |
| Centers and Programs – Division of Science, Technology and Innovation (NYSTAR)  | <p>NYSTAR annually provides \$55 million to a total of approximately 70 NYSTAR centers, including a number that impact or support the green economy by providing a forum for experts to work with big and small industry partners to conceive, validate and scale disruptive technologies.</p> <p><i>Sample Programs: Centers of Excellence (COE), Centers for Advanced Technology (CAT) and Manufacturing Extension Partnership (MEP) programs.</i></p> |
| Other Economic Assistance – Loans, Grants, Tax Credits and Technical Assistance | ESD administers dozens of general programs devoted to providing loans, grants, tax credits, technical assistance and venture investment; some of these programs may be available to support EITE industries or serve as models for new programs.   |

# New York Power Authority (NYPA) Programs

| Program                                       | Purpose   |
|---|---|
| High Load Factor Power (HLF)                  | Allocates power from pumped storage facilities to businesses that utilize power at a high rate (~75% load factor or higher) and have an electric demand of 5 MW or higher.  |
| Industrial Economic Development Power Program | Allocations of power including hydro and market are granted to the electric systems with new, expanding, or relocating businesses within their service territory, in exchange for a commitment of new jobs at the facility.   |
| Northern NY Power Proceeds                    | Allocates funding for economic development in St. Lawrence County. 15% of the program is dedicated to supporting energy related projects, programs and services.  |
| Preservation Power                            | Allocates hydropower to eligible businesses expanding or businesses looking to locate operations in St. Lawrence, Franklin or Jefferson counties.   |
| ReCharge New York (RNY)                       | Provides low-cost power to businesses and not-for-profit organizations statewide in return for commitments to retain/create jobs and invest capital in their facilities.  |
| WNY Hydropower                                | Allocated hydropower to expanding businesses or businesses seeking to locate within 30 miles of the Niagara Power Plant.  |
| Western NY Power Proceeds                     | Low-cost hydropower is allocated to businesses and others to reduce electricity costs and spur economic development. 15% of the program is dedicated to supporting energy related projects, programs and services.  |
| Distributed Energy Resource Program           | Advance NYS Clean Energy goals by partnering with our customers to implement distributed solar and storage with NYPA operating as the owner's representative. This work is done at no cost to the customer and is paid by the solar or storage developer if their overall project economics meet the customer's financial requirements. |
| eMobility Program                             | Installation of electric vehicle charging equipment for multiple purposes: fast charging for highway corridors and urban centers, commuter lot EV charging, transit bus depot charging and charging for workplaces within the ReCharge NY program. Advisory services for fleet electrification.   |
| Energy Efficiency Program                     | Partnering with NYPA customers to implement comprehensive Energy Efficiency projects. This program provides our customers with the expertise to identify and evaluate facility improvements that not only provide solutions to aging equipment, but also produce significant energy and environmental benefits.                         |
| Smart Street Lighting NY                      | Advance NYS Clean Energy goals by offering a full turnkey service to assist customers with the acquisition and conversion of street lights to energy efficient LEDs.  |
| Street Lighting Maintenance Service           | The Maintenance Service begins once municipalities gain ownership and convert their street lights to LED through Smart Street Lighting NY.  |

# New York State Energy Research and Development Authority (NYSERDA) Programs

| Program  | Purpose  |
|--|--|
| Buildings of Excellence Competition              | Recognizes and rewards the design, construction, and operation of very low or zero carbon emitting multifamily buildings.  |
| Clean Energy Workforce Development Programs      | Provides clean energy workforce development and training funds.  |
| Clean Heating and Cooling Programs               | Heat pumps are a more efficient heating and cooling option that eliminate fossil fuels, can provide up to 100 percent of your heating and cooling needs, and help you save on your energy bills.   |
| Commercial and Industrial (C&I) Carbon Challenge | Helps large commercial and industrial companies and organizations implement their best energy-saving/carbon-reduction projects.  |
| Commercial New Construction Program              | Provides technical assistance and support to design teams and building owners involved in building energy-efficient structures.  |
| Energy Storage Program                           | Offers funding and technical support to building owners, municipalities, energy storage developers, contractors, and integrators for installing energy storage technologies.   |
| Energy to Lead                                   | Challenged student-supported coalitions across the State to develop and implement plans to advance clean energy on their campuses and in their local communities in new ways.  |
| Flexible Technical Assistance (FlexTech) Program | Shares the cost to produce an objective, site-specific, and targeted study on how best to implement clean energy and/or energy efficiency technologies.  |
| Ground Source Heat Pump Program                  | Offers support for the installation of ground source heat pump systems at residential, commercial, institutional, and industrial buildings.  |
| NY-SUN   | Provides incentives and financing to make solar-generated electricity accessible and affordable for all New York homeowners, renters, and businesses. include training for installers and public officials, standardized permitting processes, and consumer education. |
| Real Time Energy Management Program (RTEM)       | RTEM technologies analyze data and recommend actionable insights, resulting in lower operating and utility costs, and a smarter building with greater comfort, appeal and marketability.   |
| Strategic Energy Management Program              | Offers training to industrial facilities that are interested in optimizing energy use through a continuous improvement approach  |