

Advisory Panel on:

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

November 18, 2020
Meeting 4

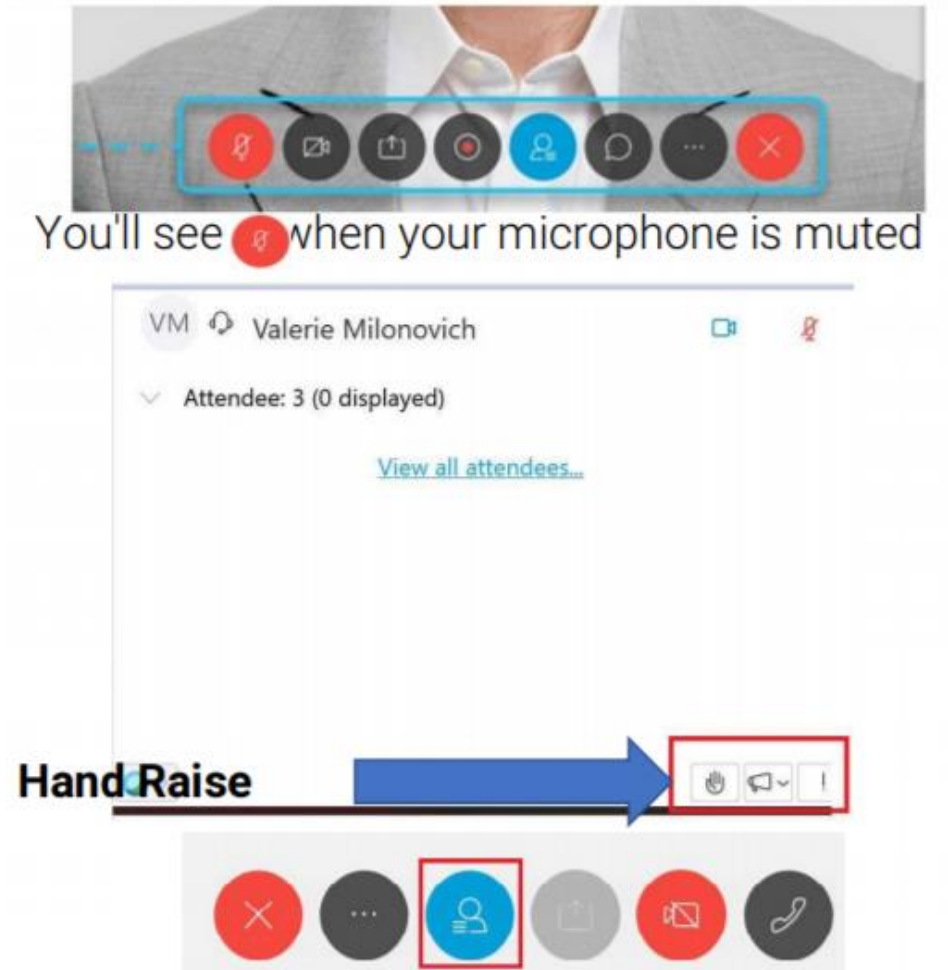


**Climate Action
Council**

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 (1st 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 William.Mead@its.ny.gov or (518) 292-5192.



Meeting Objective

- Review and Provide Input on Potential Policy Options to Reduce Industrial Emissions

Agenda

- Welcome and Updates
- Recap of Industrial Emission Deep Dives
- Review and Discussion of Policy Options
- 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
Business Council of
New York State

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**
VP of Business
Development: Greater
Rochester Enterprise

Doug Grose
President: NY
CREATES

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

Dave Work
Sr. Director, Contract
& Program Ops.,
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SVP & Head of Public
Policy, ESD

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Chris Lalone
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Analyst, DEC

Maureen Leddy
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Senior Adviser,
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Kevin Hannel
Chief, Bureau of
Labor Statistics, DOL

Adam Polmateer
Utility Consumer
Assistance Specialist,
DPS

Updates

- Consultation with CJWG
- JTWG Business Impacts Subgroup Update

Climate Justice Working Group (CJWG)

- EITE is expected to consult with the CJWG in developing its recommendations.
- CJWG: Invites EITE reps. to attend meeting on either 12/2 @ 2pm or 12/16 @ 1pm. Email EITE Chair if interested.

Just Transition Working Group (JTWG): *Business Impacts Subgroup Update*

- EITE panel members and staff are working with the Business Impacts Subgroup of the JTWG.
- Business Impacts Subgroup tasks current work plan includes:
 - Developing recommendations for an NYS EITE definition
 - Identifying EITE trades
 - Proposing ways in which an EITE definition may be applied
 - Understanding leakage: emissions and business
 - Discussing issues and opportunities for businesses and workers
 - Proposing to the Just Transition Working Group initial recommendations to maximize current and new economic opportunity and minimize leakage risk

Business Impacts Subgroup Members

Subgroup Membership

From JTWG

- > Omar Freilla, Green Worker Cooperative
- > Patrick Jackson, Corning
- > Gary LaBarbera, Building and Construction Trades Council
- > Michael Padgett, Alcoa
- > Brian Raley, GLOBALFOUNDRIES
- > Randy Wolken, MACNY

From EITE

- > Heather Briccetti, Business Council of New York State
- > Jason Curtis, Nucor Steel
- > Carlos Garcia, NYC-EJA
- > Michael LeMonds, LafargeHolcim

Recap of Industrial Emissions

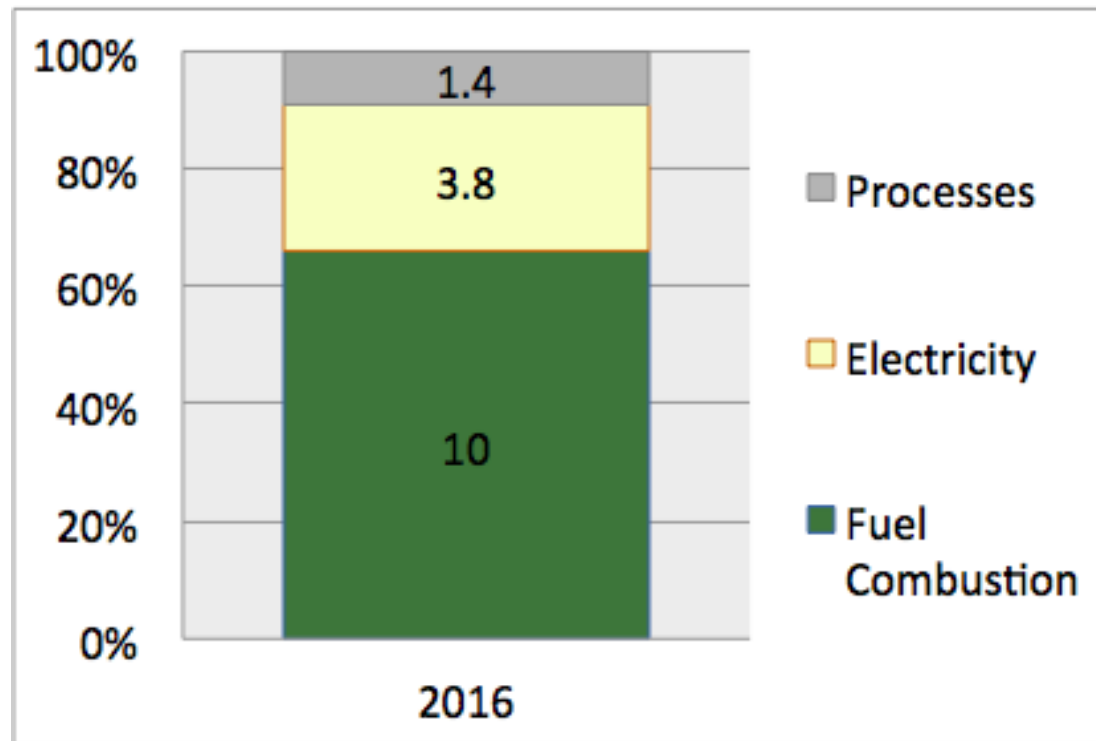
- Industrial Emission Sources
- Technology and Process Solutions to Reduce Industrial Emissions

Reminder - Key Takeaways: Industrial Emission Sources

- > Industrial emissions in NYS come from several sources:
 - Emission types: Fuel combustion (direct), Industrial processes (direct), Electricity use (indirect)
 - Industry sectors: Manufacturing, Construction, Mining
 - Top subsectors: DEC data suggest that most direct Industrial emissions come from Cement, Paper, and Primary Metals
- > Fuel combustion produces ~66% of Industrial emissions:
 - Overall, fuel combustion emissions had declined by 62% from 1990 levels as of 2018; represented 5% of all 2016 NYS emissions
 - Natural gas produces most combustion emissions, followed by coal and distillate
 - Approximately ~2/3 of combustion emissions are from Manufacturing, ~1/3 from Construction
- > Limited Industry-specific data exists on electricity use emissions; estimated to produce ~25% of Industrial emissions
 - Overall electricity use is likely to increase where applying electrification; decrease due to energy efficiency measures
 - Electricity emissions should decline as Power Generation sector is decarbonized in favor of clean power
- > Industrial non-combustion processes produce ~9% of Industrial emissions:
 - Overall, process emissions have declined by 50% from 1990 levels; represent <1% of all 2016 New York State emissions

Industrial emissions in scope are est. to come from fuel (66%), electricity (25%), processes (9%)

New York State Industrial Emissions from Fuel Combustion, Electricity and Non-Combustion Processes
Million metric tons of CO2 equivalents (MMTCO2e), 2016



Notes: Natural gas used in transportation is applied in Industry; Energy demand for Industry is estimated based on Patterns and Trends.
Source: NYSERDA for fuel combustion emissions and electricity consumption/emissions; NYS Department of Environmental Conservation for process emissions.

DRAFT AND PRELIMINARY

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

Review and Discussion of Policy Options (Emission Reduction Strategies)

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.

Considerations for Industrial emission reduction strategies

- Industrial sectors within EITE panel scope total perhaps ~7% of State emissions.
- "Heterogeneous" nature may result in higher cost per emissions reduced.
- "EITE" industries are likely to represent a high share of Industry sector emissions; non-incentive-oriented approaches may cause leakage.
- Emissions will decline with cleaning 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 from 2030-2050 as new technologies scale, mature and become more viable.

Types of policy options and strategies for emission reduction

Emission Reduction Policies Considered:

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

Anti-Leakage: to be considered later per JTWG Business Impacts Subgroup

Potential Policy – Financial Assistance

Industrial Financial Assistance

Scope topic: Reducing Industrial Green House Gas Emissions

Strategy under consideration	NYS continues competitive funding through a Carbon Challenge for industrial facilities to implement solutions that reduce emissions.
Rationale	Provides funding to assist facilities address cost barriers to implement clean energy solutions
Equity considerations	Targeted outreach for facilities located in disadvantaged communities
Feasibility considerations	None - Requires industrial facilities to be in planning stage before submission
Issues to explore	Heterogeneity of solutions vary; disclosure of intellectual property to other industrial competitors; identification of next generation of decarbonization technologies

Potential Policy – Technical Assistance

Industrial Technical Assistance

Scope topic: Reducing Industrial Green House Gas Emissions

Strategy under consideration	NYS continues to provide cost-shared technical engineering studies for industrial facilities on energy efficiency and electrification strategies. Also provide no-cost guidance to pursue Strategic Energy Management.
Rationale	Low cost, provides objective information on emission reduction strategies to help with planning purposes and guides facilities to manage energy following a continuous improvement process.
Equity considerations	Targeted outreach for facilities located in disadvantaged communities
Feasibility considerations	None
Issues to explore	None

Potential Policy – Technical Assistance

Green Consultations for Economic Aid Recipients

Scope topics: Reducing Industrial Greenhouse Gas Emissions; Mitigating Leakage

Strategy under consideration	ESD could coordinate with NYPA and NYSERDA to provide voluntary, no-cost advisory services to economic assistance recipients (which often are industrial and trade-exposed) on emission reduction technology solutions and program offerings (via NYSERDA, utility, NYPA, and others).
Rationale	Low cost, potential high ROI; voluntary engagement reduces risk of leakage
Equity considerations	Impact may be greater in communities receiving private business investment
Feasibility considerations	None – participation could be voluntary and would leverage existing technical/financial assistance programs at other State agencies and utilities.
Issues to explore	Interest among economic assistance prospects; Details of potential advisory service offering

Potential Policy – Workforce Development

On-Site Energy Manager Resource

Scope topic: Reducing Industrial Greenhouse Gas Emissions; Green Economic Opportunities

Strategy under consideration

Assist Industrial facilities to procure a dedicated energy manager

Rationale

Low cost, provide cost-share funding for industrial facilities to hire a dedicated on-site energy manager focusing on energy and emission reduction strategies, expands clean energy workforce

Equity considerations

Targeted outreach for facilities located in disadvantaged communities

Feasibility considerations

N/A

Issues to explore

None

Potential Policy – Research, Dev. & Demo *Innovation Roadmap*

Scope topic: Reducing Industrial Greenhouse Gas Emissions; Low-Carbon Fuels

Strategy under consideration	Develop a comprehensive Innovation Roadmap to guide key priorities for deep decarbonization investment in the areas of low-carbon fuels and carbon removal. Work would include tying in requirements and benefits of industrial/manufacturing, transportation, and power gen. sectors.
Rationale	Additional research is needed to determine key areas of investment given characteristics of key sectors
Equity considerations	Roadmap would include equity and environmental justice as a key parameter in determining recommendations
Feasibility considerations	N/A
Issues to explore	Low-carbon fuel generation and infrastructure; geologic storage capacity for CO ₂ ; cost/benefit analysis of research investment; opportunities for pilot and demonstration funding

Potential Policy – Low-Carbon Procurement

NY Buy Green

Scope topic: Reducing Industrial Greenhouse Gas Emissions; Green Economic Opportunities; Mitigating Leakage

Strategy under consideration	Create preferential standards for public procurement of low-carbon building materials. Will require development of regulatory accounting standards for low-carbon product definitions, to be conducted by DOT, DEC, NYSERDA, et al.
Rationale	Public procurement advantages provide an incentive for low-carbon replacement products.
Equity considerations	N/A
Feasibility considerations	Success will require robust carbon accounting standards specific to each product class. These standards are still largely under development.
Issues to explore	Incremental cost impact to the state; estimated impact on private procurement of similar materials

Potential Policy – Emission Reporting

GHG Reporting Rule

Scope topic: Expand the universe of facilities currently reporting GHG emissions

Strategy under consideration	Expansion of GHG emissions reporting by industrial facilities to ensure DEC is capturing emissions from all the largest GHG sources in the state.
Rationale	There is a universe of industrial facilities that DEC does not collect GHG emissions data from. Including such facilities will more fully complete the data set, allowing for improved emissions progress tracking and consideration of EITE sectors.
Equity considerations	N/A
Feasibility considerations	Limited – regulations can be difficult, but it is a well-established process.
Issues to explore	Establishing a minimum threshold of annual GHG emissions to be used as the reporting level; Concern about placing additional regulatory requirements on facilities already highly regulated by DEC; Review reporting already done to meet EPA GHG Reporting Program.

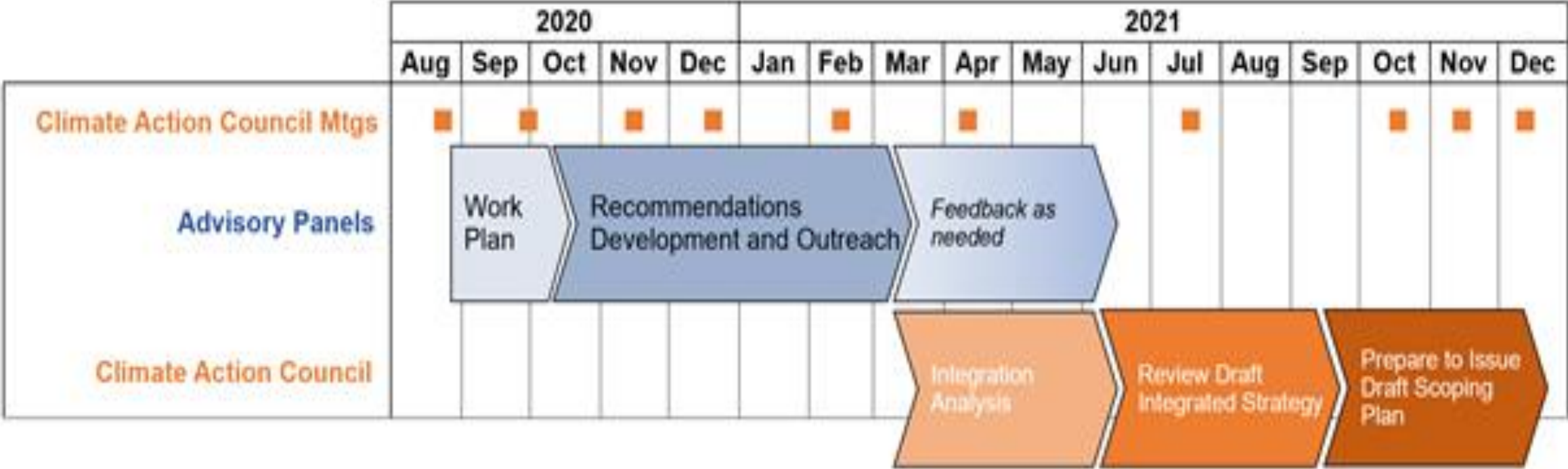
Next Steps

Next Steps

- > Panel and public should submit comments and potential strategies for consideration to climate@esd.ny.gov.
- EITE Panel will meet again on Dec. 9 to select preliminary strategies for further refinement.

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

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

Reminder: Scope of Work

1. Review Industrial emissions and technologies/policies to reduce emissions
2. Develop detailed recommended strategies to reduce industrial emissions
3. Provide input on State Industrial emission reduction goals
4. Develop recommendations to protect competitiveness and mitigate leakage
5. Develop recommendations to support environmental and climate justice

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, Construction and Mining. (Excludes *Agriculture*, which is expected to be addressed by Agriculture and Forestry Advisory Panel, and *Waste*)
- 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: Public Participation

- Panel meetings will be available for public viewing.
- Meeting notices and materials will be posted on the Advisory Panels web page at <http://climate.ny.gov>.
- Written input will be collected from industry and the public at new email: climate@esd.ny.gov.
- At least one virtual forum to collect public input will be held, anticipated to occur in January.

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