Energy-Intensive and Trade-Exposed Industries Advisory Panel

Recommended Strategies

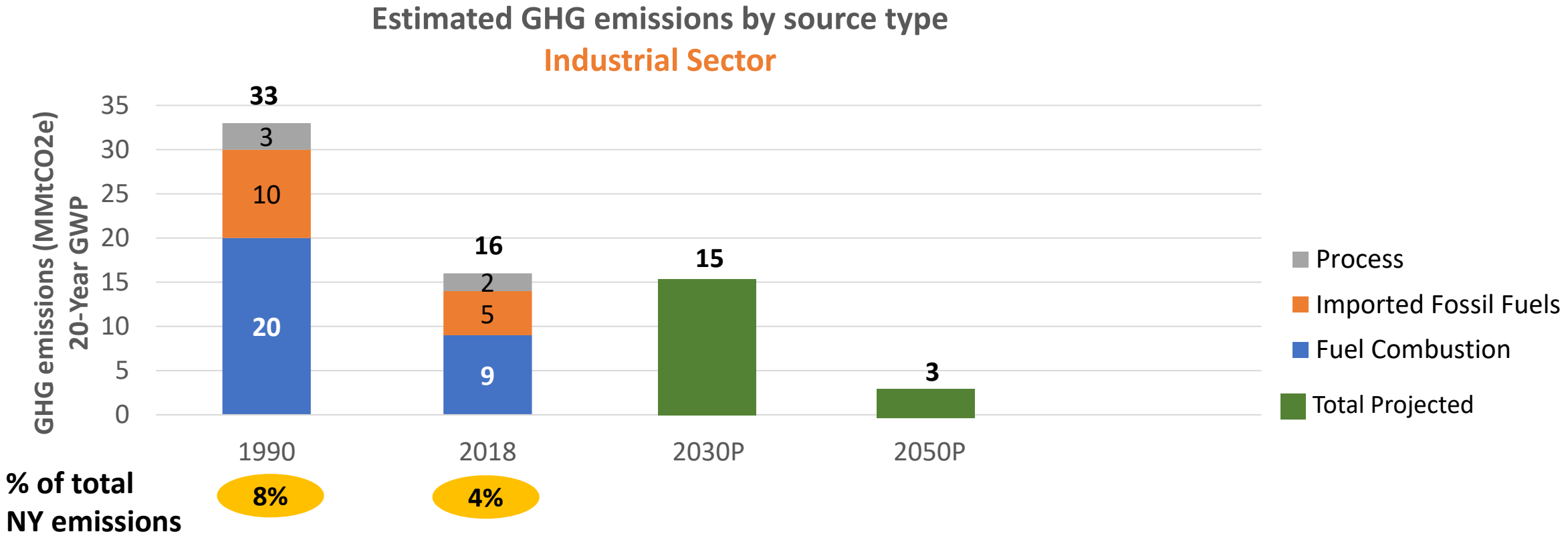
April 5, 2021

NEW YORK STATE OF OPPORTUNITY. | Climate Action Council

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.
- 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
  - Letter:
    - EITE Advisory Panel
    - c/o Empire State Development
    - 633 Third Avenue
    - New York, NY 10017
- February – input from EITE advisory panel on draft strategies
- March – finalized EITE advisory panel strategies for Climate Action Council

Industrial sector GHG emission estimates with EITE panel strategies



Source: Draft DEC/NYSERDA analysis subject to public review, 2018 emissions data are preliminary draft

Notes: Excludes indirect emissions from electricity consumption and product use emissions; "Imported Fossil Fuels" includes estimates of upstream GHG emissions associated with fuel combustion; "Fuel Combustion" GHG emissions include combustion of all fuel types at industrial facilities; "Process" GHG emissions include all non-combustion emissions related to industrial production; 2030P and 2050P values shown are based on E3 Pathways report under pre-CLCPA accounting and should be considered illustrative only.

EITE considerations for Industrial emission mitigation strategies

- Industrial sectors within EITE panel scope (Manufacturing, Mining) total a small share (~4%) of State emissions
- "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.

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

Description:	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.		
Action type:	Engineering support and financial incentives		
GHG reduction by 2030:	Low	**GHG reduction by 2050:**	High
Cost and funding considerations:	Costs to support industry can be through utility collections of a System Benefits Charge, agency funding or federal grants and support.		
Ease of implementation:	Easy		
Example case studies:	NYSERDA's Clean Energy Fund, NYPA's Low-Cost Power Program, Investor-Owned Utility Energy Efficiency Programs.		

Risks / Barriers to success	Possible mitigants
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 required for delivery *(Brief description of action required)*	**Implementation lead** *(Entity responsible for completing)*	**Time to implement** *(Time required to implement)*	**Other key stakeholders** **(***Entities that need to be engaged)*
NYSERDA financial and technical initiatives • Approval of continuation of Clean Energy Fund • Market Engagement and Outreach	NYSERDA	Ongoing	DPS, NYSERDA, NYPA 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

Anticipated Benefits and Impacts	
Disadvantaged communities	Industrial facilities implementing GHG emission reduction projects or receiving low-cost hydro power may be located within a disadvantaged community.
Health and co-benefits	Significant health benefits are expected from lowering GHG emission reductions at energy intensive industrial facilities in which some facilities are in heavily populated areas.
Just transition: businesses and industries, workers	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.* *2020 New York Clean Energy Industry Report, p. 37.
Other	

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

Description:	Develop preferential procurement standards for low-carbon building materials and remove impediments to the State's purchase of low-carbon 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.		
Action type:	Legislative/Regulatory		
GHG reduction by 2030:	Low	**GHG reduction by 2050:**	Medium
Cost and funding considerations:	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)		
Ease of implementation:	Medium		
Example case studies:	Buy Clean California; EU 2014 Public Procurement Directives		

Risks / Barriers to success	Possible mitigants
• Availability of different types of low-carbon products • Life Cycle Analyses (LCAs) of products require standardized accounting frameworks to ensure accurate accounting of emission reduction.	• RD&D funding for product development • Work with federal government as well as other states and municipalities on LCA best practices to ensure that compliance is favorable to business interests.

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

Colmponents required for delivery *(Brief description of action required)*	**Implementation lead** *(Entity responsible for completing)*	**Time to implement** *(Time required to implement)*	**Other key stakeholders** **(***Entities that need to be engaged)*
Develop a list of the most carbon intense building materials and products (e.g. concrete, steel, glass, etc.) eligible for incentives or preferential treatment in procurement.	GreenNY , NYSERDA, DEC	<1 year	NYSERDA, DASNY, OGS, NYSERDA, DEC, DOT, PANYNJ
Determine a standard for assessing the Global Warming Potential (GWP) of products	GreenNY, NYSERDA, DEC	1-2 years	NYSERDA, DASNY, OGS, NYSERDA, DEC, DOT, PANYNJ, Other States, Federal gov.
Implement project scoring criteria that provide advantages to projects/bids utilizing products that meet or exceed GWP targets	Multiple	2+ years	Builders/architects/ manufacturers
Continuous monitoring and updating of standards	GreenNY, NYSERDA, DEC	Ongoing	NYSERDA, DASNY, OGS, NYSERDA, DEC, DOT, PANYNJ, Other States, Federal gov

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

Anticipated Benefits and Impacts	
Disadvantaged communities	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.
Health and co-benefits	See above.
Just transition: businesses and industries, workers	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.
Other	

Enabling initiative – Initiative #3: Research Development & Demonstration (RD&D)

Description:	Develop a comprehensive Innovation Roadmap to determine priorities for deep decarbonization RD&D investment. Meeting the CLCPA goals for industry is not technically and/or economically feasible with currently available technologies alone. This research effort should analyze the social, financial, and technological characteristics of solutions that will enable industry to meet CLCPA goals. The research should consider the intersection of the industrial/manufacturing, agriculture, transportation, and power generation sectors when determining investment priorities.
Action type:	Research initiative
Cost and funding considerations:	• Funding required for initial roadmap analysis with additional funding for further research and early-stage pilots to be determined pending the outcome of analysis. • Potential to leverage federal spending in these areas given developments with the new administration
Ease of implementation:	Easy
Example case studies:	*Electrifying U.S. Industry* (Renewable Thermal Collective); *Getting to Neutral* (Lawrence Livermore National Lab); *Low-Carbon Heat Solutions for Heavy Industry* (Columbia University)

Risks / Barriers to success	Possible mitigants
• Research scope will need to be tightly defined to ensure meaningful recommendations can be ascertained	• Form collaborative stakeholder group to provide input on research scope

Enabling initiative – Initiative #3: Research Development & Demonstration

Components required for delivery *(Brief description of action required)*	**Implementation lead** *(Entity responsible for completing)*	**Time to implement** *(Time required to implement)*	**Other key stakeholders** **(***Entities that need to support)*
Development of research scope of work	NYSERDA	< 1 year	
Release of a solicitation to conduct the research and analysis	NYSERDA	1-2 years	
Provide funding for additional research and pilot/demonstration projects	NYSERDA	Ongoing	ESD, NYPA, DEC

Enabling initiative – Initiative #3: Research Development & Demonstration

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

Description:	Provide workforce development training on existing and new innovative emission reduction technologies
Action type:	Regulatory (Clean Energy Fund)-- NYS Labor
Cost and funding considerations:	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.
Ease of implementation:	Easy
Example case studies:	NYSERDA Workforce Development Programs , NYS Dept of Labor Programs

Risks / Barriers to success	Possible mitigants
• Training programs not aligned with business needs • Risk aversion for businesses to invest in training • Long lead time to find skilled workers	• Develop and or expand training to meet the needs and capacity • Offset cost of training

Enabling initiative – Initiative #4: Workforce Development

Components required for delivery *(Brief description of action required)*	**Implementation lead** *(Entity responsible)*	**Time to implement** *(Time required to implement)*	**Other key stakeholders** (*Entities supporting)*
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. • Issue Competitive Solicitations • Develop strategic partnerships with industry organizations • Support training activities that will include job preparation and job placement initiatives • Support business-facing intermediaries such as community-based organizations	NYSERDA	Ongoing	NYSDOL, ESD, Utilities

Enabling initiative – Initiative #4: Workforce Development

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

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

Risks / Barriers to success	Possible mitigants
- Establishing a GHG emissions threshold at which reporting will be required. There will likely be disagreement between state and regulated community as to what the threshold should be. - Concern about placing additional regulatory requirements on facilities already highly regulated by DEC.	- Evaluate whether to align this requirement with reporting already done to meet EPA GHG Reporting Program. - To the extent possible the new regulatory requirement should make clear that EITE industries already reporting GHG emissions to DEC would not be required to also report under any new reporting requirement.

Enabling initiative – Initiative #5: GHG Reporting

Components required for delivery *(Brief description of action required)*	**Implementation lead** *(Entity responsible for completing)*	**Time to implement** *(Time required to implement)*	**Other key stakeholders** (*Entities that need to support)*
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

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

Description:	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.
Action type:	Economic Incentives
Cost and funding considerations:	Costs are offset by attracting additional spending, which produces State and local tax revenues; State programs already in existence: Excelsior Jobs Program, NY Ventures, NYSERDA, etc.
Ease of implementation:	Easy / Operational
Example case studies:	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: • Li-cycle: Will recycle lithium-ion batteries, resulting in 100 jobs. NYS committed $5 million. • Plug Power: Will produce hydrogen fuel cell stacks and electrolyzers, resulting in 377 jobs. NYS committed $13 million in tax credits.

Risks / Barriers to success	Possible mitigants
• Many green industries will require additional conditions to grow in NYS; greater market demand, workforce and suppliers. • Many jurisdictions are competing for green economy jobs.	• 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).

Enabling initiative – Initiative #6: Economic incentives

Components required for delivery *(Brief description of action required)*	**Implementation lead** *(Entity responsible)*	**Time to implement** *(Time required to implement)*	**Other key stakeholders** *(Entities supporting)*
• **Offer economic incentives to secure green economy attraction and expansion projects, including**: ○ Engagement with green economy businesses to identify potential in-state economic opportunities; ○ 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; ○ Coordinating with State partners to identify all relevant incentives (ESD, NYSERDA, NYPA, etc.) ○ Offering and administering economic incentives where necessary.	ESD	Ongoing	NYSERDA, NYPA
• **Implement complementary initiatives to grow workforce, supplier base and market demand.**	Various	Ongoing	NYSERDA, NYPA, SUNY

Enabling initiative – Initiative #6: Economic incentives

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.

Summary:
- Mitigation Strategies
- Enabling Initiatives

Initiative #	Description	Action type	Emissions Impact	Ease of Implementation	Cost
1. Mitigation Strategy	Provide financial incentives and technical assistance for the decarbonization of EITE sectors	Financial and technical assistance	High	Easy	$$$
2. Mitigation Strategy	Create procurement incentives for business to capitalize on low-carbon economy opportunities	Low-carbon procurement policies	Low	Medium	$$
3. Enabling Initiative	Identify and support technological innovation to enable deep industrial decarbonization	Research, Dev. & Demonstration	N/A	Medium/Hard	$$
4. Enabling Initiative	Workforce development training to support Energy-Intensive and Trade-Exposed (EITE) industries	Workforce development	N/A	Easy	$$
5. Enabling Initiative	Increase the available data on industrial GHG emissions to help prioritize efforts and monitor progress	Reporting requirement	N/A	Medium	$
6. Enabling Initiative	Provide economic incentives to grow the green economy	Economic incentives	N/A	Easy	$