



# Power Generation Advisory Panel Meeting 9

March 10, 2021



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# Agenda and Objectives

## Agenda

- > Welcome and Logistics (5 min)
- > Draft Recommendations for Discussion (130 min)
- > Next Steps (5 min)
- > Break (5 min)
- > Public Input Session (60 min)

## Objectives

- > Discuss a subset of draft recommendations
- > Determine next steps to bring these recommendations back to the Panel for a vote at a subsequent meeting in April
- > Solicit public input to contribute to the Panel's recommendations to the Climate Action Council

**This webinar is being recorded to accurately capture public comments**

# Procedure for Public Input

## The Advisory Panel welcome public comments

- > To provide a verbal comment during the public input session at the end of this meeting, please enter your name in the “Q&A” feature of the WebEx located in the bottom right corner.
- > The speaker list is first come, first served. If you have already presented at a previous session, please wait to enter your name until all other presenters have gone.
- > You also may enter written comments into the “chat” feature of the webinar at any point, which is visible to all participants. Please note that the moderator might read your comments aloud.
- > Comments and questions submitted through WebEx will be aggregated and provided to Panel members to be included in deliberations.
- > To submit feedback outside of the Panel meeting, please email [PowerGenPanel@dps.ny.gov](mailto:PowerGenPanel@dps.ny.gov) or call 1-833-498-2082.



**Draft  
Recommendations for  
Discussion**

# Enabling Strategy Summary (Being Discussed Today)

Initiative #	Description	Action type	Ease of implementation	Cost
8	Reliability for the future grid			
9	Distributed Generation / Distributed Energy Resources			
10	Methane leakage			
Additional topics:				
	Reaching Zero-Emissions by 2040			

# Enabling initiative – Initiative #8: Reliability for the future grid

## *Draft Material*

<b>Description:</b>	Generation resources combined with the transmission and distribution systems, control centers, and wholesale markets provide a continuously operating, reliable system to service New York’s electric needs. All of these elements will need to transition and come together effectively to manage the transitioning grid while implementing the CLCPA. If integrated in a smart way, the additional clean distributed generation, storage and large-scale renewables which the CLCPA will provide will help to build a more flexible and resilient grid to address the impacts of climate change, as well as mitigating the impacts of climate change.
<b>Action type:</b>	Executive, Regulatory
<b>Cost and funding considerations:</b>	The costs of establishing an effective process to complete the necessary reliability reviews are minimal. Funding sources for investment include recovery through electric rates, wholesale market revenues, state and federal infrastructure funding.
<b>Ease of implementation:</b>	Easy

<b>Risks / Barriers to success</b>	<b>Possible mitigants</b>
<ul style="list-style-type: none"> <li>Achievement of the CLCPA mandates must progress with a continued eye on reliability and as issues arise, solutions must be identified and implemented timely to ensure that both reliability needs and CLCPA mandates are met.</li> <li>Transmission constraints limit the flexibility of the grid and will make it more challenging to integrate new resources. Constraints between upstate and downstate (particularly zone J) is a current barrier to reliability which needs to be addressed.</li> </ul>	<ul style="list-style-type: none"> <li>Effective communication processes across the multitude of agencies and organizations that support reliability.</li> <li>Effective communication processes across the multitude of agencies and organizations that support reliability.</li> <li>Enhancing market rules so that all resources can participate in the market, based on their attributes, to provide the products and services needed for reliability.</li> <li>Increased transmission is needed in order to lower the local capacity requirements in zones g-j, which would mitigate the scope and scale of reliability challenges as well as helping to address the peaker issue.</li> </ul>

# Enabling initiative – Initiative #8: Components of the strategy

## *Draft Material*

Components required for delivery	Implementation lead	Time to implement	Other key stakeholders
Established biennial checkpoints should be conducted to assess the state of bulk power system reliability in consultation with the federally designated electric bulk system operator. These checkpoints will ascertain if any program adjustments are needed to ensure continued safe and adequate electric service and will be informed by the review of NY power system performance in conformance with established operations requirements and by relevant studies including the NYISO's Reliability Needs Assessment.	PSC/DPS		PSC, DPS, NYISO, Utilities, NYSRC, FERC, NYSERDA (Climate Assessment)
Power system studies and planning should integrate analysis to consider climate change impacts as needed for reliability and resiliency.	PSC/DPS		
Actions needed to ensure reliability while working to achieve CLCPA will additionally be reflected in the State Energy Plan.	PSC/DPS/NYSERDA		
Continued efforts to improve reliability and resiliency to extreme weather events, which will be exacerbated by climate change, should occur. This work should include continued infrastructure investment such as: storm hardening, elevating equipment and substations, and moving lines underground. Additionally, design criteria must change through time and reflect the impacts of climate change as needed.	Utilities		
The market products, requirements and technology standards needed to maintain reliability should be updated through time while also ensuring that undue costs are not imposed which would impair meeting CLCPA goals, including creating barriers to renewables.	NYISO		

# Enabling initiative – Initiative #8: Benefits and impacts

*Draft Material*

## Anticipated Benefits and Impacts

### Disadvantaged communities

Affordability is a real concern for disadvantaged communities. However, power outages have a disproportionate impact on disadvantaged communities because they are less able to afford measures to mitigate the human safety and health risks or recover from the potential loss of property. Now and continuing into the future, disadvantaged communities should be prioritized in terms of restoration of service.

### Health and other co-benefits

Prevention of the high costs and consequences of electric service interruptions in New York, including exposure to extreme cold or heat and loss of property.

### Just transition: businesses and industries, workers

Prudent steps to ensure a reliable power system are necessary to support businesses, industry and workers. New York cannot afford a decrease in the reliability of the electric grid, which is already challenged under current conditions. Additionally, poor power quality can negatively impact industrial processes. The clean distributed generation investments required by the CLCPA (e.g., rooftop solar, community solar, EE/DG and storage) can also provide much needed clean generation for, reduced energy costs and investments in disadvantaged communities.

### Other



# Enabling initiative – Initiative #9: Distributed Generation / Distributed Energy Resources

## *Draft Material*

<b>Description:</b>	By generating smaller amounts of clean electricity closer to end-users, we can increase energy efficiency, reduce carbon pollution, improve grid resiliency, and potentially curtail the need for costly transmission investments.	
<b>Action type:</b>	Procurement/Regulatory	
<b>Cost and funding considerations:</b>		
<b>Ease of implementation:</b>	Medium	
<b>Example case studies:</b>		
<b>Risks / Barriers to success</b>	<b>Possible mitigants</b>	
<ul style="list-style-type: none"> <li>• An efficient process for installing DG/DERs (procurement, siting, interconnection, construction) and for constructing and upgrading the delivery system is necessary.</li> <li>• Local community opposition for projects if benefits are not realized locally.</li> </ul>	<ul style="list-style-type: none"> <li>• Focus on “high benefit” projects and programs that serve local communities, dual-use solar/ag, and landfills/brownfields, and continue to invest in energy delivery.</li> </ul>	

# Enabling initiative – Initiative #9: Components of the strategy

*Draft Material*

Components required for delivery	Implementation lead	Time to implement	Other key stakeholders
<p>1a. Hosting Capacity: Proactive and timely investments in local transmission and distribution infrastructure, and associated cost-sharing with utilities.</p> <p>1b. Interconnection: Accelerate adoption of innovative technologies and programs that increase hosting capacity.</p> <p>1c. Interconnection: Address pace of processing interconnection applications and need for resources to mitigate delays in application processing.</p>	PSC/DPS, NYSERDA		NYISO, developers, transmission & distribution operators, communities, potentially DEC, DOH, DOT
<p>2a. Rate Design: Need for dynamic underlying electric rate structures and programs that provide appropriate price signals to customers that incentivize DER deployment and usage.</p> <p>2b. Incentives: Target incentives to stimulate high-benefit DER projects.</p>	PSC/DPS, NYSERDA		
<p>3. Ground-Mounted Siting: Address resistance and concerns to siting of ground-mounted projects, particularly upstate and western NY.</p>	NYSERDA		
<p>4. Rooftop Permitting: Need for streamlined permitting process that reduces processing times and soft costs.</p>	DOS		
<p>5. Codes: Need for new construction to be designed as "solar-ready" and model zoning ordinances for residential/commercial to be helpful for municipalities.</p>	DOS		

# Enabling initiative – Initiative #9: Benefits and impacts

*Draft Material*

## Anticipated Benefits and Impacts

### Disadvantaged communities

Can help with reliability needs and air quality issues from the closing of fossil fuel facilities in EJ communities. If properly developed, clean DG/DER projects can also allow communities to participate in the process, provide economic development and workforce development opportunities.

### Health and other co-benefits

Deployment of clean DG/DERs and upgrades to energy delivery systems will make it possible to close fossil fuel generation facilities, improving air quality and decreasing emissions.

### Just transition: businesses and industries, workers

Development and jobs for renewable energy systems, transmission construction, and operation and maintenance of these systems.

### Other

# Enabling initiative – Initiative #10: Methane leakage

## Draft Material

<b>Description:</b>	<p>Methane is a potent GHG with significant short-term impacts on global warming. NYS will likely need to continue to rely on natural gas infrastructure in the near future as it works to decarbonize effectively and reliably. Therefore, addressing methane leakage from natural gas infrastructure is a necessity.</p> <p><i>(Note: A recommendation specific to gas system infrastructure is under development.)</i></p>	
<b>Action type:</b>	<p>Executive, regulatory</p>	
<b>Cost and funding considerations:</b>		
<b>Ease of implementation:</b>		
<b>Risks / Barriers to success</b>	<b>Possible mitigants</b>	
<ul style="list-style-type: none"> <li>Natural gas infrastructure is an extensive statewide network, much of it underground and within buildings. Leakage detection and repair (LDAR), as well as decommissioning may be challenging in populous areas.</li> <li>As New York transitions away from natural gas, it will need to ensure proper system maintenance and investment, and chart a path to avoid stranded assets.</li> <li>The Federal Energy Regulatory Commission oversees interstate natural gas transmission and plays a significant role in approving natural gas infrastructure, which presents additional regulatory considerations for this category of facilities.</li> </ul>	<ul style="list-style-type: none"> <li>Improved planning, including inventorying infrastructure components and characterizing emissions to allow for prioritization of LDAR.</li> <li>Coordination with regional and federal entities.</li> <li>Advances in LDAR technology.</li> </ul>	

# Enabling initiative – Initiative #10: Components of the strategy

*Draft Material*

Components required for delivery	Implementation lead	Time to implement	Other key stakeholders
Support the current DEC effort to promulgate regulations to decrease methane emissions from natural gas infrastructure.	DEC		DPS, NYSERDA, DEC, Utilities, natural gas producers, infrastructure owners, local municipalities
Support future efforts from DEC to further control methane emissions from natural gas infrastructure. This may include: LDAR enhanced technology; Establishing areas of the infrastructure in which the State has authority to regulate and develop an inventory of sources which NY may not have authority to regulate; and Operation and maintenance requirements resulting in reduced methane emissions.	DEC		
Continued research and development of leakage detection technologies, including continuous monitoring technologies and survey (aerial or land).	NYSERDA		
Coordinate efforts and develop publicly available guidance to detect and repair leaks in natural gas infrastructure and decommission infrastructure where practical.	DPS/DEC		
Develop a program to accurately characterize natural gas infrastructure components through information requests to ultimately allow better characterized emissions and inventory reporting. Develop an online registry for submission of data to organize the data and information in a meaningful manner.	DPS/DEC		

# Enabling initiative – Initiative #10: Benefits and impacts

## *Draft Material*

### Anticipated Benefits and Impacts

#### Disadvantaged communities

In addition to being GHG, methane is a precursor to ozone which impacts disadvantaged communities disproportionately. Reducing methane emissions from natural gas infrastructure improves local air quality, especially in neighborhoods that have significant and/or older infrastructure. Furthermore, these same communities experience the negative effects of climate change more than others, so the reduction of these emissions will begin to ease that burden.

#### Health and other co-benefits

- 2017 (20 yr GWP) emissions from the oil and natural gas sector was 8,951,544 MTCO<sub>2</sub>e.
- LDAR at wells, compressors and storage sources may reduce GHG emissions by 374,808 MTCO<sub>2</sub>e.
- Additional reductions can be realized with further requirements, including capping abandoned wells, regulation of operation and maintenance and other activities.
- Methane is a precursor to ozone which impacts disadvantaged communities disproportionately, the reduction of methane has the potential to also reduce ozone.

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

As the natural gas system transitions, job availability and roles within the sector may change to: Shuttering of natural gas power plants; Decommissioning of the system; Leakage detection and repair services; and Need to understand and operate a changing system (different infrastructure needs, footprint, or equipment, and different gas compositions).

#### Other

# Additional Topics: Reaching Zero-Emissions by 2040

## *Draft Material*

As the State moves towards a zero-emissions grid in 2040, flexible and dispatchable resources will be critical. Further analysis, technical development, and research is needed in order to determine the feasibility, climate impact, and health impacts of advanced fuels and nuclear.

→ Build into Technology Solutions recommendation (see Appendix for those slides discussed at 2/12/21 Panel meeting)

Components required for delivery	Implementation lead	Time to implement	Other key stakeholders
During planning, emissions-free resources (e.g., storage, energy efficiency, distributed renewable energy) should be prioritized where feasible when considering end-uses, technology limitations, and costs. However, should a substitute for natural gas still be needed, advanced green hydrogen and possibly RNG could fill this gap in order to maintain reliability, if scalability, feasibility, and environmental impact issues can be addressed.	NYSERDA		PSC/DPS, DEC, Utilities, Power Plant Owners/ Operators, Researchers & Developers
<p>Analysis and Research Needed:</p> <ul style="list-style-type: none"> <li>Determine the lifecycle carbon accounting framework of RNG and advanced green hydrogen. Priority utilization should be provided for feedstocks with the lowest carbon emissions, with further preference given to zero- or negative-emissions sources.</li> <li>The potential air quality and health impacts of these fuels.</li> <li>The safety of advanced green hydrogen, storage, and pipeline operation.</li> <li>Technological innovation, development, and scaled-deployment is needed in order to prove the effectiveness and economics of the technologies.</li> </ul>	NYSERDA		

# Additional Topics: Reaching Zero-Emissions by 2040 (*cont'd*)

## *Draft Material*

Under current NYS policy and regulation, upstate nuclear facilities are within the resource mix (with existing financial support) until at least 2030. The contribution of nuclear power to the 2040 resource mix and any additional policy actions needed should be evaluated prior to the cessation of the Zero Emissions Credit (ZEC) Program in 2029.

→ Build into Technology Solutions recommendation (see Appendix for those slides discussed at 2/12/21 Panel meeting)

Components required for delivery	Implementation lead	Time to implement	Other key stakeholders
Analysis should occur prior to the ending of the ZEC program in 2029 to determine the potential contribution of the remaining nuclear fleet to the 2040 resource mix and reliability needs. Consideration should be provided to their ability to contribute baseload and meet reliability requirements, as well as health, safety, and environmental concerns and licensing issues.	PSC/DPS		Customers, hosting communities, environmental groups, EJ, labor, NYSERDA, DEC, nuclear generating facilities
Should public policy mechanisms be needed for the continuation of nuclear power generation, effective mechanisms for input and comments by stakeholders and the public should be implemented.	PSC/DPS		



# Next Steps

# Next Steps

- > Power Generation Advisory Panel meeting on March 24<sup>th</sup>, 9:30 am ET
  - Discuss remaining subset of draft recommendations
  - Solicit public input
- > Feedback on integration analysis assumptions by March 31
  - Assumptions available in Integration Analysis section of section of the Resources page on the CLCPA website: <https://climate.ny.gov/Climate-Resources>
- > Climate Action Council meeting on April 12<sup>th</sup>, 2 pm ET (<https://climate.ny.gov/>)

# Public Input Session

# Public Input: *Public Commenter Procedures*

1. Indicate your interest in speaking by entering your **name** (first & last) in the “**Q&A**” feature of the WebEx.  
*If you had the opportunity to present at a previous Public Input Session, please wait to enter your name until others have had the opportunity to present.*
2. When called upon, **turn on your microphone**.
3. Announce your **name** and **organization** (if you are representing one).
4. You will be provided with **up to 2 minutes** to comment on the work of the Panel.
5. You may also enter **written comments** into the “**Chat**” feature of the WebEx; staff may read aloud your comments.
6. Your comments will be **documented** as part of the Power Generation panel's deliberations.

## *Alternative Options:*

- > **Written comments** are strongly encouraged and may be submitted to the Panel at any time via e-mail to [PowerGenPanel@dps.ny.gov](mailto:PowerGenPanel@dps.ny.gov).
- > Commenters also may **call toll-free** the PowerGen Public Input Line at **1-833-498-2082**. This number is set up to take comments from in-state callers, 24 hours a day.

**Appendix –  
Technology  
Solutions slides  
from 2/12/21  
meeting**

# Enabling initiative – Initiative #1: Technology Solutions

## *Draft Material*

<b>Description:</b>	Increase research, development, and deployment of emissions-free technology needed to reach our goals.
<b>Action type:</b>	Research & Development
<b>Cost and funding considerations:</b>	Continued and increased support of NYSERDA's existing programs.
<b>Ease of implementation:</b>	Medium (accelerating and expanding existing processes)
<b>Example case studies:</b>	NYSERDA's Innovation Team

<b>Risks / Barriers to success</b>	<b>Possible mitigants</b>
<ul style="list-style-type: none"> <li>• Significant scaling of current efforts               <ul style="list-style-type: none"> <li>• Coordination of multiple entities to scale current innovation efforts.</li> <li>• Increasing funding of these programs needed</li> <li>• Rapidly developing technologies today to be deployed at scale by 2040.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• NYSERDA acting as a "hub" for research and development to ensure a coordinated and efficient effort.</li> </ul>

# Enabling initiative – Initiative #1: Components of the strategy

*Draft Material*

Components required for delivery <i>(Brief description of action required)</i>	Implementation lead <i>(Entity responsible for completing)</i>	Time to implement <i>(Time required to implement)</i>	Other key stakeholders <i>(Entities that need to be engaged)</i>
<b>Achievement of 70 by 30:</b>			
Focus on energy delivery, the economics of long duration and seasonal storage, siting, and identifying technology gaps.	NYSERDA		NYISO, DPS, Utilities, developers.
Aggressive deployment of current renewable energy and storage technologies	NYSERDA		DPS, NYISO, Utilities, siting communities
<b>Achievement of 100 by 40:</b>			
Detailed, holistic, modeling within a zero-emissions world to identify needed technologies.	NYSERDA		NYSERDA, DPS, NYISO
Support NYSERDA in its innovation efforts, including the development of a consortium of stakeholders to develop these solutions.	NYSERDA		Developers/researchers, Utilities, DPS, NYISO
Supporting utility-scale demonstration projects of new technologies, including storage and transmission and distribution.	Utilities		Developers/researchers, Utilities, DPS, NYISO

# Enabling initiative – Initiative #1: Benefits and impacts

*Draft Material*

## Anticipated Benefits and Impacts

### Disadvantaged communities

Consideration of the impacts of new technologies on environmental justice communities in relation to air quality and overall health effects.

### Health and other co-benefits

Aggressive deployment of current renewable energy technologies and development of new technologies will help to more quickly shutdown fossil fuel generating facilities, improving air quality in these communities.

### Just transition: businesses and industries, workers

With the right policies in place, new businesses and industries will grow in New York State centered around clean energy technologies (energy efficiency, solar, wind and offshore wind and battery storage) and the supply chain for these technologies. Becoming a "hub" for clean energy technology development will attract clean energy research and development companies to New York.

### Other

Care must be taken to ensure that new technology deployment is collaborative and complementary to other grid investments such that the lowest overall cost is incurred to achieve the CLCPA goals.