



Power Generation Advisory Panel Meeting 7

February 12, 2021



PowerGenPanel@dps.ny.gov

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

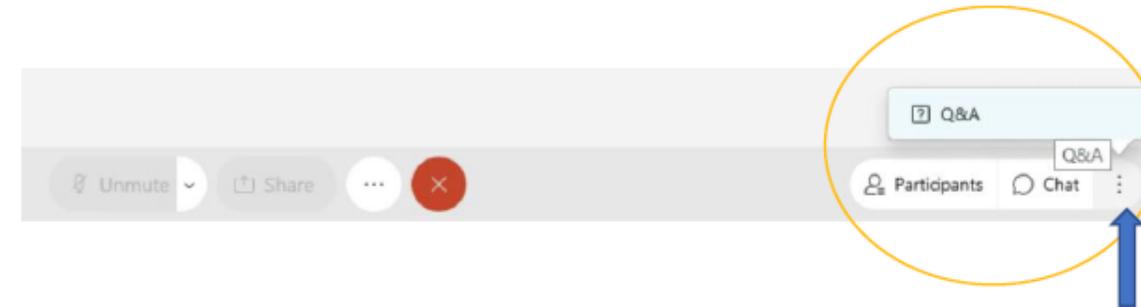
- > Discuss a subset of draft recommendations
- > Determine next steps to bring these recommendations back to the Panel for a vote at the March 10th meeting
- > Solicit public input to contribute to the Panel's recommendations to the Climate Action Council

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.
- > 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.
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Draft Recommendations for Discussion

Enabling Strategy Summary (Being Discussed Today)

Initiative #	Description	Action type	Ease of implementation	Cost
1	Technology Solutions			
2	Market Solutions			
3	Existing Storage Technology			
4	Long Duration Storage Technology			

Additional Initiatives Under Consideration (NOT Being Discussed Today)

Initiative #	Description	Action type	Ease of implementation	Cost
	Workforce development			
	Access and Affordability for all			
	Fossil fuel-fired electricity generation			
	Advanced fuels use			
	Clean energy siting and community benefits			
	Distributed generation/Distributed Energy Resources			
	Electrification of Buildings and Transportation			
	Growth of renewable energy generation			
	Reliability for the future grid			
	Energy delivery and hosting capacity			

Enabling initiative – Initiative #1: Technology Solutions

Draft Material

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

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

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>
Achievement of 70 by 30:			
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
Achievement of 100 by 40:			
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 complimentary to other grid investments such that the lowest overall cost is incurred to achieve the CLCPA goals.

Enabling initiative – Initiative #2: Market Solutions

Draft Material

Description:	Markets should be flexible, incentivize desired resources and optimal grid management, and allow for technology innovation.
Action type:	Regulatory, Executive
Cost and funding considerations:	
Ease of implementation:	Medium
Example case studies:	

Risks / Barriers to success	Possible mitigants
<ul style="list-style-type: none">• Will require several forward-looking market designs and the implementation of each design must be structured in a way that sends the correct price signal at the appropriate time	<ul style="list-style-type: none">• Coordination across DPS, the NYISO, and utilities.

Enabling initiative – Initiative #2: Components of the strategy

Draft Material

Components required for delivery	Implementation lead	Time to implement	Other key stakeholders
Expand wholesale market eligibility participation rules for new policy resources	NYISO		PSC, NYSERDA, Utilities, Suppliers
Continue assessing opportunities to improve accuracy and granularity of wholesale market energy price signals, including shortage pricing, congestion relief, and peak/off-peak pricing	NYISO		
Adapt current ancillary service market designs and look to add products that are needed to incent flexibility as needed to efficiently integrate renewables	NYISO		
Expand Demand-Side Opportunities and Opportunities for Flexible Resources	NYISO/DPS		NYSERDA, Utilities
Improve access for Distributed Resources and continue improvements to cost causation \$ retail rate price signals	DPS		NYSERDA, Utilities, Suppliers
Continued analysis and consideration of Incorporating Environmental Values in Market Pricing and/or in Policy and Investment Benefit Cost Analysis	DPS		NYSERDA, Utilities, Suppliers
Examine all Resource Adequacy options and continue to improve resource adequacy contribution compensation	DPS		NYISO, NYSERDA, Utilities, Suppliers
Enhance/augment the availability of public information to assist developers in making informed project development decisions	DPS		

Enabling initiative – Initiative #2: Benefits and impacts

Draft Material

Anticipated Benefits and Impacts

Disadvantaged communities

Effective and flexible markets help to lower costs for consumers, including those in disadvantaged communities.

Health and other co-benefits

Effective and flexible markets enables clean technologies to come forward and displace undue burdens from fossil fuel generation on environmental justice communities.

Just transition: businesses and industries, workers

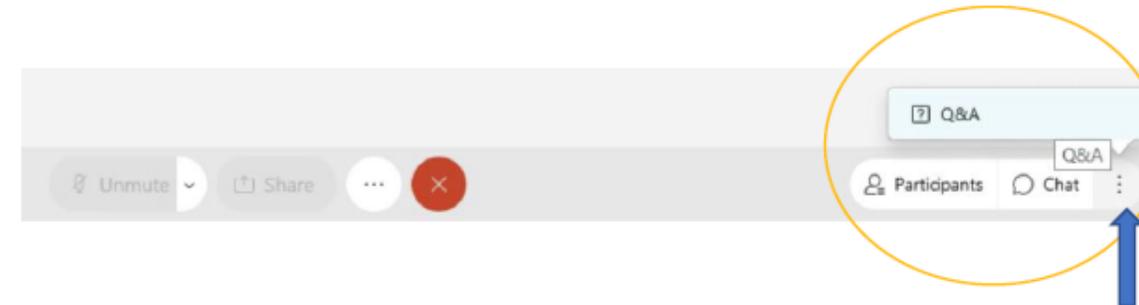
The transition away from fossil plants which will impact workers of those facilities and host communities. Complementary just transition and equity policies are needed to both transition current fossil workers to these new opportunities and ensure that workers from disadvantaged communities will benefit from new opportunities.

Other

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Enabling initiative – Initiative #3: Existing Storage Technology

Draft Material

Description:	The State developed a 3GW goal for energy storage in the 2018 energy storage roadmap based on a 50% renewable target for 2030. 70% renewables and the transition to a carbon-free grid requires higher levels of energy storage as exemplified in the recent Power Grid Study identifying a need for >15GW.
Action type:	Legislative, Regulatory, Executive
Cost and funding considerations:	
Ease of implementation:	Medium (rapid deployment and scaling)
Example case studies:	

Risks / Barriers to success	Possible mitigants
<ul style="list-style-type: none"> • Buyer-side mitigation (BSM) rules in NYISO Capacity Market • NYISO and Utility interconnection study methods • Large scale testing and demonstration needed to ensure assets work properly on the existing grid 	<ul style="list-style-type: none"> • Future programs considered should be harmonized with BSM and how it might change in the future such that access to the capacity market for these resources is maximized.

Enabling initiative – Initiative #3: Components of the strategy

Draft Material

Components required for delivery	Implementation lead	Time to implement	Other key stakeholders
Provide increased funding for energy storage deployment	NYSERDA		DPS, developers
Expand CES to better integrate storage	NYSERDA		DPS, developers, utilities
Update State Energy Storage Roadmap and revise storage deployment goals	NYSERDA		DPS, developers, NYISO
Incorporate energy storage into energy delivery and transmission planning	NYSERDA/DPS		NYISO, utilities
Further refined modeling of the future grid is needed to evaluate the potential system reliability needs anticipated for the future grid. The modeling should identify the need for storage resources with longer durations that may develop with technology innovation, to show the true breakdown of potential storage vs. fully dispatchable generation needs.	NYSERDA		DPS, NYISO, utilities, developers
Incentives for companies that provide systems sufficiently tested for the higher safety standards required in urban environments such as NYC.	NYSERDA		DPS, developers, utilities
Continued work with NYISO on market enhancements that facilitate the resource transition, support investment, minimize costs to consumers, minimize the impact of BSM, and meet reliability.	NYSERDA/DPS		NYISO, utilities, developers

Enabling initiative – Initiative #3: Benefits and impacts

Draft Material

Anticipated Benefits and Impacts

Disadvantaged communities

Increased energy storage deployment can reduce peaker plant usage and decrease health impacts on disadvantaged communities.

Health and other co-benefits

Reduced peaker plant dependence decreases emissions and improves air quality.

Just transition: businesses and industries, workers

Growth and career paths for new workers who want to enter this new field and incumbent energy workers who are looking to transition.

Other

Will need large scale testing and demonstration ensure these new assets work properly on the existing grid.

Enabling initiative – Initiative #4: Long-Duration Storage Technology

Draft Material

Description:	Achieving the CLCPA’s high renewable energy, zero emission electricity system will require substantial amount of energy storage operating over various timescales—spanning from minutes to hours, days, weeks and even longer—to maintain grid flexibility and reliability.	
Action type:	Executive, Regulatory, Research & Development	
Cost and funding considerations:		
Ease of implementation:	Difficult (predicting, modeling, and developing of new technologies)	
Example case studies:		
Risks / Barriers to success	Possible mitigants	
<ul style="list-style-type: none"> • The specific technologies, products, and use/business cases for long-duration storage are still being developed • Scaling new technologies so they will be commercially viable in the grid • There may be a change to the formula for funding Centers of Excellence 	<ul style="list-style-type: none"> • Further R&D and the establishment of a Center of Excellence to accelerate the deployment of long-duration storage 	

Enabling initiative – Initiative #4: Components of the strategy

Draft Material

Components required for delivery	Implementation lead	Time to implement	Other key stakeholders
Focus State programs and funding on research and demonstration projects for the development of large scale and longer duration storage	NYSERDA/DPS	Testing and commercial deployment by 2030	NYISO, utilities, developers
Develop and expand a Storage Center of Excellence so that new technologies can be matured and deployed on the grid for large scale testing	NYSERDA		DPS, utilities, developers
Attract and engaged relevant parties in collaborative efforts to address the challenges unique to long-duration storage	NYSERDA		DPS, utilities, developers, NYISO

Enabling initiative – Initiative #4: Benefits and impacts

Draft Material

Anticipated Benefits and Impacts

Disadvantaged communities

Further reduce peaker plant usage and decrease health impacts on disadvantaged communities.

Health and other co-benefits

Further reduce peaker plant dependence decreases emissions and improves air quality.

Just transition: businesses and industries, workers

NYS has the opportunity to be a leader in the "grid of the future", be the hub of a new clean energy field, and ensure these investments lead to new workforce development and job growth.

Other

Next Steps

Next Steps

- > Power Generation Advisory Panel meeting on February 22th, 9:30 am EST
 - Discuss remaining subset of draft recommendations
 - Solicit public input
- > Climate Action Council meeting on February 26th, 3 pm EST
(<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.
2. When called upon, **turn on your camera** and/or **microphone**.
3. Announce your **name** and **organization** (if you are representing one).
4. You will be provided with **up to 2 minutes** (or **3 minutes** if representing an organization) 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.
- > 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.