

Generation Advisory Panel Enabling Initiative Components that Explicitly Address Reliability Issues

Component	Reliability
Components required for delivery in Initiative #1: Technology Solutions	
Achievement of 70 by 30:	
Focus on energy delivery, the economics of long duration and seasonal storage, siting, and identifying technology gaps	Yes
Aggressive deployment of current renewable energy and storage technologies	Yes
Achievement of 100 by 40:	
Detailed, holistic, modeling within a zero-emissions world to identify needed technologies	Yes
Support NYSERDA in its innovation efforts, including the development of a consortium of stakeholders to develop these solutions	Yes
Supporting utility-scale demonstration projects of new technologies, including storage and transmission and distribution	Yes
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.	Yes
Analysis and Research Needed	
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.	
The potential air quality and health impacts of these fuels.	
The safety of advanced green hydrogen, storage, and pipeline operation.	
Technological innovation, development, and scaled deployment is needed in order to prove the effectiveness and economics of the technologies.	Yes
Components required for delivery in Initiative #2: Market Solutions	
Expand wholesale market eligibility participation rules for new policy resources	Yes
Continue assessing opportunities to improve accuracy and granularity of wholesale market energy price signals, including shortage pricing, congestion relief, and peak/off peak pricing	Yes
Adapt current ancillary service market designs and look to add products that are needed to incent flexibility as needed to efficiently integrate renewables	Yes
Expand Demand Side Opportunities and Opportunities for Flexible Resources	Yes
Improve access for Distributed Resources and continue improvements to cost causation \$ retail rate price signals	Yes
Continued analysis and consideration of Incorporating Environmental Values in Market Pricing and/or in Policy and Investment Benefit Cost Analysis	Yes
Examine all Resource Adequacy options and continue to improve resource adequacy contribution compensation	Yes
Enhance/augment the availability of public information to assist developers in making informed project development decisions	
Components required for delivery in Initiative #3: Existing Storage Technology	
Provide increased funding for energy storage deployment	Yes
Expand Clean Energy Standard to better integrate storage	Yes
Update State Energy Storage Roadmap and revise storage deployment goals	Yes
Incorporate energy storage into energy delivery and transmission planning	Yes
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.	Yes
Incentives for companies that provide systems sufficiently tested for the higher safety standards required in urban environments such as NYC.	
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.	Yes
Components required for delivery in Initiative #4: Long Duration Storage Technology	
Focus State programs and funding on research and demonstration projects for the development of large scale and longer duration storage	Yes
Develop and expand a Storage Center of Excellence so that new technologies can be matured and deployed on the grid for large scale testing	Yes
Attract and engaged relevant parties in collaborative efforts to address the challenges unique to long duration storage	Yes
Components required for delivery in Initiative #7: Grow Renewables	
There remains a large amount of renewables that must be procured and developed to reach the goals. The Public Service Commission issued an Order in October 2020 that implemented key provisions to align the Clean Energy Standard with the CLCPA. NYSERDA's implementation of these procurement targets is essential to meeting the CLCPA goals for both 2030 and 2040.	
Though much progress towards the 70 by 30 goal has been made, most renewable energy projects have been deployed upstate. Both OSW and Tier 4 seek to increase renewables penetration into the downstate region.	
New and upgraded transmission and distribution systems will be necessary to deliver energy from the generation location (both upstate and offshore), to the load demand downstate. The Power Grid study was recently completed and should provide directional support on necessary transmission upgrades.	Yes
Components required for delivery in Initiative #8: Reliability for the Future Grid	
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.	Yes
Power system studies and planning should integrate analysis to consider climate change impacts as needed for reliability and resiliency.	Yes
Actions needed to ensure reliability while working to achieve CLCPA will additionally be reflected in the State Energy Plan.	Yes
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.	Yes
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.	Yes