

# Preparing the Capacity Market for the Grid in Transition

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# Agenda

- **Background**
  - Grid in Transition Overview
- **Plan for Comprehensive Mitigation Review**
- **Plan for Capacity Market Improvements**
- **Overall Plan**

# Background

# Grid in Transition – A Path Forward in 2021

- **The NYISO's wholesale markets can serve as an effective platform for achieving New York State environmental objectives.**
  - Through active engagement with stakeholders and policymakers, the NYISO is developing design improvements to meet the future challenges expected to arise with high levels of intermittent renewable and distributed energy resources.
- **The plan includes a set of enhancements that work together coherently and efficiently to satisfy New York's changing grid reliability needs.**
  - These opportunities are organized across three main points of focus (discussed on the next slide)
  - Some opportunities will require immediate attention while others might be something to consider as more information and experience becomes available.
  - The resource mix is evolving and the NYISO's markets need to continue to accurately value resources for the attributes they provide in meeting system reliability. The combination of forward planning studies, the Installed Capacity Market, and the Energy Market will need to continue to support long standing attributes such as resource adequacy, transmission security, and resource flexibility and considering valuing new yet to be determined attributes.



# Grid in Transition – A Multifaceted Approach

- **Aligning Market Incentives**
  - Carbon Pricing
  - **Comprehensive Mitigation Review**
- **Prepare for New Technologies**
  - DER Participation Model
  - Energy Storage Participation Model
  - Hybrid Co-Located Model
  - Hybrid Aggregation Model
- And more....

Aligning Competitive Markets and New York State Clean Energy Objectives



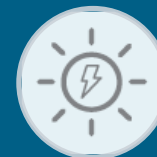
- **Review Energy & Ancillary Services Design for Incenting Flexibility**
  - More Granular Operating Reserves
  - Regulation Up & Down Services
  - Ramping Services
- **Evolve the Day Ahead and Real-Time Markets to improve managing Forecast Uncertainty**
- **Track certain market metrics to evaluate incentives for flexible resources**
- And more...

Valuing Resource & Grid Flexibility



- **Enhancements to Resource Adequacy Modeling**
- **Improving Installed Capacity Market Incentives**
- **Review Capacity Market Resource Ratings to Reflect Reliability Contribution**
  - Expanding Capacity Eligibility
  - Tailored Availability Metric

Improving Capacity Market Valuation



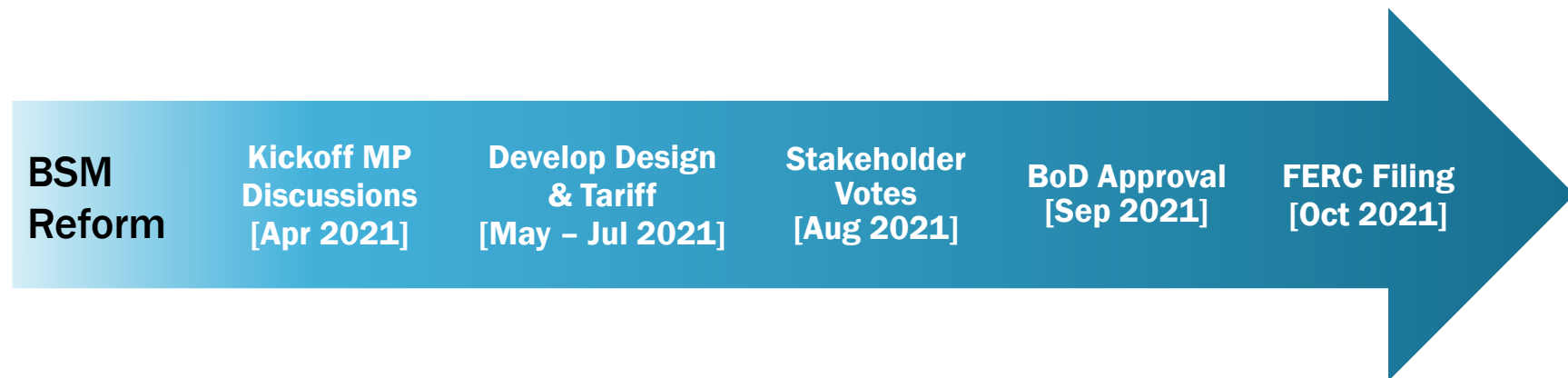
# Plan for Comprehensive Mitigation Review

# Problem & Objective

- **The State is structuring out-of-market payments in the form of Renewable Energy Credits (RECs) or Zero Energy Credits (ZECs) to incentivize resources with desirable environmental attributes to enter the market.**
  - Current Buyer Side Mitigation (BSM) rules may result in these resources being mitigated.
- **These rules when applied to state subsidized resources are increasingly viewed by both state and federal regulators as extremely costly to consumers and ultimately counterproductive.**
- **The premise of the new approach aims to:**
  - Create an alternative option supported by stakeholders, that may be approved at FERC
  - Eliminate BSM risk for CLCPA resources
  - Attempt to simplify unnecessarily complex BSM process

# Plan & High Level Timeline

- Begin discussions with stakeholders in early May on a proposed approach
- Target a vote on a proposal by the end of summer
- Proposed plan is below





# Plan for Capacity Market Improvements

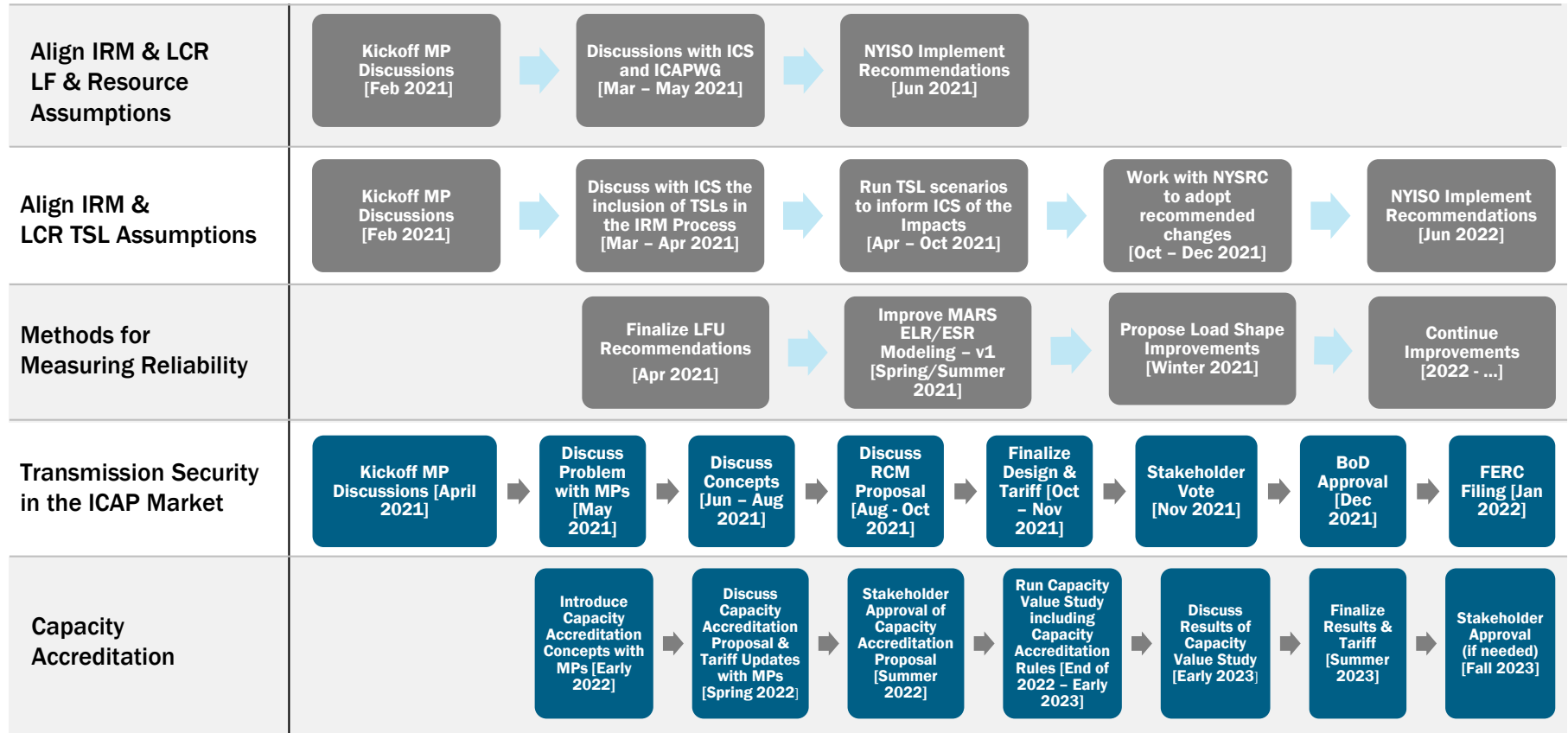
# Problem & Objective

- **The resource mix is evolving and the NYISO's markets need to continue to accurately value resources for the attributes they provide in meeting system reliability. Specifically for the Installed Capacity Market, a review of resource adequacy concepts including the determination of capacity requirements as well as resources' contribution to reliability is needed**
- **As the resource mix transitions to one more dependent on resources that rely on the sun or wind to produce energy or resources with energy limitations, each resources' contribution to reliability also evolves.**
  - Historically, for each MW of installed capacity, that MW could also be depended upon to provide grid operators with dispatch control to manage transmission constraints.
  - With intermittent and energy limited resources, this one-to-one relationship no longer exists.
- **The resource adequacy contribution of resources that has limited energy and/or dispatch capabilities, such as being intermittent or having limited energy/fuel storage capabilities, is also very dependent on the diversity and performance of the resource mix.**
  - For example, as more solar generation is added to the grid the peak load shifts to non-daylight hours therefore making it less valuable to resource adequacy.
- **The NYISO believes that improving the robustness of Capacity Requirements to support Reliability, evolving the Methods for Measuring Reliability, and enhancing Capacity Accreditation Measures are key to the future success of the Installed Capacity Market as the we navigate the transition of resource mix.**

# Plan

- **Capacity Requirements to Support Reliability**
  - Align IRM and LCR processes - Improve handling of the assumptions between the IRM and LCR setting processes
  - Transmission Security in the ICAP Market - Explore capacity requirements based on the resource mix's impact on transmission security considerations
- **Methods for Measuring Reliability**
  - Improve the resource adequacy tools and models to account for the evolving critical reliability time periods, changing load shapes and load variability, new technology operation such as energy storage, and consideration of regional conditions that may inhibit shared assistance.
- **Capacity Accreditation Measures**
  - Expand on the principles established with Expanding Capacity Eligibility and Tailored Availability Metric to all resources

# High Level Timeline



# Questions?

# Our mission, in collaboration with our stakeholders, is to serve the public interest and provide benefit to consumers by:

- Maintaining and enhancing regional reliability
- Operating open, fair and competitive wholesale electricity markets
- Planning the power system for the future
- Providing factual information to policymakers, stakeholders and investors in the power system

