



# Highlights from the 2023 State of the Market Report for the NYISO Markets

Presented by:

Pallas LeeVanSchaick, Ph.D.  
NYISO Market Monitoring Unit  
Potomac Economics

Management Committee  
May 29, 2024



## Introduction

- As the Market Monitoring Unit for NYISO, we produce an annual State of the Market (SOM) Report to:
  - ✓ Evaluate the performance of the markets;
  - ✓ Identify market flaws or market power concerns; and
  - ✓ Recommend improvements in the market design.
- Given the breadth of the report, this presentation covers only highlights from our 2023 SOM Report, including:
  - ✓ High-level market outcomes and investment trends,
  - ✓ Recommended market enhancements related to growing winter reliability needs, transmission security planning needs, and other high priority recommendations
  - ✓ New recommendations for 2023



## Schedule

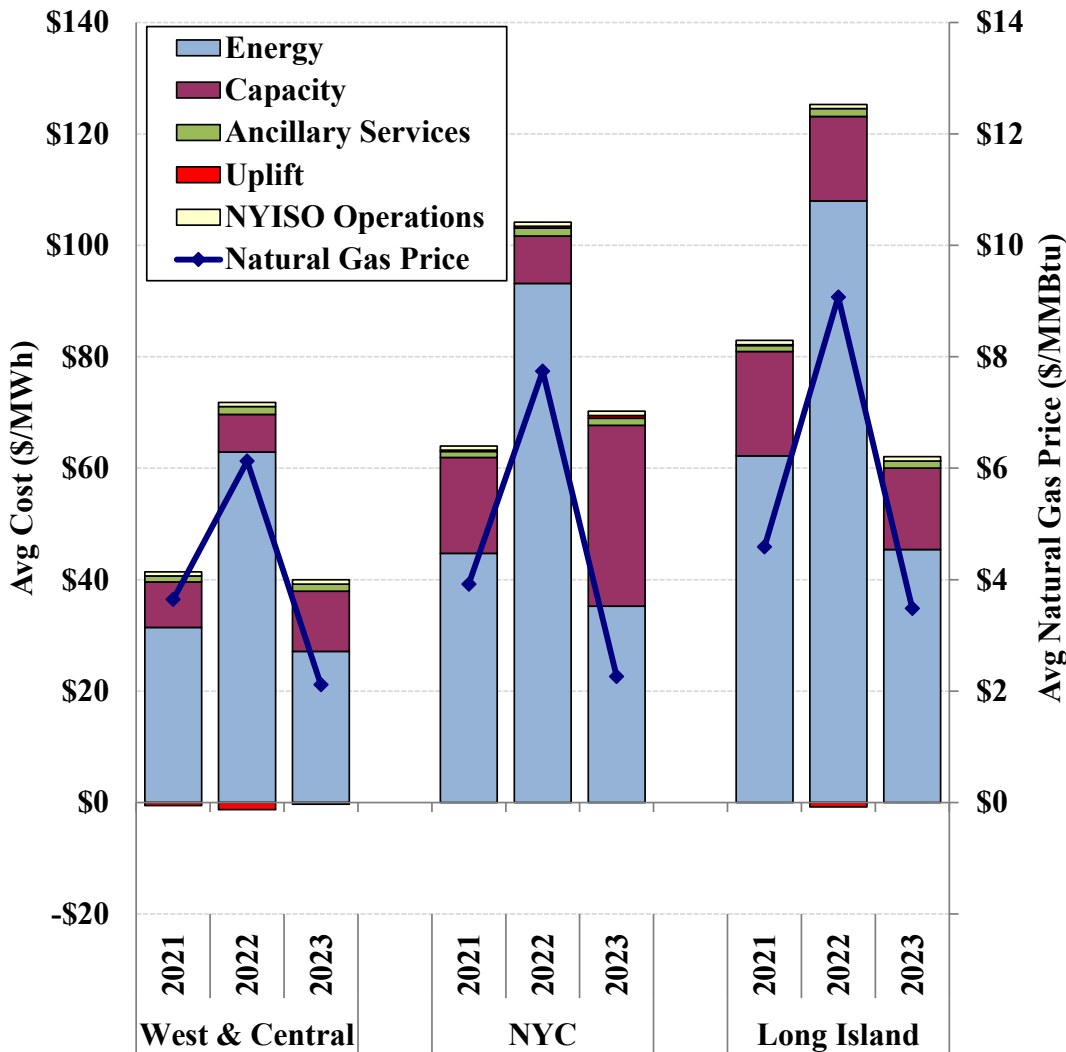
- The 2023 SOM Report was posted [here](#) on May 15.
- The report is being presented at several meetings:
  - ✓ May 29: Management Committee
    - Overview – 60 minutes
  - ✓ May 30: ICAPWG
    - Capacity Market & Policy focus – 90 minutes
  - ✓ June 4: MIWG
    - Energy and Ancillary Services focus – 90 minutes
  - ✓ Additional slots can be scheduled if there is interest.



# Market Outcomes and Investment Trends

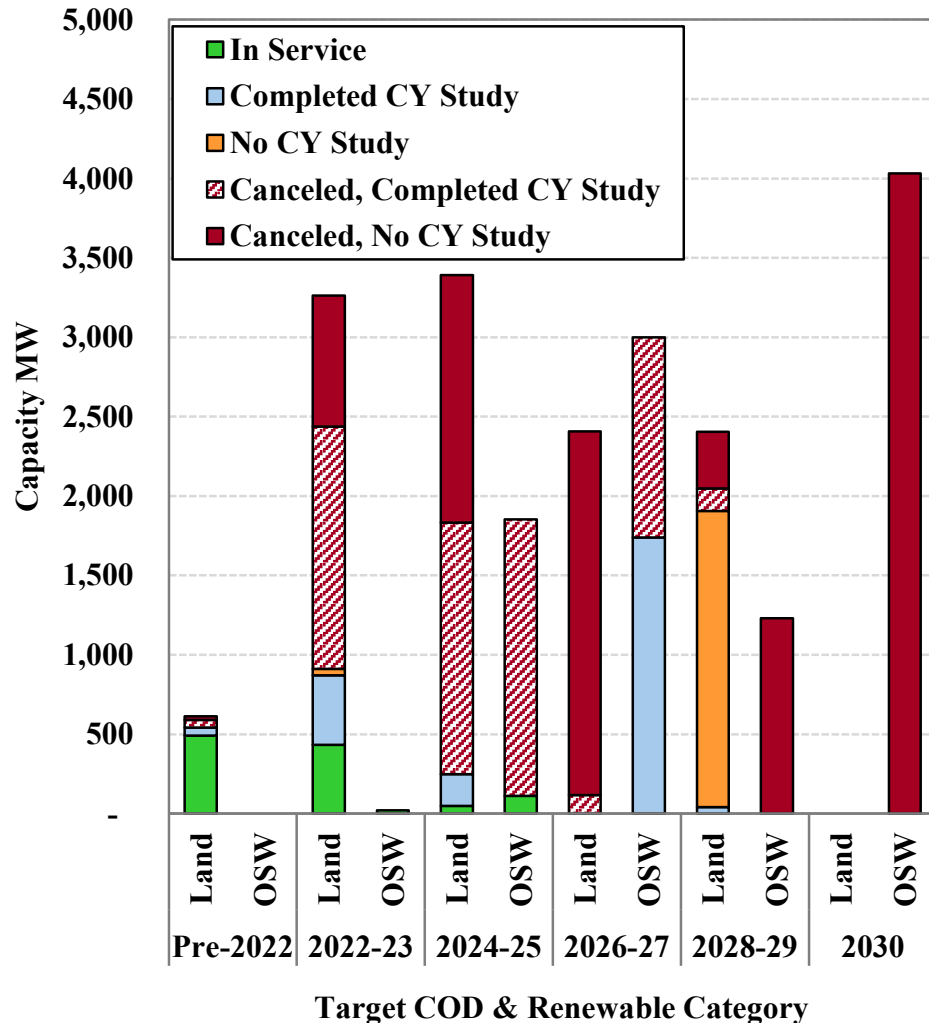


# All In Price Trends



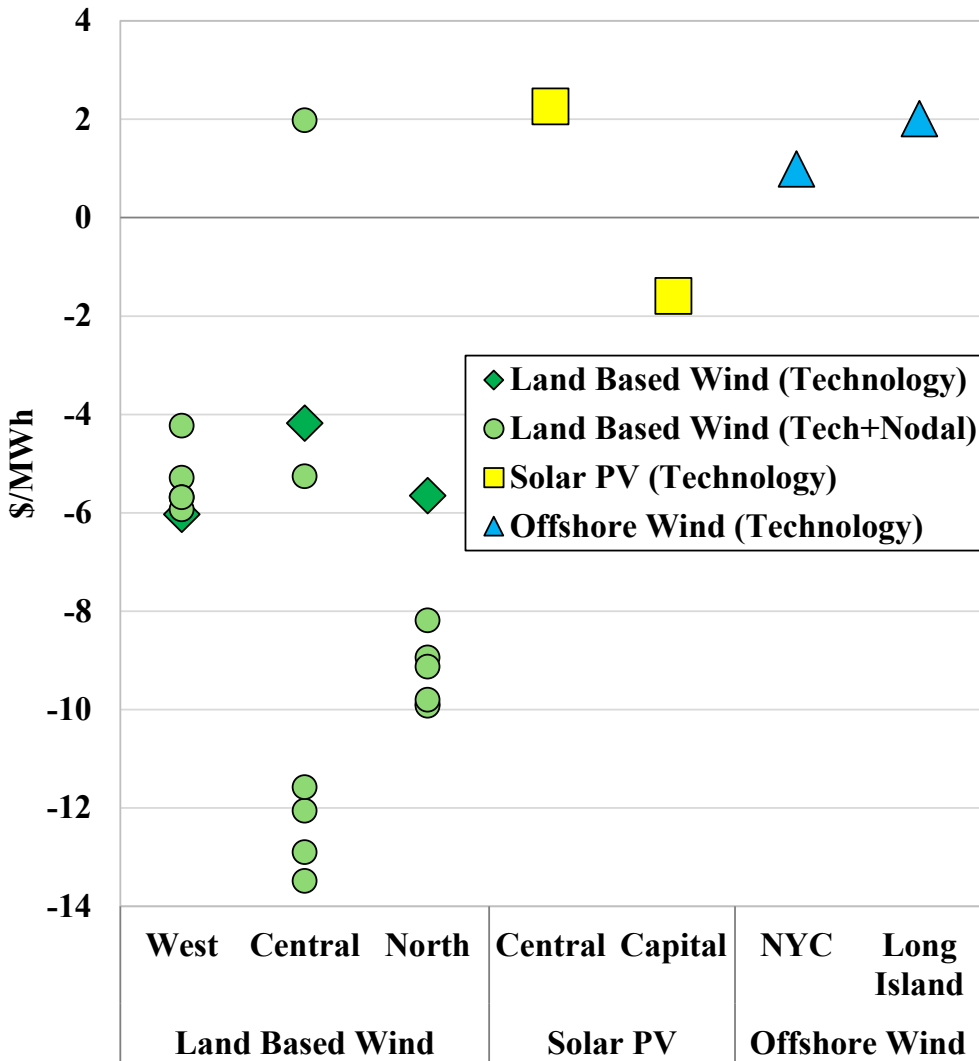
- Energy prices ↓60-70% due to:
  - ✓ Falling gas prices (>60%)
  - ✓ Mild summer and winter weather
  - ✓ Fewer planned transmission outages
  - ✓ New transmission
- Capacity prices rose because:
  - ✓ Peaker retirements in NYC
  - ✓ Higher requirements

# Renewable Investment Far Behind State Targets



- Investment affected by:
  - ✓ Rising costs
  - ✓ Supply chain issues
  - ✓ Siting
  - ✓ Slow interconnection
  - ✓ Deliverability upgrades
  - ✓ Market risk
- Despite IRA, REC strike prices up from 2020 to 2023:
  - ✓ \$110 to \$150 for OSW
  - ✓ \$55 to \$82 for LBW/PV
- 2030 goals for EVs, heating, wind, solar, batteries *already* 2-3 years behind schedule

# Wholesale Market Guides Investment to Efficient Projects but Increases Financial Risk to Developers



- REC contracts protect developers from low *average* prices
- Developers still face risk that future investment will lead to:
  - ✓ Curtailment
  - ✓ Nodal discount
  - ✓ Technology discount
- Ultimately, the wholesale market helps to avoid bad investments and achieve State goals

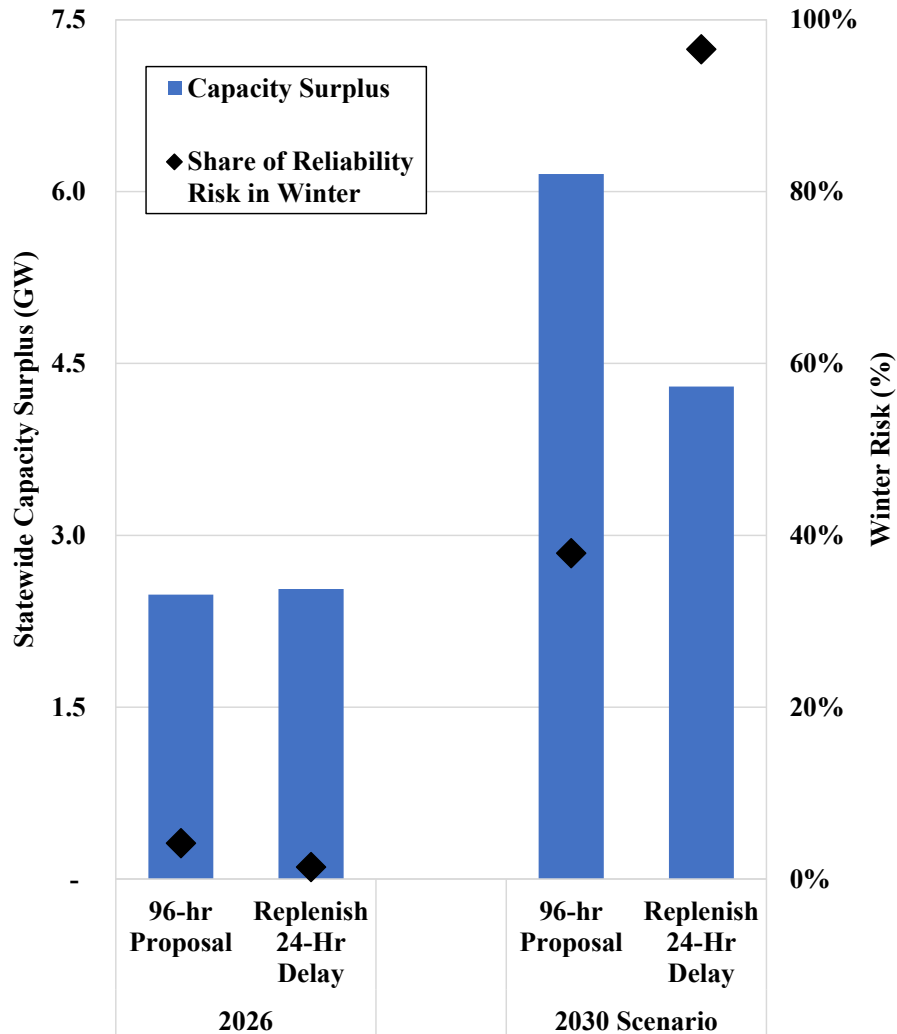


# Capacity Accreditation and Winter Reliability Risks





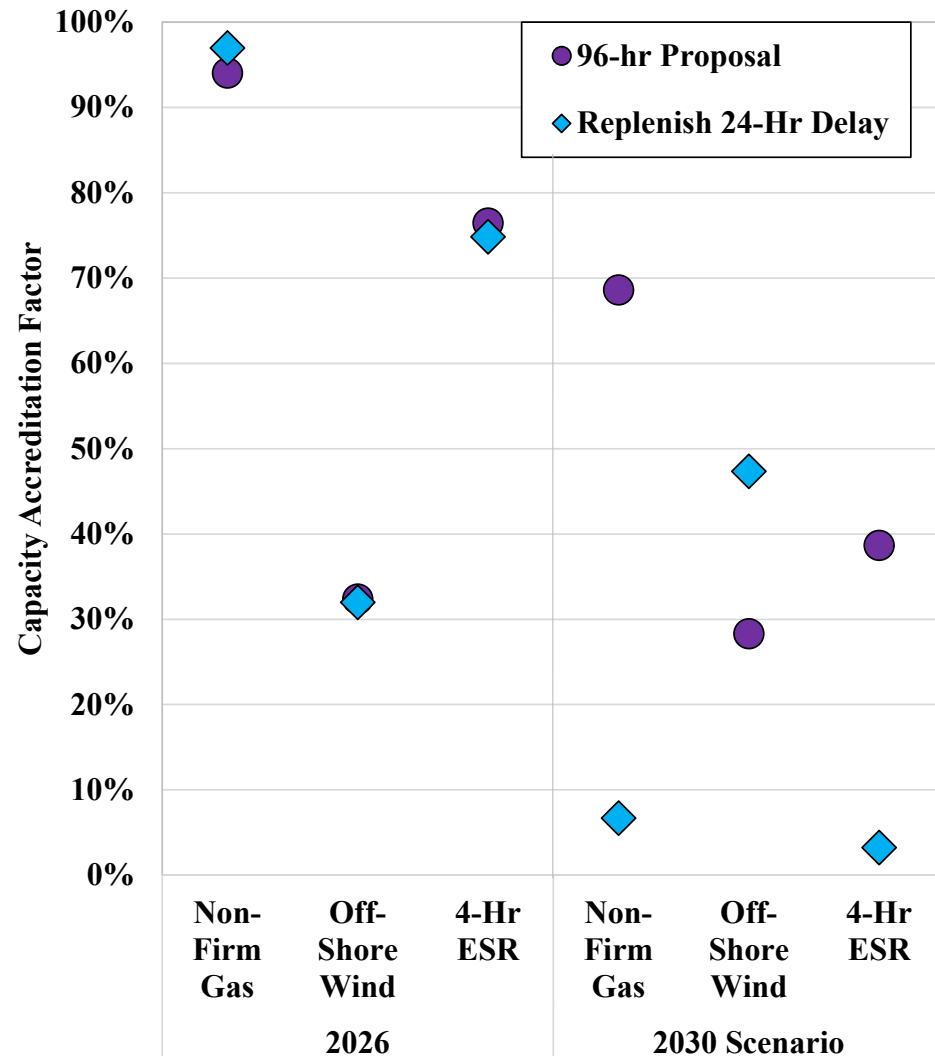
## Reliability Risk Shifting to Winter



- 2030 scenario assumed:
  - ✓ +5 GW winter load
  - ✓ +4 GW OSW
  - ✓ +5 GW LBW/Solar
- Recent Gold Book & cancelled projects suggest scenario will not occur until at least 2032-33
- Scenario illustrates:
  - ✓ Primary risk in winter
  - ✓ Oil inventory tracking in planning models is critical



# Winter Risk Affects Capacity Accreditation



- Multi-day cold weather may deplete stored fuels
  - ✓ Non-firm gas limited
  - ✓ 4-hr batteries have little opportunity to charge → Not suitable for DCR technology
  - ✓ OSW expected to have high capacity factors
- Key recommendations:
  - ✓ 2022-2: Seasonal market
  - ✓ 2021-4: Capacity accreditation reforms ongoing

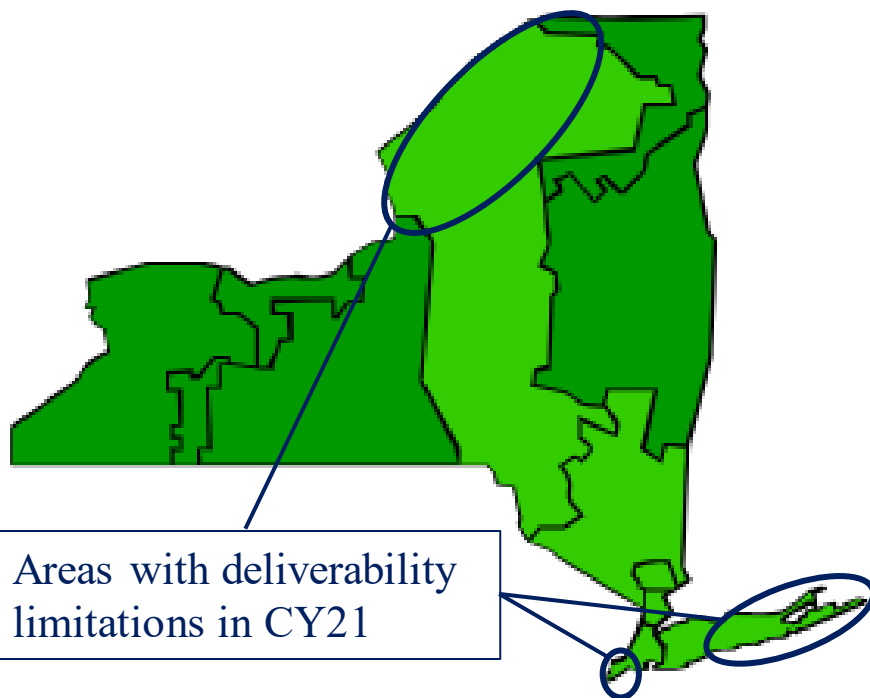


## Other Recommended Enhancements

## Prioritizing Market Enhancements

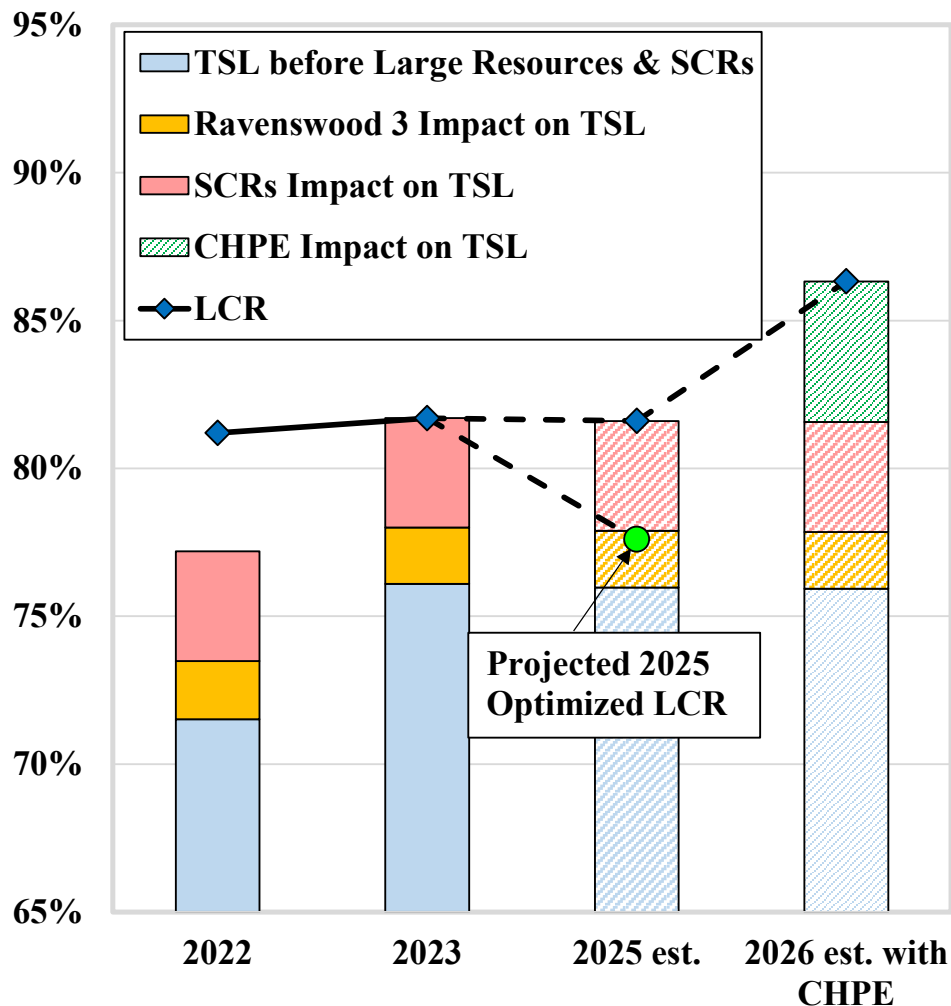
- Unprecedented levels of policy-driven investment are expected over the coming decade
- The NYISO should focus on enhancements that:
  - ✓ Guide renewable investment to where it is most deliverable
  - ✓ Provide incentives for investment in resources that facilitate integration of intermittent renewables
  - ✓ Encourage retirement of existing generators that have:
    - Inflexible characteristics, and/or
    - Limited availability during gas supply constraints
- These enhancements will facilitate state policy goals at the lowest cost and minimize market harm

## Granular Capacity Zones (Rec 2022-4) would Alleviate Barriers from the Deliverability Test



- Deliverability Testing:
  - ✓ Slows interconnection
  - ✓ Inflates ICAP prices in export areas
  - ✓ Protects existing units from competition
  - ✓ Over-allocates cost of upgrades to IPRs and battery storage
- Granular Capacity Zones:
  - ✓ Mitigate or eliminate Deliverability Test
  - ✓ Set efficient locational prices

# Increasing Role of Transmission Security Limits in Capacity Market



- TSL floors raise NYC LCR starting in 2023
- TSL raised by:
  - ✓ SCRs
  - ✓ Very large units
  - ✓ Offshore wind
- Estimated overpayment:
  - ✓ ~\$50-60M/year from 2023 to 2025
  - ✓ ~\$130M in 2026
- See Rec 2022-1 & NYISO project

## High Priority Recommendations

Number	SOM Section	SOM Recommendation	NYISO Project Scope: (2024 / 2025)
<b>Energy Market Enhancements – Pricing and Performance Incentives</b>			
2017-1	VI.E	Local NYC reserve requirements	N/A – Projected for 2029?
2015-16	Appx. V.N	Dynamic reserves	<i>Dynamic Reserves:</i> (Market Design Complete & Prototyping & FRS / Software Deployment)
2016-1	Appx. V.D	Compensate reserve suppliers for congestion relief	
2017-2	VI.A.1	Improve shortage pricing	N/A
<b>Capacity Market – Design Enhancements</b>			
2022-4	VIII.C	Granular capacity zones	<i>Granular Capacity Market Pricing:</i> (Issue Discovery / Continuing)
2021-4	VIII.D	Improve capacity modeling and accreditation	<i>Modeling Improvements for Capacity Accreditation:</i> (Deployment / ) and NYISO RA Model Strategic Plan (see Section XII)

## New Recommendations

Number	SOM Section	Recommendation	To Be Covered
<b>Energy Market Enhancements – Pricing and Performance Incentives</b>			
2023-1	VII.D	Allocate congestion residuals to NYTOs based on incremental transfer capability scheduled in the DAM.	June 4
2023-2	VI.B	Modify fast start pricing logic to base Minimum Run Time eligibility criteria on treatment of the unit rather than the bid.	June 4
<b>Energy Market Enhancements – Real-Time Market Operations</b>			
2023-3	VI.D	Revise tariff to provide disincentives for over-generation by generators with negative incremental costs.	June 4
<b>Capacity Market – Design Enhancements</b>			
2023-4	VIII.E.2	Develop sloped demand curves reflecting marginal value of surplus capacity for when an LCR is determined by a TSL.	May 30
2023-5	VIII.G.4	Update market processes to mitigate the risk of extreme pricing caused by inaccuracies in the Winter-Summer Ratio.	May 30