

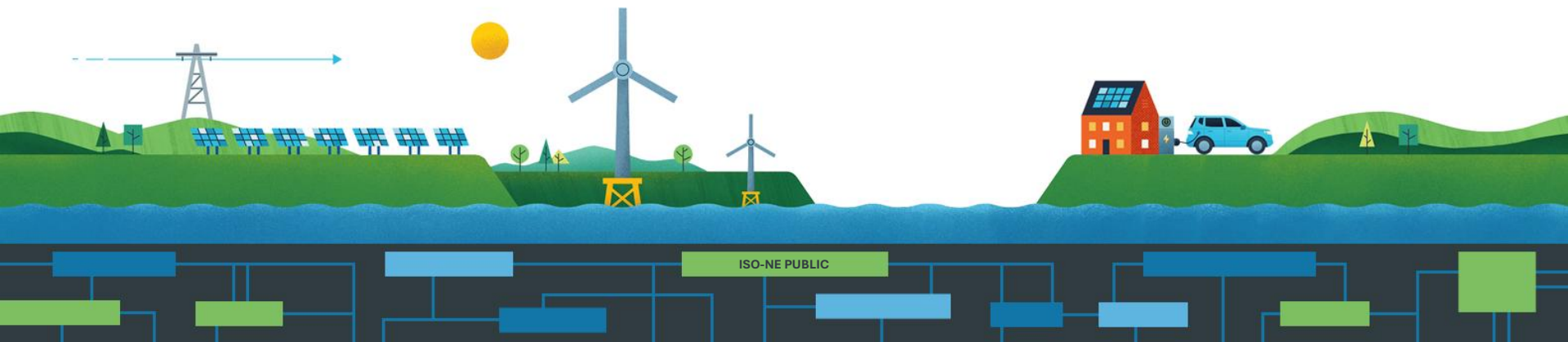


Capacity Market Reforms

Moving towards Prompt Seasonal Market

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ISO NE achieves resource adequacy through the capacity market construct

- The main objective of the capacity market is to procure enough capacity to meet the long-term resource adequacy need for the region at the least cost fashion.
 - Facilitate the capacity entry and exit
 - Recover the missing-money from energy and ancillary service markets
- ISO runs the capacity market in a series of auctions.
 - Primary capacity auction runs annually on a 3-year forward basis
 - Annual reconfigure auction and monthly bilateral trading
- All resources both existing and new must be qualified to participate in the capacity auctions.
- Capacity demand curves are constructed based on the marginal reliability impact (MRI) and the expected cost of new entry at the 1-in-10 reliability standard.
- Resources cleared at the auction take on the capacity supply obligation and face performance penalty during scarcity conditions in the real-time operation.

Clean energy transition creates new challenges, jeopardizing the efficiency of capacity market

- A long lead time for new resource qualification may prevent new resource types such as PV and storage to enter the market in a timely fashion.
- Failures and delays in the development of new capacity resources result in phantom capacity in the forward capacity market, increasing the market uncertainty.
- Continuous load growth and energy constraints in the winter season start shifting resource adequacy risk more towards winter, which cannot be efficiently captured in an annual market .
- The qualified capacities traded in the capacity market do not have the same reliability impact on the system, resulting in inefficient capacity substitution.

ISO NE is moving towards a prompt seasonal capacity market design

- ISO started an effort on the resource capacity accreditation in 2021.
 - The design is to change resource's accredited capacity based on resource's annual reliability contributions.
 - Challenges emerged in the modeling of winter season (gas availability) and the accreditation for resources with different seasonal performance. Seasonality played a critical role in such an annual construct.
- In 2023, ISO collaborated with Analysis Group to conduct a study of prompt and seasonal market constructs.
 - Various benefits were identified
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- ISO NE is currently working on the detailed design of the prompt seasonal capacity market.

The prompt seasonal capacity market design focuses on three key areas

- Forward to Prompt Auction
 - Capacity auction will be held several months before the capacity commitment period rather than roughly four-year ahead.
- Annual to Seasonal Auction
 - Meeting seasonal capacity demand
- Installed Capacity-based to MRI-based Capacity Accreditation
 - Resources will be accredited based on their seasonal reliability contribution through MRI

The new design is going to improve market efficiency

- Prompt auction
 - Use of up-to-date information improves accuracy and market efficiency (removal of phantom capacity)
 - Equal treatment for technologies with different development timelines
 - Reduce the implementation complexity
- Seasonal auction
 - Better capture the seasonal need of reliability
 - Provide better incentives for fuel procurement
- MRI-based accreditation
 - Better alignment between capacity supply and demand
 - Improve capacity substitutability

Key Design Elements for Prompt Market

- Capacity auction timeline will be moved closer to the capacity commitment period.
 - Only one capacity auction
 - No reconfiguration auction is needed
- Seal-bid auction format will be adopted.
- All resources must be commercial to participate in the capacity auction.
- Resource deactivation process is independent of and separated from the capacity auction

Key Design Elements for Seasonal Market

- Two seasonal auctions will be held for each capacity commitment period.
 - Winter Market (May – October)
 - Summer Market (November – April)
- Each seasonal auction will be conducted several months before the season independently.
 - Seasonal capacity offers will be cleared against the season demand curves and auction parameters
- A gas capacity constraint will be enforced in the winter auction.
 - Capture the reliability impact of gas supply limitation
 - Gas resources without firm gas contracts may receive a lower capacity market clearing price

Key Design Elements for Capacity Accreditation

- All resources will be accredited based on their marginal contributions to resource adequacy or MIRI, which reflects the change of expected unserved energy.
- MIRI will be calculated using a probabilistic resource adequacy assessment framework, which evaluates the system behavior under a large number of scenarios.
- Various resource models such as PV and storage will be enhanced to better capture resources' performance, improving the accuracy for both resource adequacy assessment and accreditation.
- Accredited capacity will reflect resource' energy limitation.

Questions

