

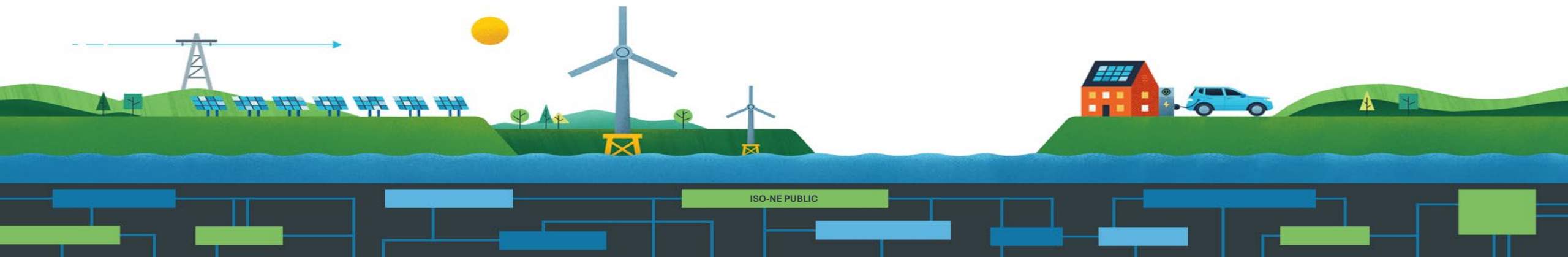


# Capacity Auction Reforms: Seasonal/Accreditation (CAR-SA)

## *Overview of Gas Design*

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**Proposed Effective Date: Q2-Q3 2027**

- During the winter, the quantity of gas available for power generation is limited
- This “regional gas constraint” impacts gas resources’ ability to contribute to resource adequacy in the winter
- As part of the Capacity Auction Reforms (CAR), the impact of the regional gas constraint will be reflected in gas-only resource compensation through a gas capacity demand curve
- This presentation provides a conceptual overview of the broader gas design



# Gas design broadly consists of five topics

- Topic 1: Analysis Group's model that predicts the daily quantity of gas available for power generation
- Topic 2: Construction of a gas capacity demand curve
- Topic 3: Gas resource accredited capacity calculation
- Topic 4: Determination of "firm" gas contract requirements
- Topic 5: Adjustments to the gas capacity demand curve to reflect firm contracts
- This presentation reflects the ISO's current thinking on the broader gas design
- The ISO welcomes feedback on this framework both now and as the ISO presents the proposed design in the coming months

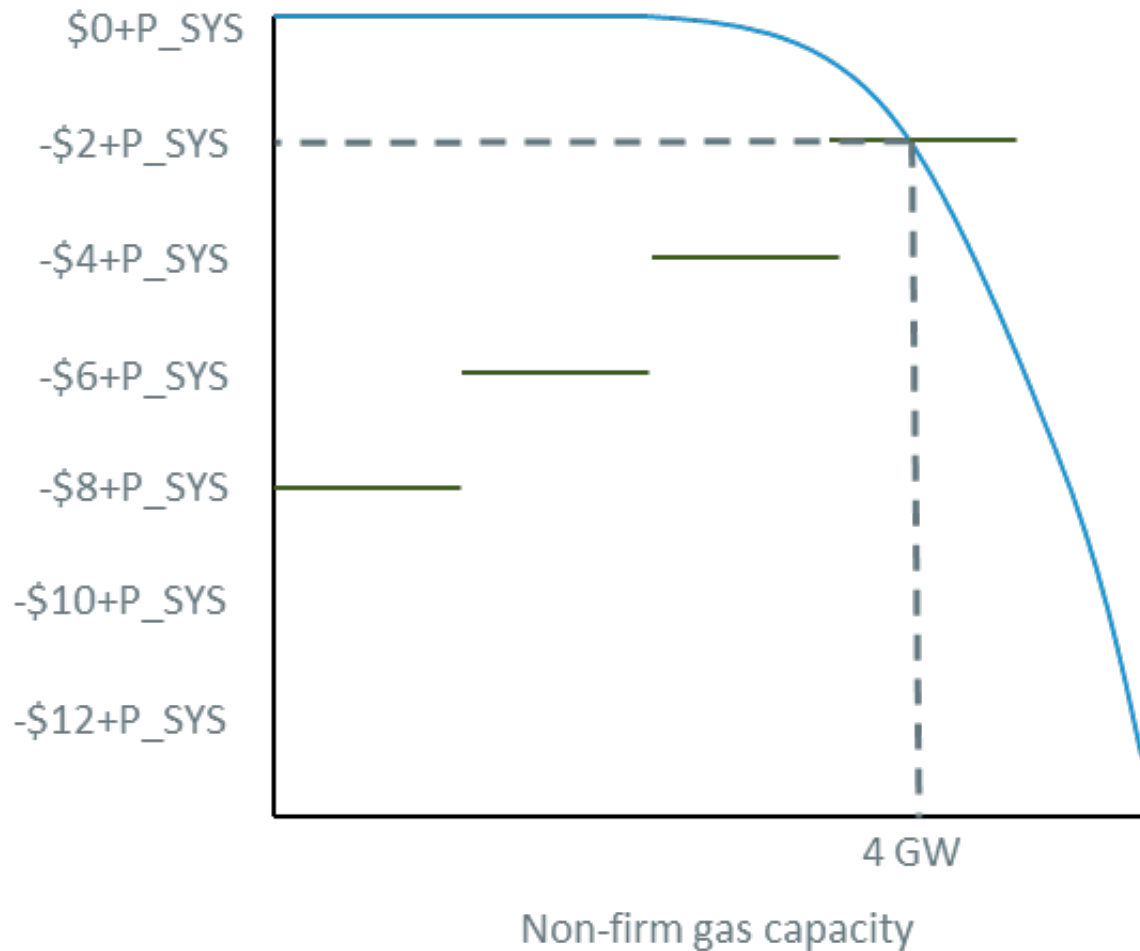
# Topic 1: Analysis Group's daily gas availability model

- Analysis Group is developing a model that estimates the quantity of gas available for power generation on a given simulated day
- The model uses information on the region's gas infrastructure and historic gas usage as inputs
- The outputs from this model serve as the primary input to the calculation of the gas capacity demand curve
- Analysis Group will be discussing the gas availability model in November and December

## Topic 2: Construction of the gas capacity demand curves

- With the outputs from Analysis Group’s gas availability model, the ISO will construct a gas capacity demand curve to reflect the diminishing reliability impact of non-firm capacity due to the system-wide gas constraint
- When binding, the gas capacity demand curve will pay a lower price to gas resources without “firm” fuel contracts that sell Capacity Supply Obligation in a winter capacity auction
- The gas capacity demand curve is analogous to the existing export-constrained capacity demand curve design
- ISO to present material on the construction of the gas demand curve beginning in December
- **Next:** a figure provides an example gas capacity demand curve with gas capacity clearing quantity and price

## Topic 2, cont.: Example gas capacity demand curve



- The downward-sloping blue curve represents the gas capacity demand curve
- The horizontal green lines reflect the winter capacity market offers of the gas-only resources without firm fuel arrangements
- In conjunction with the simultaneous clearing of the system-wide demand curve, the intersection of the gas capacity supply and demand curves determines how much non-firm gas-only CSO will be awarded and how much less that CSO will be paid
- Assuming a system price of \$6, 4 GW of non-firm gas-only capacity would be awarded a CSO, and that CSO would be paid a price =  $\$6 - \$2 = \$4$
- Gas resources will be paid a lower price in the winter months when there are more gas resources than can be expected to reliably perform in the MRI Hours

# Topic 3: Gas resource accredited capacity calculation

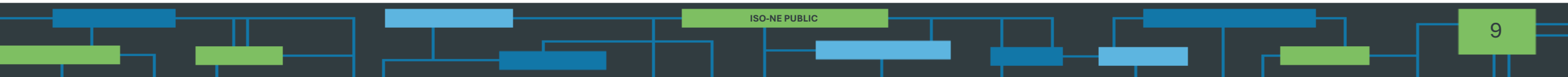
- Gas resources' accredited capacity values will not be impacted by the regional gas constraint
  - I.e., the impact the regional gas constraint has on gas resource expected resource adequacy contributions will be accounted for in the price paid to gas resources without firm contracts, not in their capacity accreditation
- Gas resource accreditation will be driven by their MCap and EFORd values, like the non-energy limited thermal resources
- The process for accrediting the gas resources will be discussed in January 2026

# Topic 4: Determination of firm gas contract requirements

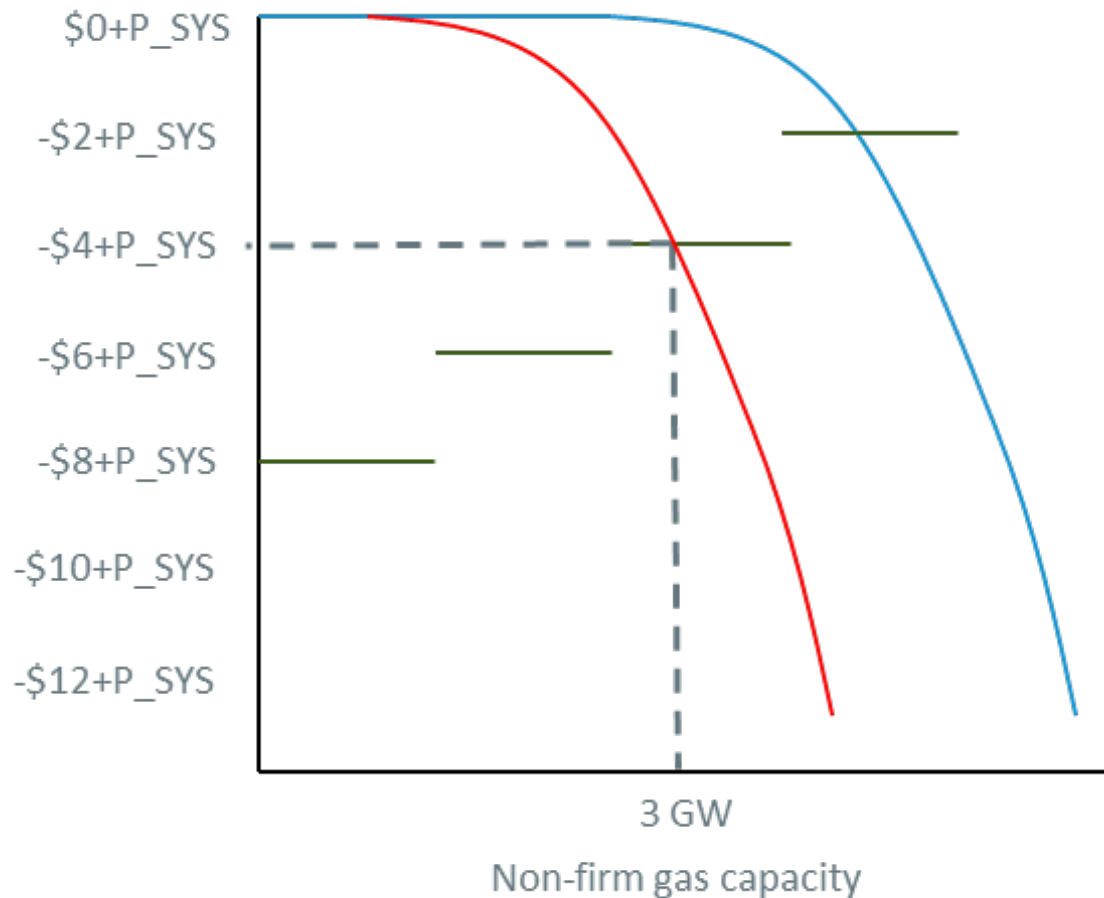
- Gas resources that make firm fuel arrangements can exempt some or all of their accredited capacity from the lower price paid to gas capacity
- Analysis Group is working to determine the per MW of accredited capacity contract requirements for firm fuel arrangements
- Analysis Group will outline proposed firm contract requirements, with April 2026 as the target date for those discussions

# Topic 5: Adjustments to the gas capacity demand curve to reflect firm contracts

- Firm contracts made by gas resources (and submitted to the ISO for verification) will shift the gas capacity demand curve to the left
- Conceptually, as gas resources make contracts to firm their fuel supply, the remaining gas that is available for power generation by gas resources without firm contracts decreases
- As a result, the expected resource adequacy contributions of the gas resources without firm contracts decreases as more contracts are made
- **Next:** Figure 2 demonstrates how firm gas contracts would shift the gas capacity demand curve from the previous example



# Topic 5, cont.: Firm gas contracts shift gas capacity demand curve to the left



- Firm gas contracts shift the gas capacity demand curve to the left: the downward-sloping red line now represents the non-firm gas-only capacity demand curve
- With this new demand curve, less non-firm gas capacity sells CSO (3 GW) and the non-firm gas CSO receives a lower price (assuming a \$6 system price, the non-firm gas CSO would be paid  $\$6 - \$4 = \$2$ )

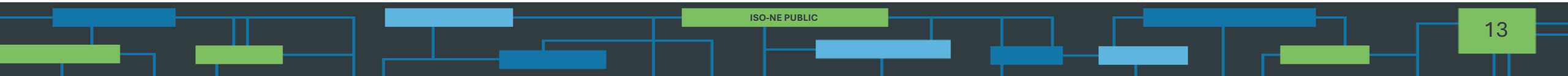
# Next steps

- After this presentation, AG will present on their daily gas availability model (Topic 1)
- AG will return in December with additional details and results from their model (also Topic 1)
- ISO will kickoff an introductory discussion on the process to construct the gas demand curves in December, and will initiate the detailed design discussion in January 2026 (Topic 2)
- ISO will present on the accredited capacity calculations for gas-only resources in January 2026 (Topic 3)
- AG and ISO will present on firm gas contract requirements, and the impact such contracts have on the gas demand curve, starting in April 2026 (Topics 4 and 5)

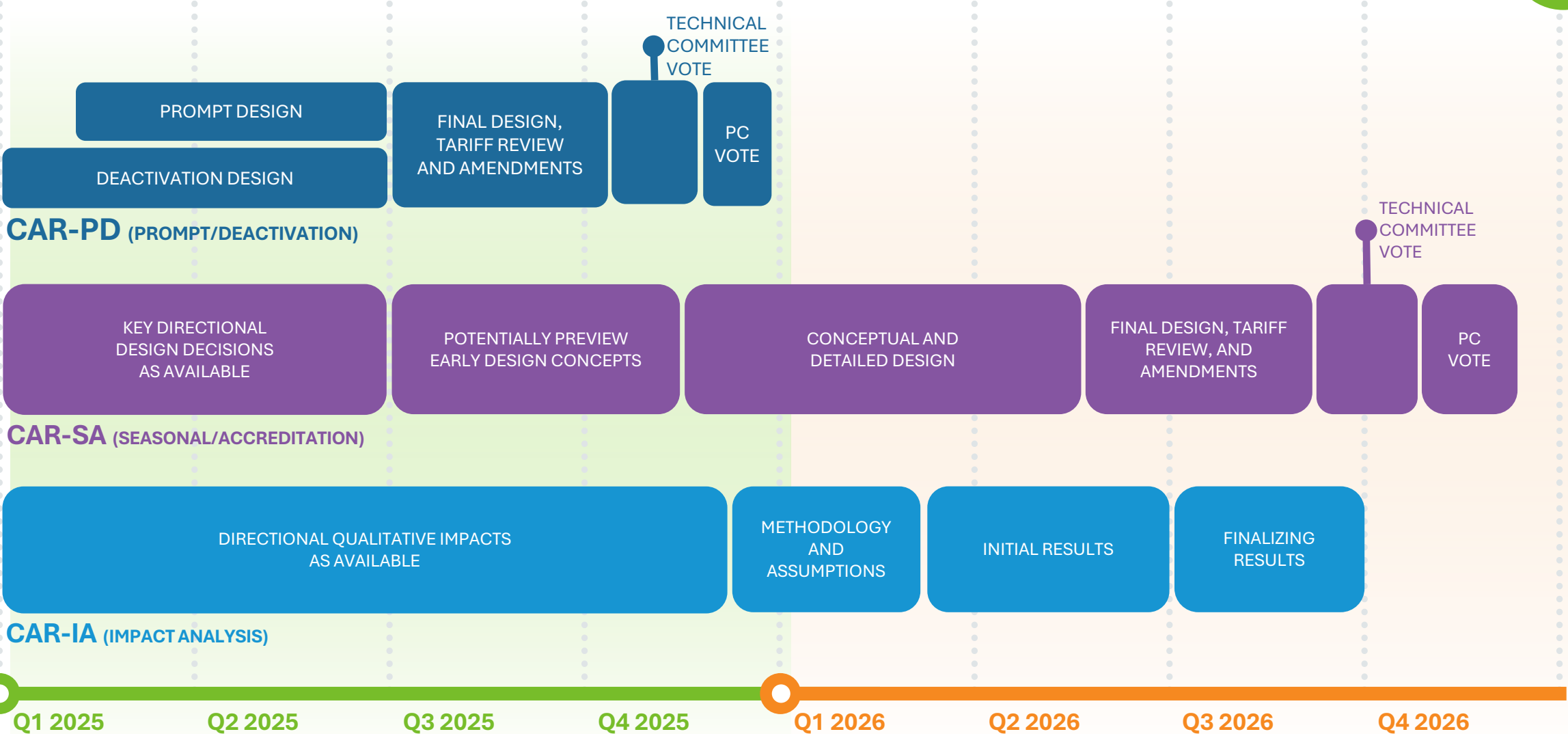
# Questions

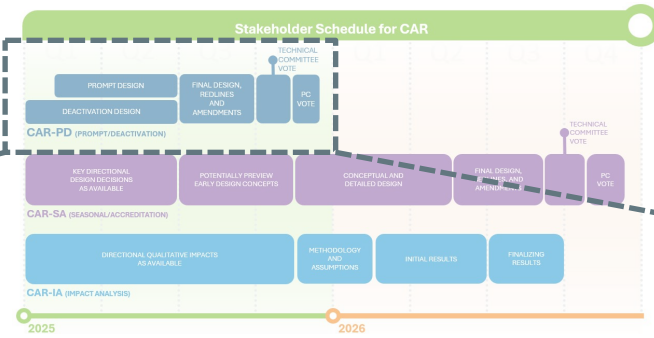


# STAKEHOLDER SCHEDULE

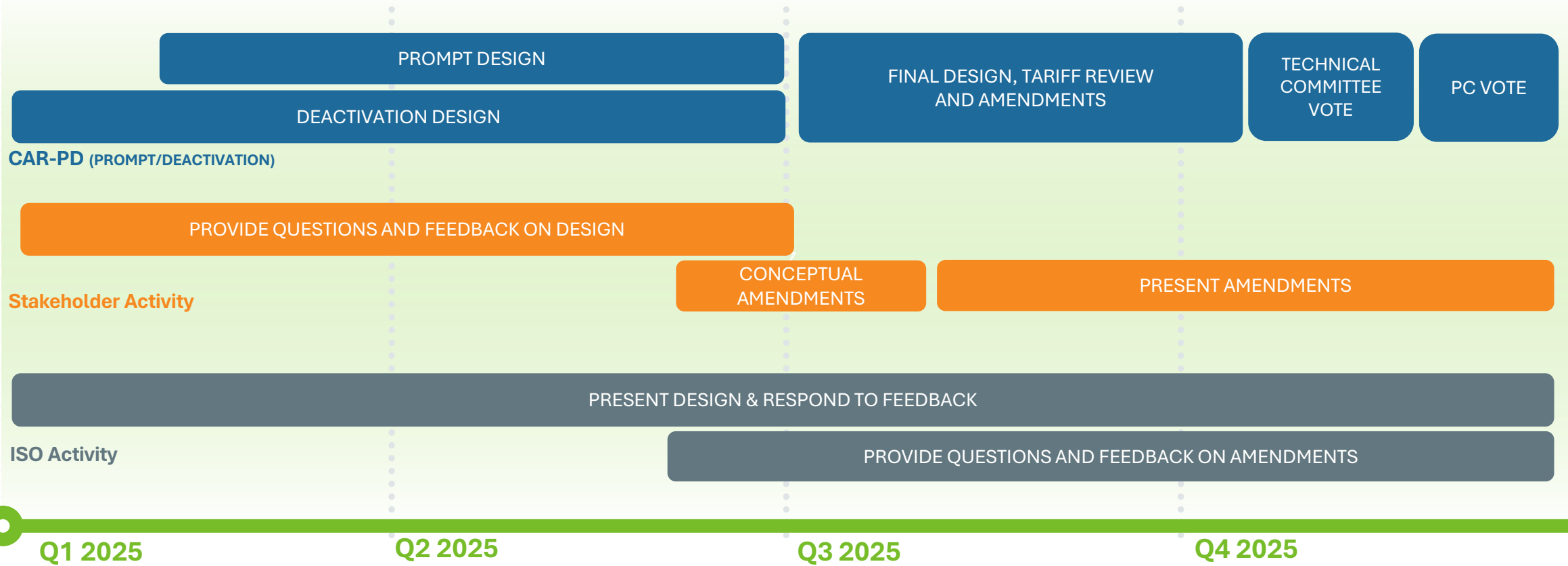


# Stakeholder Schedule for CAR





## Stakeholder Schedule for CAR-PD



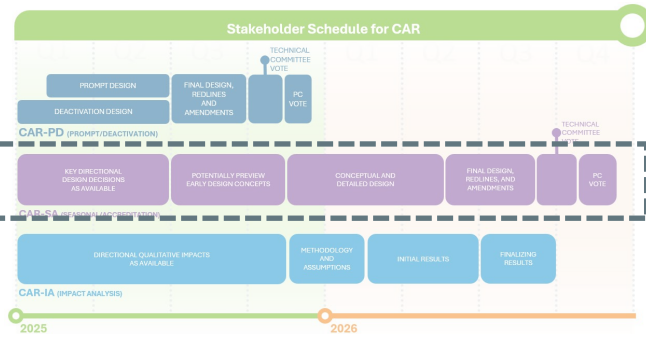
Q1 2025

Q2 2025

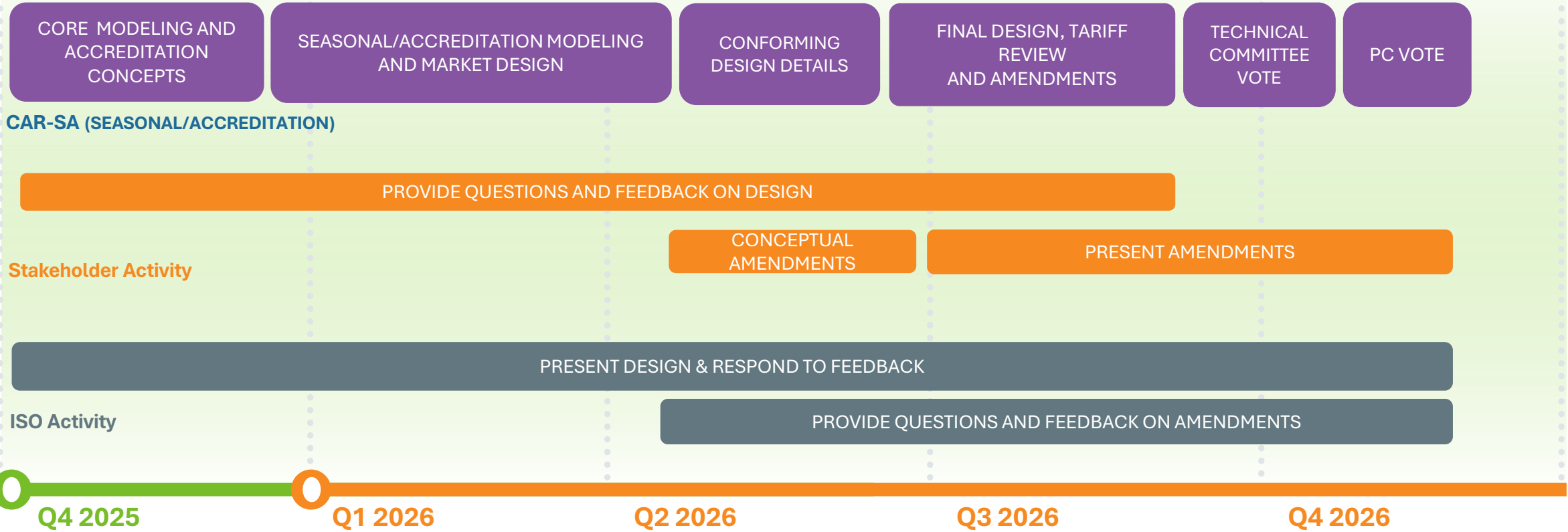
Q3 2025

Q4 2025

ISO-NE PUBLIC



## Stakeholder Schedule for CAR-SA



# CAR-SA Schedule Projection

- **November**

- Gas Design Conceptual Introduction (MC timeframe)
- Gas Availability Study Methodology (Analysis Group) (MC timeframe)
- Energy Limited Resource Modeling and Accreditation (MC timeframe)
- Demand Response Modeling and Accreditation (RC timeframe)
- Seasonal Tie Benefits Modeling (RC timeframe)

- **December**

- Seasonal Market Design Concepts and Risk Split (MC timeframe)
- Gas Availability Study Follow-up with Analysis Group (MC timeframe)
- Gas Market Constraint Conceptual Introduction (MC timeframe)
- Overview of Impact Analysis Plan (MC timeframe)
- Energy Storage Resource Modeling and Accreditation (Includes Pumped Hydro) (RC timeframe)
- Q4 Follow-up Medley (MC timeframe)

*All NEPOOL members are invited to attend meetings where CAR topics are discussed*

# CAR-SA Preliminary Topic Schedule November and Beyond (Continued)

- The list below provides a projection of when core accreditation committee discussions will begin:

Topics	Projected Committee Discussions
Gas-only Resource Modeling and Accreditation	January – February
Development of Gas Market Constraint	January – March
Intermittent Power Resource Modeling and Accreditation (includes run-of-river hydro)	January – February

# CAR-SA Preliminary Topic Schedule November and Beyond (Continued)

- The list below provides a projection of when core accreditation committee discussions will begin:

Topics	Projected Committee Discussions
Energy Limited Resource Modeling and Accreditation, Continued (Dual Fuel)	January-February
Import Resource Modeling and Accreditation	February
Modeling Deliverability: Summary of All Resource Types	February
Hybrid Resource Modeling and Accreditation	February – March

# CAR-SA Preliminary Topic Schedule November and Beyond (Continued)

- The list below provides a projection of when core accreditation committee discussions will begin:

Topics	Projected Committee Discussions
ICR and Seasonal Demand Curve Estimation	February – March
Impact Analysis Initial Results	March – June
Q1 Follow-up Medley	March
Gas-only Resource Contract Requirements	April – May