

# Issue Track 5: Customer Impacts

## Proposed Methodology for Modeling and Analysis

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**IPPTF**

April 23, 2018, KCC, Rensselaer

# Background

- The Joint Staff team drafted a work plan to:
  - “Identify the topics and timelines to further explore options to incorporate the cost of carbon into wholesale energy markets with the goal of contributing to achieving New York State’s public policies, while providing the greatest benefits at the least cost to consumers and appropriate price signals to incentivize investment and maintain grid reliability.”
- The work plan includes five “Issue Tracks”:
  - Issue Track 1: Straw Proposal Development
  - Issue Track 2: Wholesale Energy Market Mechanics & Interaction with Other Wholesale Market Processes
  - Issue Track 3: Policy Mechanics
  - Issue Track 4: Interaction with Other State Policies and Programs
  - Issue Track 5: Customer Impacts *Today’s presentation proposes a study plan to assess impacts*
- The NYISO/New York State joint staff team (Joint Staff Team) intends to present a carbon dioxide pricing proposal by December 2018 that leads to a firm proposal in early 2019
- The NYISO and the Brattle Group will be performing the analysis after considering comments and feedback from stakeholders. Stakeholders will also have an opportunity to comment on the results of the analysis.

# Study Objective and Scope

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Estimate impacts of carbon pricing on generation dispatch, customer costs, total resource costs, and emissions.

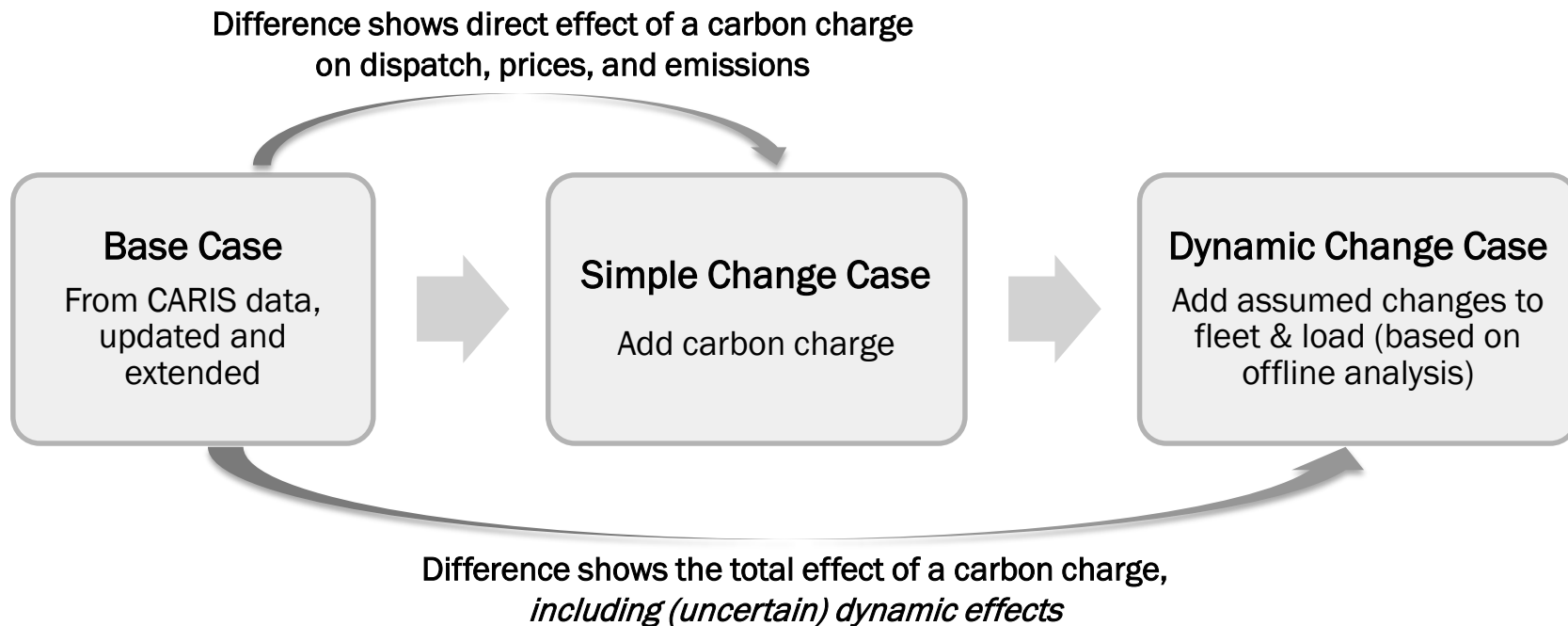
Include more study years and detail than the 2017 Brattle Study such as those discussed in Section VI.B thru F of the 2017 Study\*:

- Evaluate multiple years (e.g., 2020, 2025, and 2030)
- Account for changes in unit commitment and dispatch
- Account for how the fleet's marginal emission rates evolve over time
- Account for both direct effects of carbon pricing, and the “dynamic” effects on investment/retirement/load

\*Pricing Carbon into NYISO's Wholesale Energy Market to Support New York's Decarbonization Goals

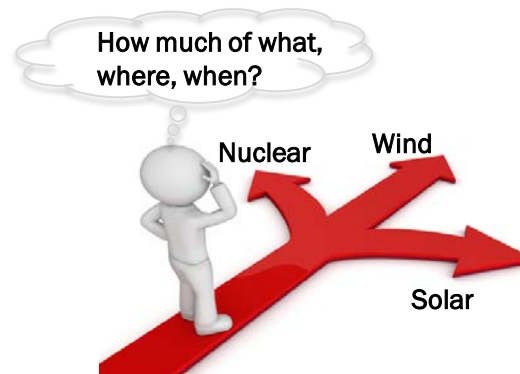
[http://www.nyiso.com/public/webdocs/markets\\_operations/documents/Studies\\_and\\_Reports/Studies/Market\\_Studies/Pricing\\_Carbon\\_into\\_NYISOs\\_Wholesale\\_Energy\\_Market.pdf](http://www.nyiso.com/public/webdocs/markets_operations/documents/Studies_and_Reports/Studies/Market_Studies/Pricing_Carbon_into_NYISOs_Wholesale_Energy_Market.pdf)

# Proposed Approach



# Scenario Development

- The impact of a carbon charge will depend on market conditions (to be reflected in the Base Case and carried through to the Change Cases).
- One could define many market scenarios, but we aim to define enough scenarios to **span the range of plausible impacts** of a carbon charge throughout the state.
- Key factors are those affecting marginal emission rates in various parts of the state:
  - The location of new renewable resources to meet CES targets
  - New transmission between Upstate and Downstate
  - The operation of Upstate nuclear plants
- The range of plausible impacts can be studied using just three scenarios



# Proposed Scenarios

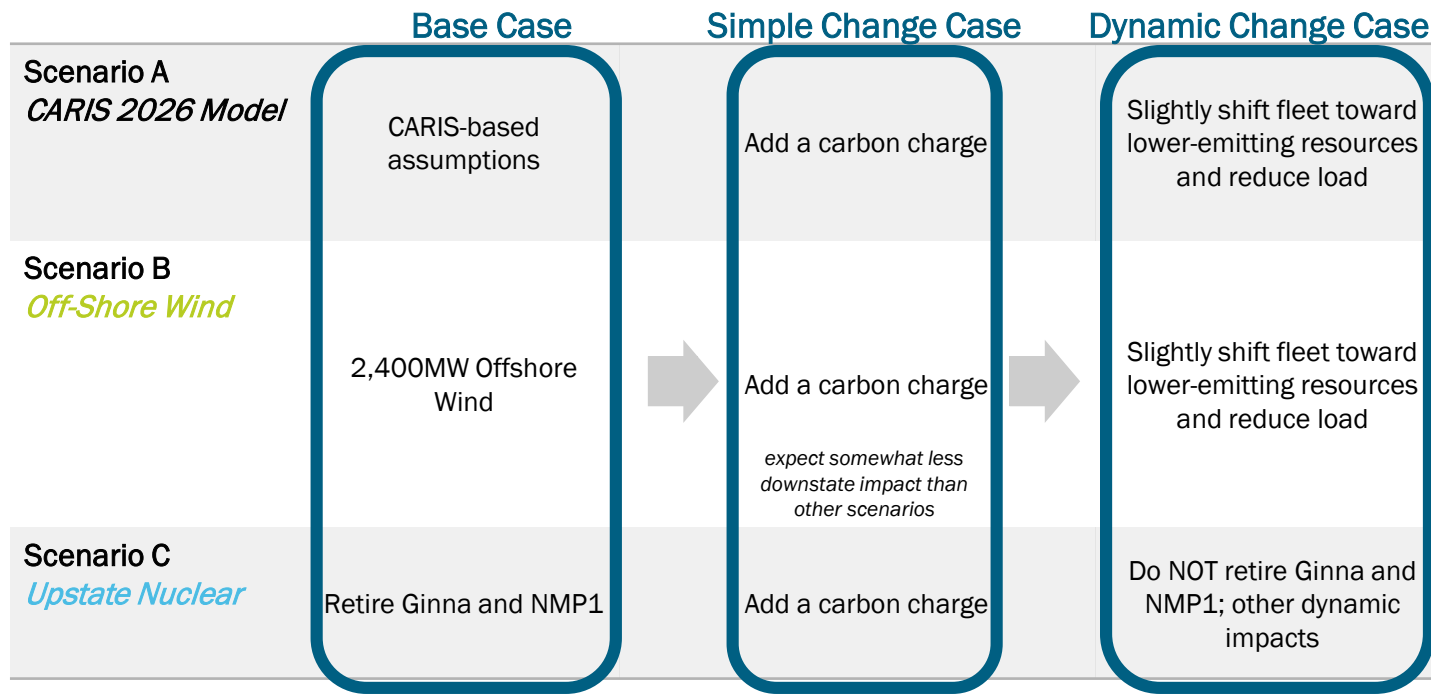
## General Description and Key Assumptions

	Years	New Renewable Resources	Nuclear Plants	Transmission System
<b>Scenario A</b> <i>CARIS 2026 Model</i>	2020, 2025, and 2030	CARIS, incl. 250 MW off-shore wind; mostly on-shore renewables; reflect latest renewable procurements	Indian Point retired in 2020/21  All Upstate nuclear in service past current license period	Western NY and generic AC Transmission upgrades* included
<b>Scenario B</b> <i>Off-Shore Wind</i>	2030 only	2,400 MW off-shore wind by 2030, displacing on-shore renewables		
<b>Scenario C</b> <i>Upstate Nuclear</i>	2030 only	Same as Scenario A	Same except Ginna and NMP1 retire in 2029	

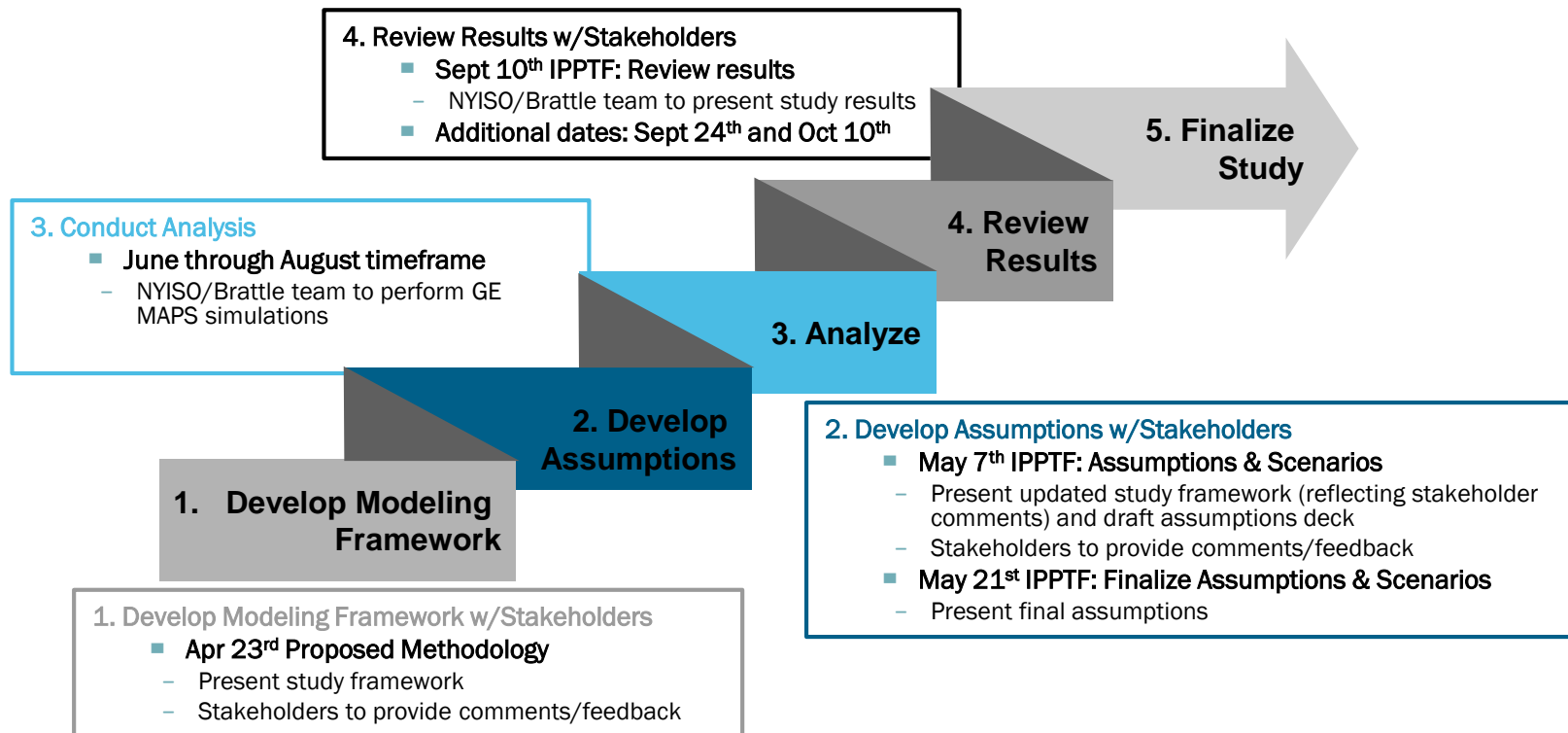
\*Not project specific

# Proposed Scenarios

## Cases and Scenarios



# Proposed Meetings and Analysis Schedule





## Next Steps

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- Questions and/or comments can be sent to [IPP\\_feedback@nyiso.com](mailto:IPP_feedback@nyiso.com) and/or filed under DPS Matter 17-01821
  - Please provide comments as soon as possible. If possible, on or before May 7.
- IT5 meetings on May 7 and May 21 will be used (as needed) to finalize the assumptions and scenarios.
- Study results scheduled to be presented September 10, 24 and October 15.

# The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefits 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 policy makers, stakeholders and investors in the power system



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