

Carbon-Pricing in NYISO Markets: Supplemental Analysis of Economic Impacts

Update for NYISO Stakeholders

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Update for stakeholders

- Process relating to the Analysis Group study
- Scope of the study (reflecting feedback)

Process

Review of economic impacts of NYISO's carbon-pricing proposal

Recap of process

- NYISO engaged Analysis Group to examine potential economic impacts of the proposed carbon-pricing mechanism for NY's wholesale power markets
 - Building off of and augmenting information in the December 2018 Brattle Analysis
 - Examining macroeconomic, public health and other impacts not addressed in the Brattle analyses (in monetary and/or other quantitative terms)
- Tierney and Hibbard met with Market Issues Working Group on March 28, 2019
 - Overview of the study
 - Questions and feedback from stakeholders (at the meeting; after the meeting)
- Analysis Group team has revised the scope of work in light of feedback
 - New draft outline of the study scope and report

Next steps

- Today: Analysis Group meeting with stakeholders at MIWG meeting
 - Overview of draft report outline (and revised scope of work)
 - Emphasis on areas where stakeholders previously provided feedback
- May 14th: Analysis Group meets with MIWG stakeholders
 - Overview of preliminary results
- End of May:
 - NYISO posting of Analysis Group's Technical Report
 - NYISO posting of Analysis Group's Summary for Policy Makers

The revised scope of our study

Reflecting feedback from stakeholders

Draft outline of the Analysis Group technical report

OVERVIEW

- Background
- Context: NYISO's carbon pricing proposal
- Overview: How a carbon price in NYISO markets might affect NY's clean energy economy, consumers, public health
- Impacts on helping to accomplish NY's clean-energy and carbon-reduction goals
- Impacts on consumers' electricity costs in NY State
- Impacts on potential repowering of existing fossil units in NY State
- Impacts on public health in NY State
- Impacts on use of fossil fuels in NY State
- Macroeconomic impacts (value-added, jobs) on NY State's economy

Background

WHAT OUR REPORT IS ABOUT

- Brief summary of NYISO's evolving carbon-pricing proposal
- Brief summary of the analyses performed to date on the impacts of the proposal
 - Studies performed at the request of NYISO
 - Other studies
- Purpose of our supplemental study

Context for NYISO's carbon-pricing proposal

AS PART OF NYISO'S WHOLESALE ELECTRIC MARKET DESIGN AND OPERATIONS

- Context: New York State's power-sector policies
 - e.g., RGGI, renewables, efficiency, REV, CES/ZECs, RPS procurements, air emission reductions, environmental justice
- Context: NY's electricity industry
 - e.g., retail choice, wholesale competition, NYISO's organized energy/capacity markets, FERC regulation
- Context: Economic and policy literature on addressing carbon emissions
 - e.g., carbon pricing, other policy instruments for reducing carbon emissions

Overview: Potential impacts of a carbon price in NYISO electric markets

POTENTIAL IMPACTS ON THE CLEAN-ENERGY TRANSITION, CONSUMERS, PUBLIC HEALTH...

- What impacts have been studied to date
 - Brattle's static analysis and dynamic analyses: assumptions, focus and results
 - RFF's and Daymark's analyses
- The impacts we study in our report*
 - The transition to a clean-energy power sector and a low-carbon economy
 - Consumer costs (as reflected in Brattle's analyses; in the event of FERC mitigation of out-of-market entry)
 - Repowering investments
 - Public health and environmental-justice communities
 - Use of fossil fuels in NY's power sector
 - NY's economy (e.g., change in economic activity and jobs)

* Subject to practicalities of timing and resources

Potential impacts on NY consumers' electricity costs

CHANGING ELECTRICITY PRICES AND BILLS

- Impacts on electricity prices and consumer costs based on Brattle's findings
 - Static-analysis impacts
 - Dynamic-analysis impacts
 - Implications for retail prices and customers' bills

Potential additional impacts on NY consumers' electricity costs

AVOIDING COSTS ASSOCIATED WITH THE RISK OF BUYER-SIDE MITIGATION

- FERC's concerns re: entry of out-of-market resources and conditions affected by the potential exercise of market power
- The current BSM in NYISO's capacity market, including current exemptions
- Potential risks associated with expansion of the design and application of BSM in NYISO markets
- Potential cost implications associated with changes in BSM in NY

Potential impacts on repowering generating units in NY

CONTRIBUTING TO ECONOMIC REPOWERINGS

- Perspectives on the outlook for repowering of existing fossil units in the event of a carbon price in NYISO markets
 - Point of view in Brattle study
 - Point of view in new Potomac Economics analysis
- Implications of such perspectives for the potential economic impacts of a carbon price on repowering

Potential impacts on public health and environmental justice areas

CHANGING POWER-SECTOR EMISSIONS

- Emissions of air pollutants that could result from implementing the carbon-pricing proposal
 - Brattle's estimates of changes in carbon and criteria pollutants (e.g., NO_x and SO_x)
 - Other researchers' observations about emissions impacts
- Relationship between emissions of air pollutants (e.g., NO_x, SO_x, particulates) and public health indicators
- Potential changes in local air pollutants during high-non-attainment time periods
- Estimation of potential air-quality and public-health impacts of changes in air pollutants (with a focus on EJ areas)
 - Based on Brattle estimates of emissions
 - Based on Potomac Economics' estimates of emissions with repowering

Potential impacts on use of fossil fuels in New York's power sector

CHANGING CONSUMPTION OF CARBON-INTENSIVE FUELS

- Overview of use of fossil fuels in NY State's electric industry, and anticipated changes over time
 - Sources of gas and oil: in-state v out-of-state
- Outlook for the impact of clean energy resources on changing use of fossil fuels in power sector
 - Brattle estimates: static and dynamic analyses
 - Dollar value of changes in use of (and imports of) fossil fuels

Potential impacts on New York's economy

CHANGING "ECONOMIC VALUE ADDED" AND JOBS

- Relationships between changes in various outcomes (e.g., consumer costs, public health impacts, use of fossil fuels) and direct, indirect and induced economic activity in NY State
 - Methodology: IMPLAN (input-output model)
 - Metrics: Value add and "job-years"
 - Inputs: Consumer impacts, fossil fuel use, public health impacts, electric-resource investments (e.g., repowering)
 - Output metrics:
 - Changed in economic value added to NY State's economy
 - Changes in job years in NY State's economy

Overall potential impacts of a carbon price in New York

IMPACTS IN NEW YORK'S ECONOMY

- Conclusions (quantitative and qualitative) on the potential impacts of a carbon price on various outcomes in New York's economy – with delineation of potential impacts by NYISO zone, where reasonably feasible:
 - Achievement of NY's clean-energy and low-carbon goals
 - Consumer costs
 - Public health and environmental justice
 - Fossil energy use
 - Economic activity including jobs

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