

Regional Greenhouse Gas Initiative (RGGI) Baseline and Assumptions – What They Mean for New York

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Today's Presentation Topics

- Overview of RGGI program elements
- Selected simulation results
- Timetable for completing the model rulemaking
- Issues and considerations for NYISO stakeholders

Regional Greenhouse Gas Initiative

- RGGI is a cooperative effort by Northeastern and Mid-Atlantic states (ME, MA, NH, VT, CT, RI, NY, NJ, DE) to reduce carbon dioxide emissions – initiated in April 2004
- Goal: to develop a multi-state cap-and-trade program covering greenhouse gas (GHG) emissions from power plants
- Model rulemaking expected in late Summer/Fall 2005; for implementation, will need to track individual state's rulemaking processes

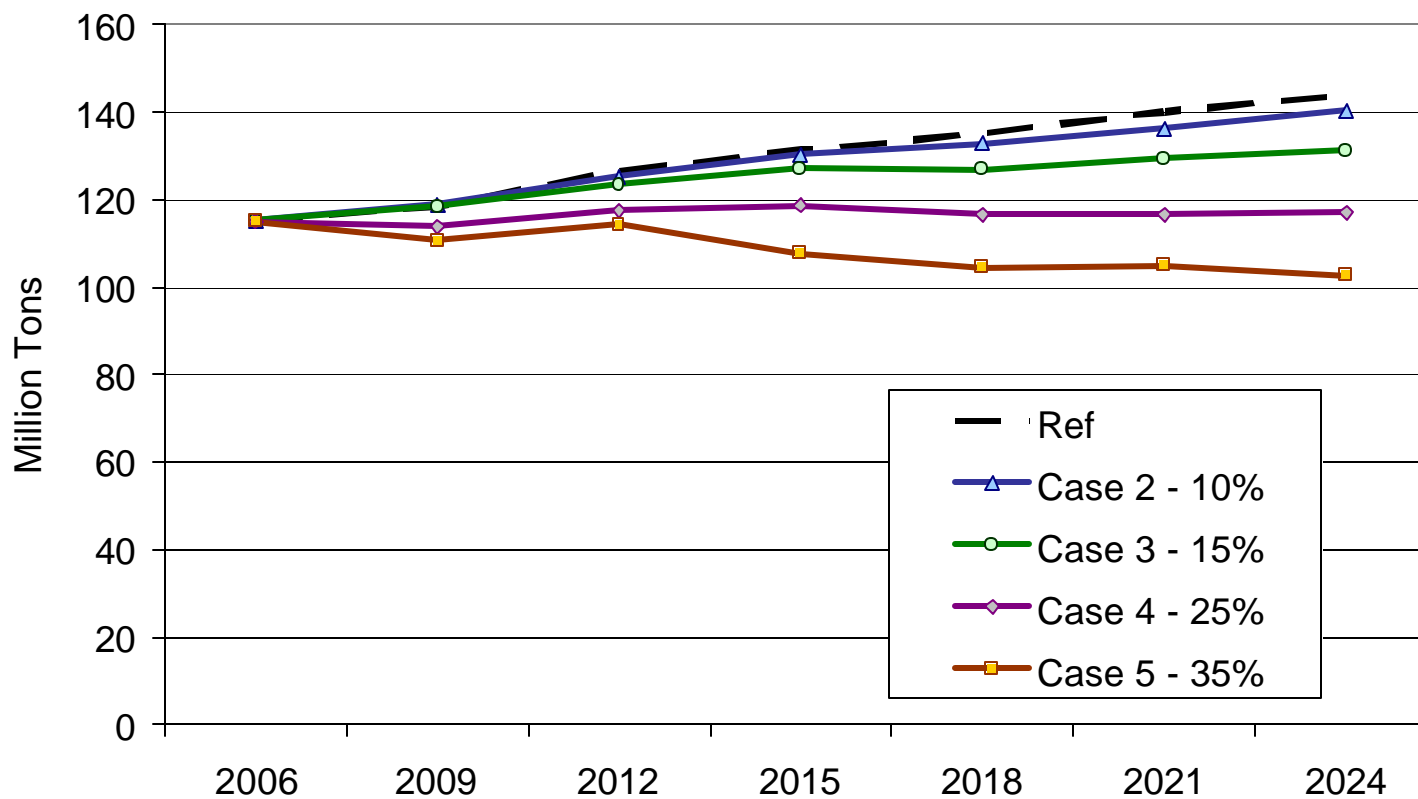
RGGI Program Elements - Summary

- Regional emissions cap
- State apportionment
- Allowance allocation
 - Auction vs. historical vs. updating
- Early reduction allowances
- Offset provisions

Selected IPM Modeling Results

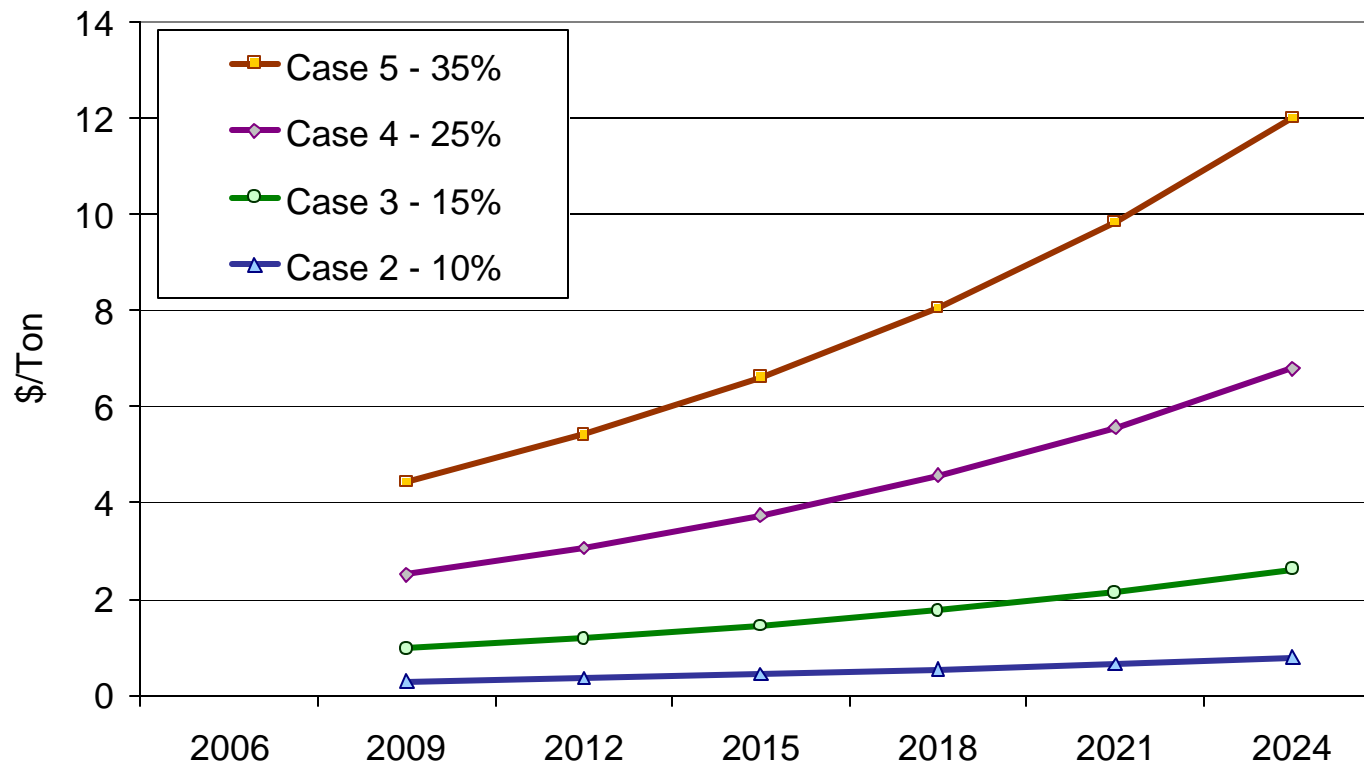


CO₂ Emissions Across Policy Scenarios



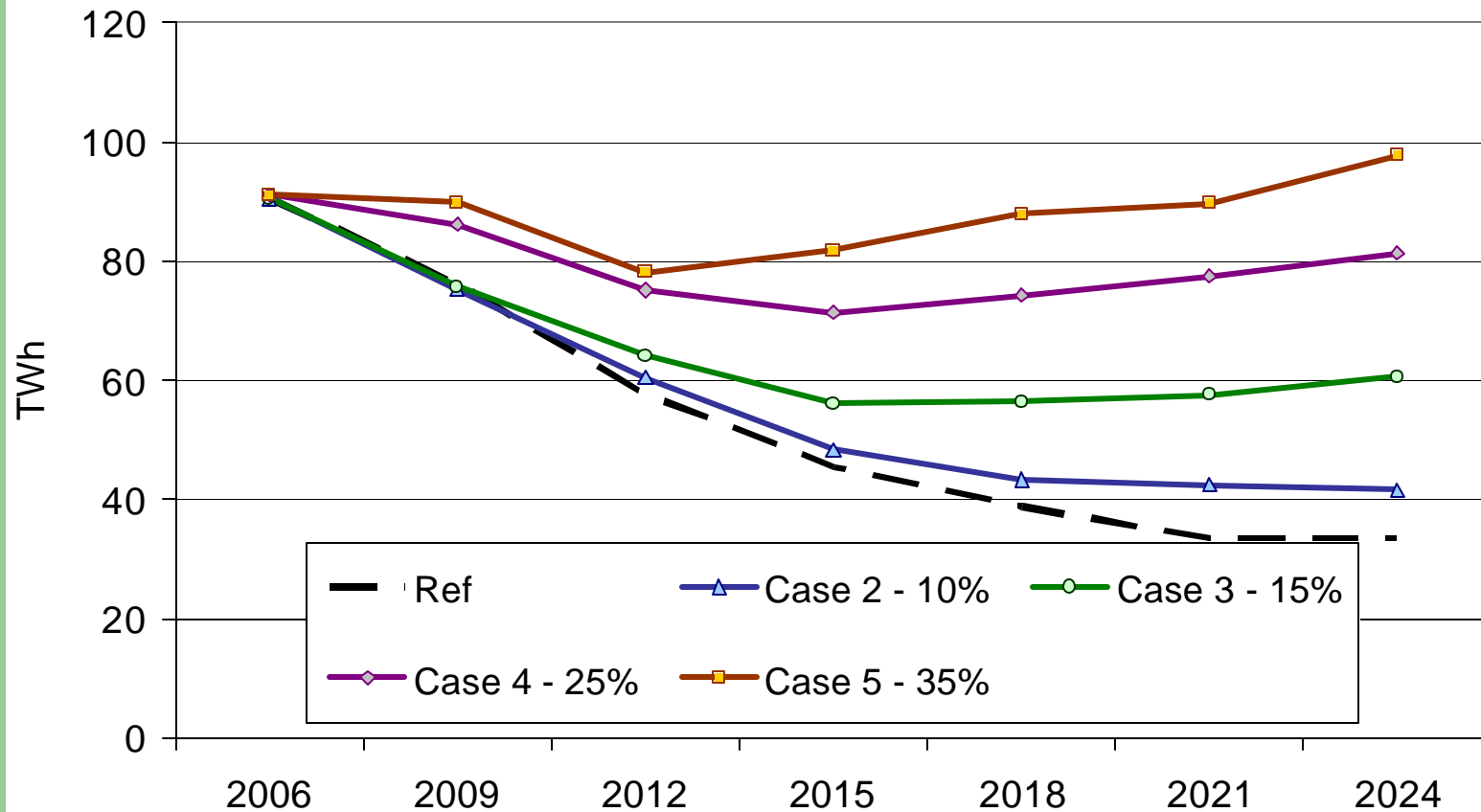
Source: ICF
Consulting
Stakeholder
Presentation,
April 6, 2005

CO₂ Allowance Prices across Policy Scenarios



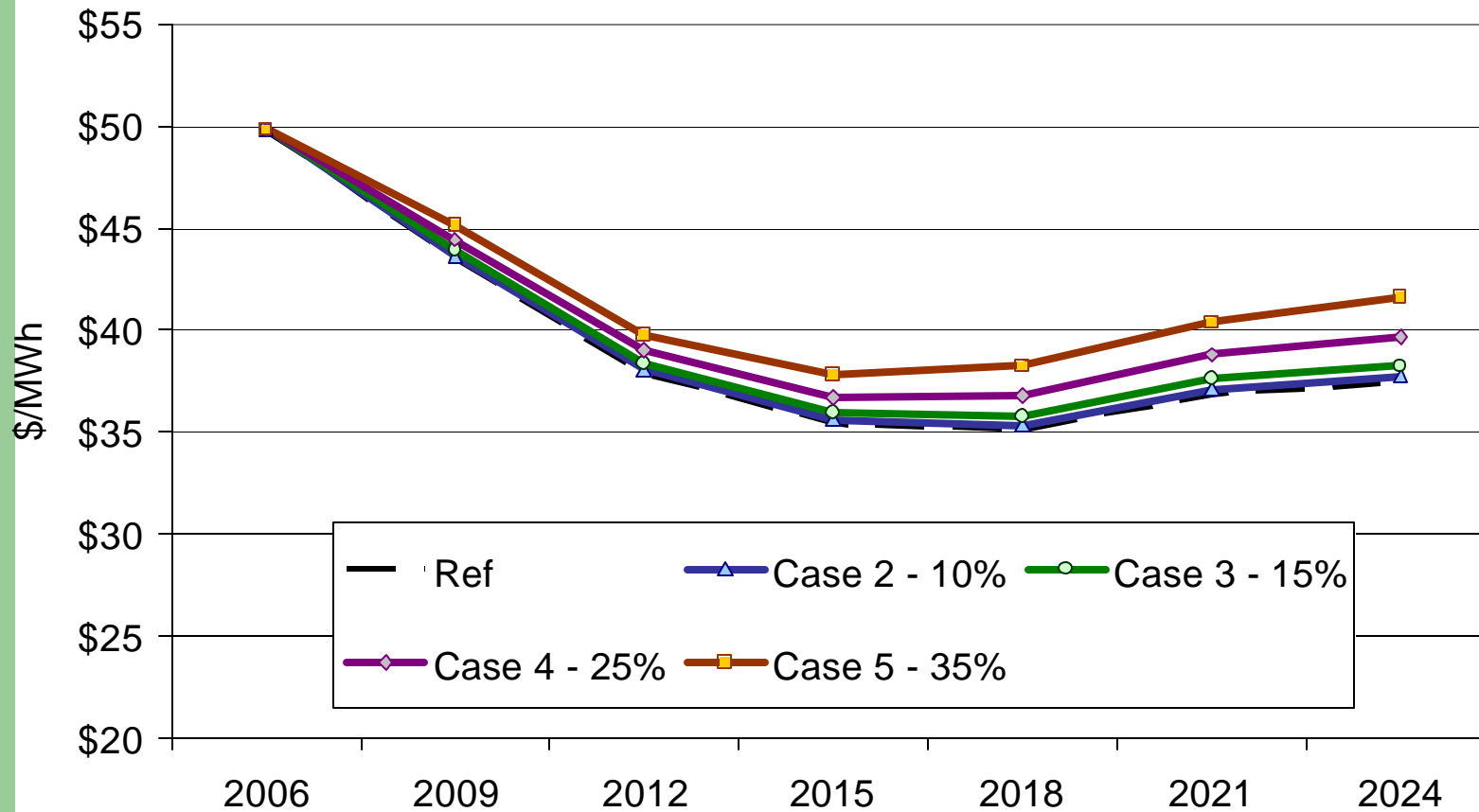
Source: ICF Consulting Stakeholder Presentation, April 6, 2005

RGGI Imports across Policy Scenarios



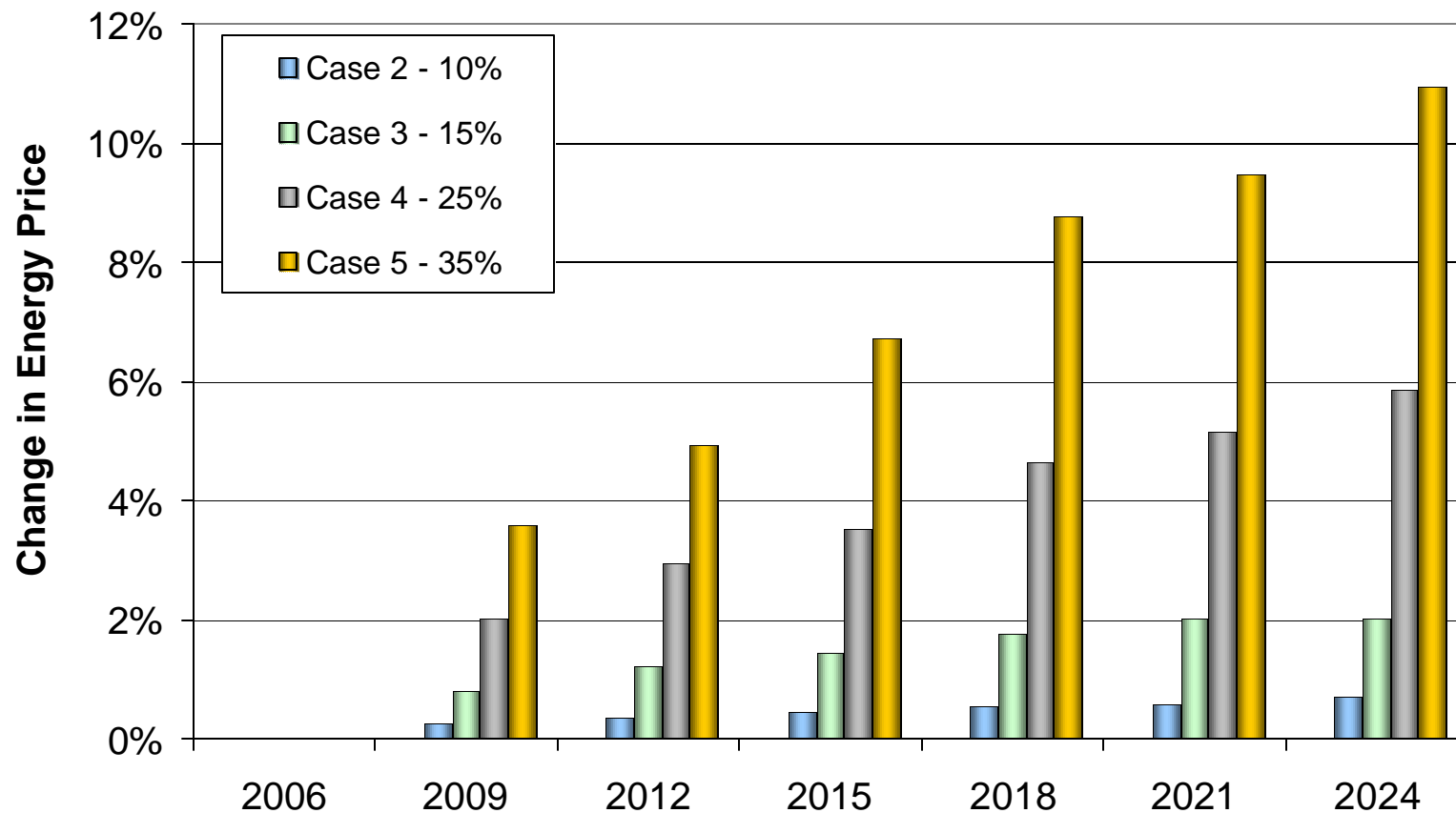
Source: ICF Consulting Stakeholder Presentation, April 6, 2005

RGGI Average Annual Energy Prices



Source: ICF Consulting Stakeholder Presentation, April 6, 2005

RGGI Energy Price Impacts Change Relative to Reference Case



Source: ICF
Consulting
Stakeholder
Presentation,
April 6, 2005

Continuing IPM Modeling Efforts

- RGGI modeling group looking at sensitivity studies on:
 - Low demand scenario (capture energy efficiency)
 - High demand scenario
 - High gas prices
 - Preliminary results show CO₂ emissions go from 115 MT (2006) to 170 MT(2024) vs. “base” gas price case – 143 MT in 2024 – new coal facilities under this assumption
 - Canadian carbon policy
 - Bounds impact of leakage
 - CO₂ prices range from \$17-\$39/Ton

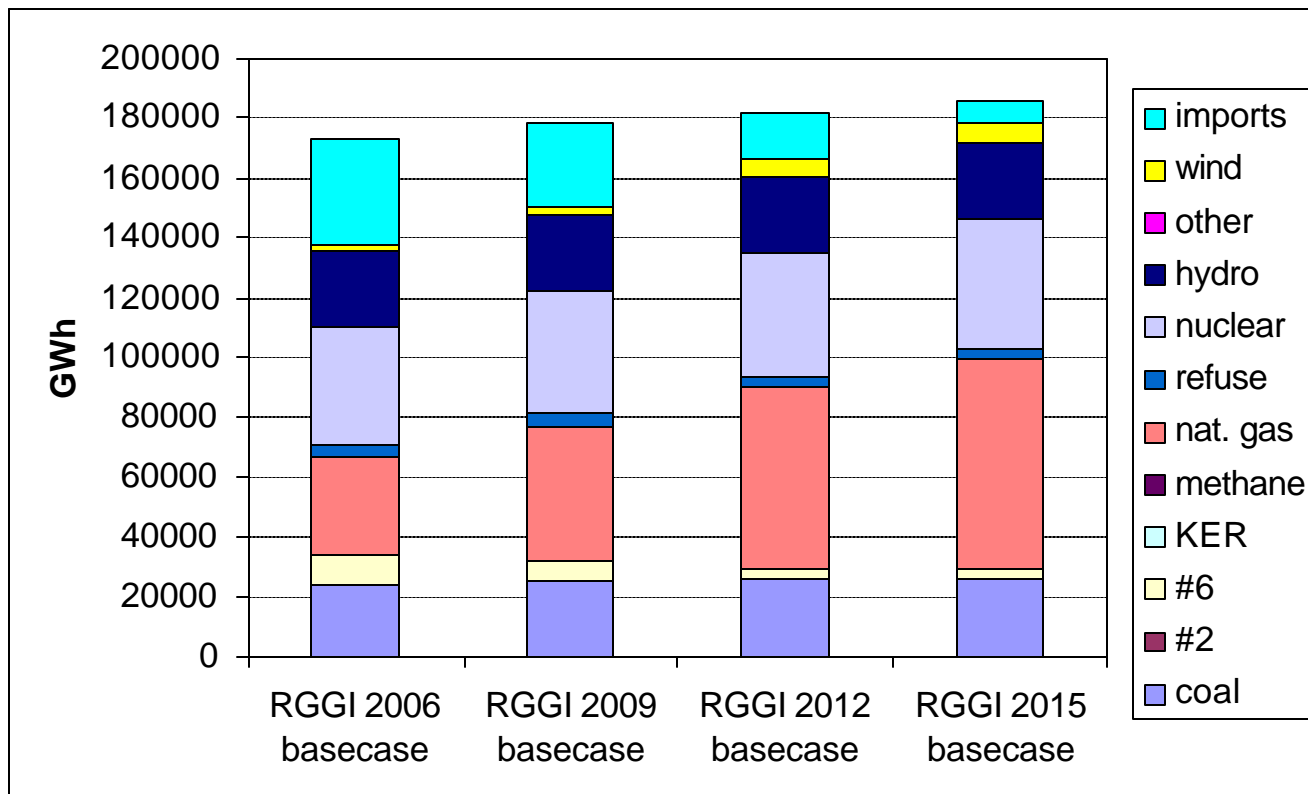
RGGI Timetable

- 4/27 - Commissioners Meeting (PSC & DEC) from all involved states to determine points of agreement
- 5/3 - NY State RGGI meeting in Albany
- 5/19 - Regional RGGI meeting in Boston
- June or July 2005 - Another Commissioner's Meeting
- Late Summer/fall 2005 - Draft Model Rule communicated and subject to public comment period
- Once Regional Model Rule is developed, each state must initiate its own rulemaking process.

Source: C. Wentlent, M. Younger NYSRC presentation, April 15, 2005

Issues and Considerations

- Loss of fuel diversity

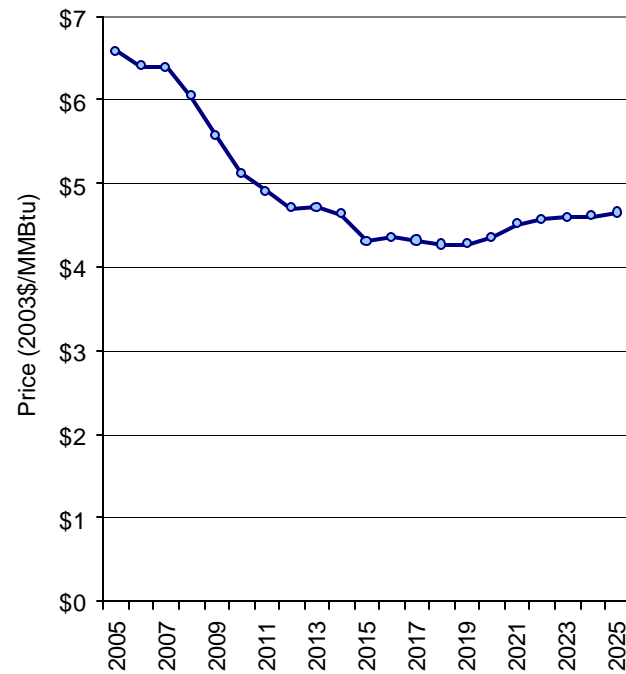
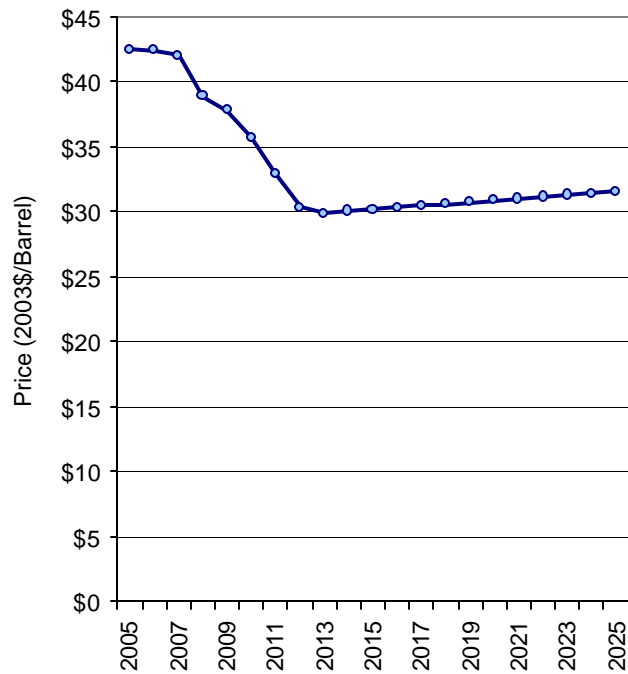


Issues and Considerations

- Gas infrastructure is assumed to grow to accommodate increased demand for natural gas
- No modeling of costs, responsible parties

Issues and Considerations

- Gas/oil prices assumed to decline 30-33%



Issues and Considerations

- Stated goal is to serve as a model for national cap-and-trade program
 - Would favor allowance allocation based on historical or updated data
- Any implementation with aggressive targets will make it unlikely to serve as a model for national program

Issues and Considerations

- Assumes all nuclear plants are relicensed
 - Approximately 15 units in RGGI region up for relicensing within the next 10 years
 - Credible scenario would be that not all opt for relicensing, or are granted extension

Issues and Considerations

- Early reduction credits
 - Baseline period – should be based on historical performance to avoid suppliers taking actions to raise their baseline – counterintuitive, but dependent upon stringency of program
 - Early reduction years - should be long enough to allow for enough operation following equipment modifications to improve operations
 - Any measure of ERAs that requires units to generate fewer MWh runs the risk of compromising system operations and potentially raising wholesale electricity prices due to a leftward shift in the supply curve.
 - Using cleaner fuels is generally good, but could compromise reliability if dual fuel units, particularly in NYC are reluctant to use oil.
 - best ERA metric may be emissions rate improvements

Issues and Considerations

- CO₂ “leakage” from non-RGGI regional imports
 - Uncertainty of supply from Ontario (~5 years out)
 - What is the impact on PJM commitment if only portions of the control area are subject to RGGI?
 - How will new coal facilities outside the RGGI region impact the overall program effectiveness?

Issues and Considerations

- Reliability Considerations
 - Supplemental commitments are often required to meet NOx requirements in NYC
 - Certain units on 115, 138 and 230 kV networks provide voltage support on underlying network (Western NY, Long Island)
 - ~11 of 66 Transmission Owner Applications of New York State Reliability Council Reliability Rules directly address the need for specific thermal units to meet reactive power support and local power system requirements
 - Dual-fuel units (gas/oil) are important during peak winter demand periods
 - Operating range flexibility is important

Issues and Considerations

- Allocation of allowances
 - Suppliers identify this as most critical issue
 - Environmental groups favor substantial percentage of allowances be allocated through auction, with proceeds credited to consumers
 - What are credit implications for sources required to purchase allowances through auction?
 - Allowance purchases reduce plant margins -What if costs are not recovered? Will we be faced with retirements of baseload units otherwise needed for reliability?

RGGI Design and Electricity Market Intersection

- Implementation Timing / Phase-In
 - Consider predicted installed reserve margin
 - Need to keep in mind other scheduled and proposed regulations, the timing and cost of which create significant supplier uncertainty:
 - NY's revised NOx (NYCRR 237) and SOx (NYCRR 238) rulemakings
 - CAIR implementation
 - Potential mercury rules
 - Water permits (outages for fish protection, etc.)

