

**Regional Greenhouse Gas Initiative**  
***An Initiative of the Northeastern and  
Mid Atlantic States of the US***

**IGES Carbon Symposium**  
**Tokyo, Japan**  
**March 12, 2009**

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**Research and Development Authority**

# Agenda

- **Overview of New York’s Energy and Environmental Policy Goals**
- **Background on the Regional Greenhouse Gas Initiative (“RGGI”)**
- **Overview of RGGI Auction Program**
- **Auction Outcomes**
- **Summary**



# **New York State's Major Energy and Environmental Initiatives**

- **Renewable Portfolio Standard – Increase supply of renewables to 25% by 2013. \$740 million committed and up to \$1.5 billion is expected over next six years**
- **Energy Efficiency Portfolio Standard – Reduce electricity consumption 15% below projected levels in 2015. Approximately \$175 million per year**
- **Research and Development – Approximately \$20 million per year**
- **Allowance sales revenue from cap and trade programs – \$140 million per year**

# New York State Energy Research & Development Authority

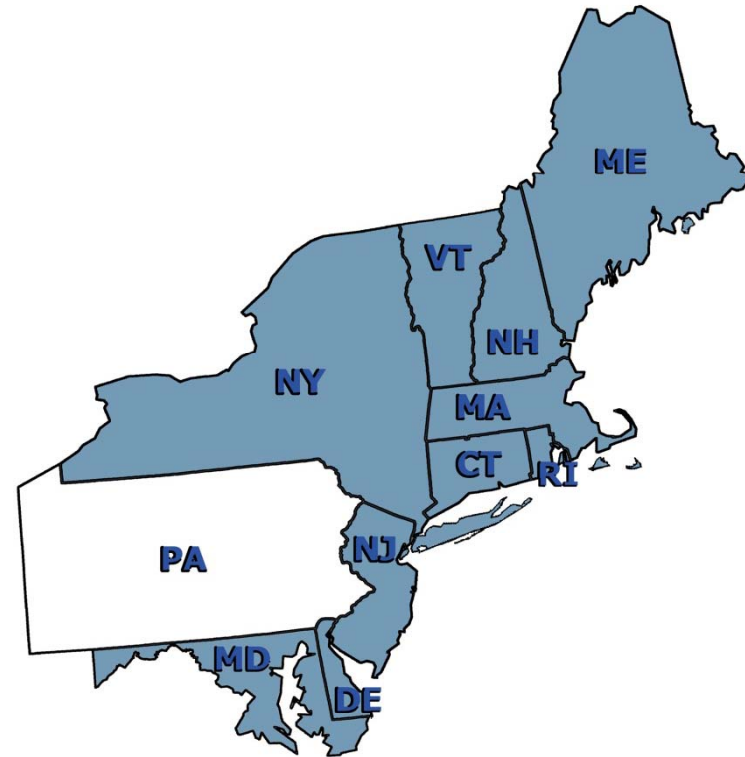


- **Mission: identify solutions to State’s energy challenges in ways that benefit the State’s economy and environment**
- **Broad definition of “energy challenges”**
  - **Renewable Portfolio Standard Program**
  - **Energy Efficiency Programs**
  - **Emissions Trading Schemes**
  - **R&D**
- **By 2010 our funding will be over \$350 million per year**



# Regional Greenhouse Gas Initiative (RGGI)

- 10 states
- Cap and reduce carbon emissions
- Focus on power sector
  - 25% of NYS's GHG emissions
- First mandatory market-based CO<sub>2</sub> reduction program in the US

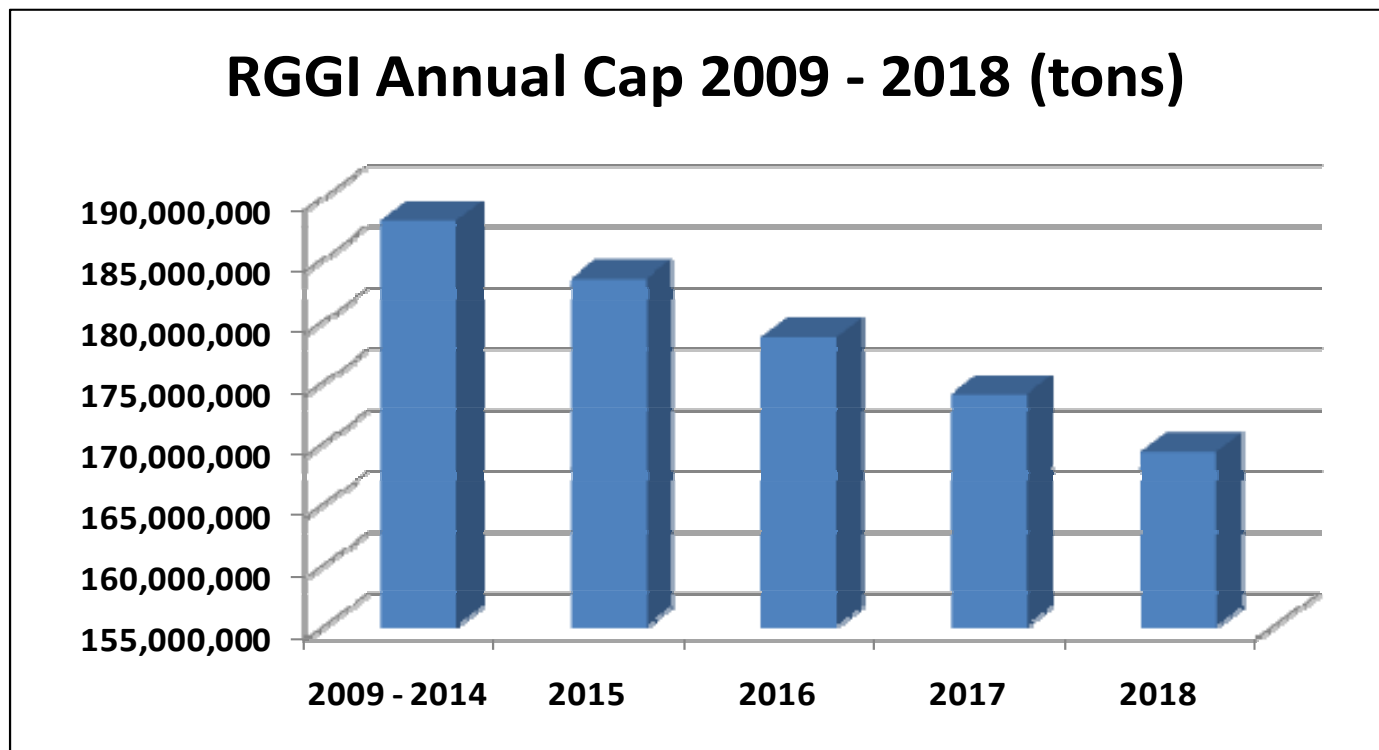


# **RGGI Goals**

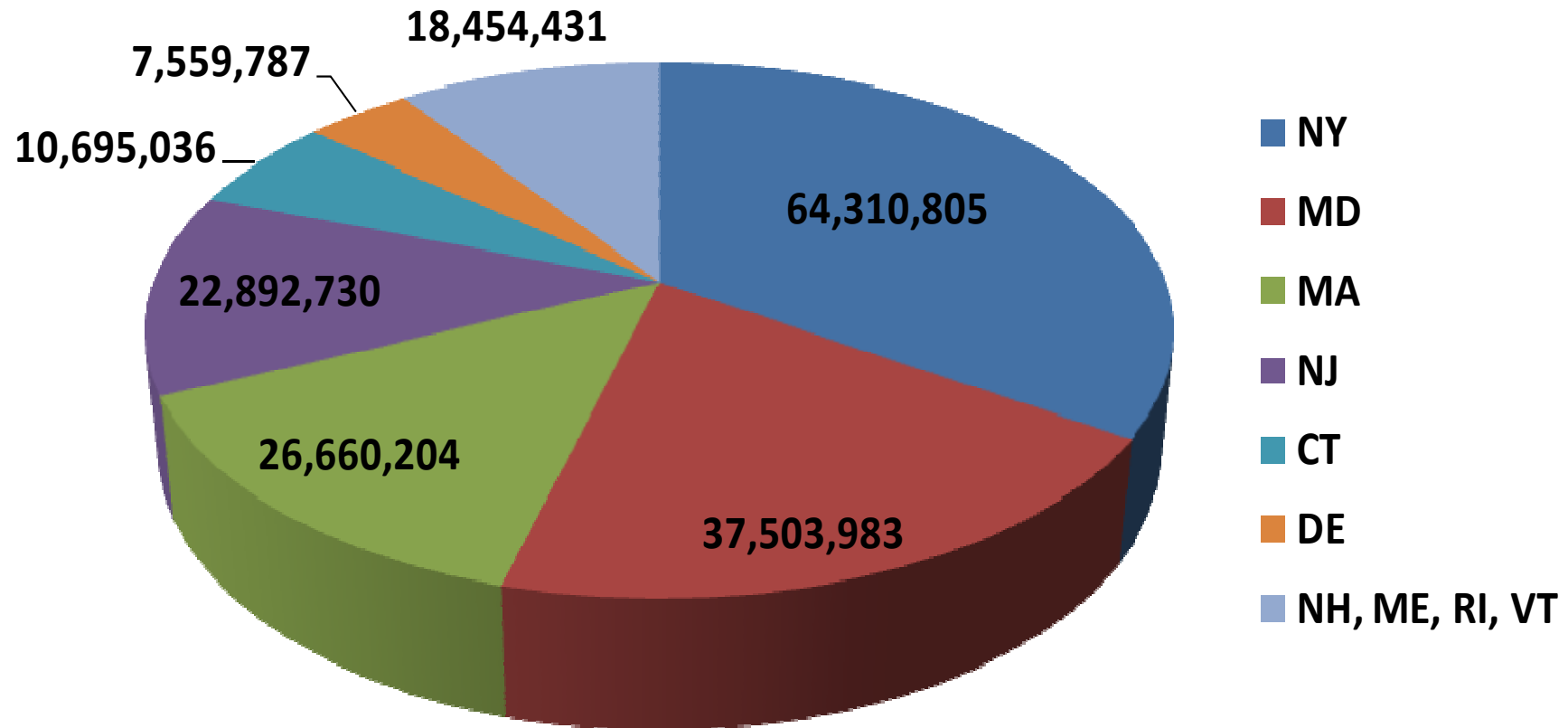
- **Reduce CO<sub>2</sub> emissions from the power sector (10% by 2018)**
- **Provide consumers with benefits**
  - **Support a green economy**
- **Encourage investments in low- or non-carbon emitting technologies**
- **Provide a template for a national program to reduce greenhouse gases**

# RGGI Reduction Requirements

- Compliance started in 2009
- Stabilize CO<sub>2</sub> emissions at current levels through 2014
- Cap reduces each year to a total of 10% by 2019



# 2009 RGGI Allowance Allocations (tons)



**Total tons = 188,076,976**

# History of RGGI

- **April 2003** - Governor Pataki invites neighboring states to develop a regional program
- **2003-2005** – Design Process - Extensive stakeholder meetings and collaboration amongst state staff
- **December 2005** – Governors sign Memorandum of Understanding (MOU), outlining the general framework
- **March 2006** – Initial Draft Model Rule is released by the states for public comment and hearings
- **August 2006** – Final Model Rule is published, providing the basis for each individual state's program
- **2006-2008** – Individual states conduct their own rulemaking processes to implement RGGI
- **September 25, 2008** – First CO<sub>2</sub> Allowance Auction

# History of RGGI

- RGGI was designed through a transparent process over five years
- Active engagement with stakeholders
  - Environmental organizations, utilities, market participants, industry groups, ratepayer groups, etc.
- Technical experts
  - Auction design research effort
- Regulatory and legislative processes



# RGGI Stakeholder Concerns

- Auction versus free allocation would increase electricity prices
- Possible electricity grid reliability impacts
- Leakage
- Auction design concerns:
  - Open participation
  - Manipulation and collusion



# RGGI Design Elements

- **Three-year compliance periods**
  - 2009 through 2011 is period 1
- **Allowances are fungible and identified by year**
  - Vintage 2009, 2010, etc.
- **Unlimited allowance banking**
- **Transfers are recorded in the allowance tracking system**
- **Limited use of offsets projects**
  - 3.3%



# RGGI Design Elements

- **Open auction participation; however, states could impose restrictions**
  - **Compliance entities only, for example**
- **Cost control mechanisms**
  - **Stage 1 trigger: Prices remain at \$7/ton or higher**
  - **Stage 2 trigger: Prices of \$10/ton or higher**
- **Auctions employ a reserve price**
- **Utilize rigorous market monitoring practices**

# **RGGI Allocation Method: Auction**

- **The states prefer auctions rather than free allocation**
  - **92% of the allowances will be auctioned**
  - **8% for strategic set-asides**
- **Quarterly auctions with open participation**
  - **Power plant owners, environmental organizations, brokers, investment house, etc.**
- **Auction proceeds will be used by the states for:**
  - **Renewable energy, energy efficiency, and carbon abatement technologies**

# Auction Rationale

- **Develop a market-based approach to valuing/pricing carbon emissions**
- **Free allocation models have tended to increase electricity rates**
- **Further RGGI goals by directing auction proceeds towards programs that benefits consumers**
  - **Stimulate investments in renewable energy, energy efficiency and carbon abatement**



# Auction Design Considerations

- NY sponsored an auction design research initiative led by the University of Virginia
  - Included stakeholder input
- Design auction so that those who need allowances can get them
  - Prevent collusion
  - Prevent hoarding
  - Minimize volatility
  - Support price discovery
  - Adhere to transparency



# Auction Design Elements

- Uniform regional auctions (ten states)
- Quarterly auctions (March, June, Sept., Dec.)
- Single-round, uniform price, sealed-bid
- Bidding in lots of 1000
- Offer current and future vintages
- Reserve price (\$1.86/ton auctions 1, 2, 3)
  - Transition to a current market reserve price

# Auction Qualification

- States review corporate and organizational background
- Statements/attestations as to corporate stability
- Bidders are required to disclose any bidding associations
  - Corporate affiliations
  - Brokerage arrangements
- Qualification remains intact for future auctions provided there is not a material change to previously submitted information

# Auction Bidding Limitations

- **Quantity limitation: States have placed a 25% purchase limit on any one bidder or group of associated bidders**
  - **Corporate**
  - **Brokerage**
- **Financial security limitation: total value of a single bidders bids entered on the platform cannot exceed the amount of financial security that was posted**

# **RGGI Program Infrastructure**

- **States formed a non-profit organization called “RGGI, Inc.” for implementation support in the following areas:**
  - **RGGI CO<sub>2</sub> Allowance Tracking System (RGGI COATS)**
  - **Auction financial settlement, auction platform, documentation and procedures**
  - **Offset allowance procedures and technical support**
  - **Market monitoring**
  - **Communications, accounting and project management**

# Auction Platform

- **Ensure reliable, transparent and fair implementation of RGGI CO<sub>2</sub> allowance auctions**
- **Contract with World Energy Solutions to support implementation of RGGI CO<sub>2</sub> allowance auctions:**
  - **Electronic auction platform to receive and process bids in real time**
  - **Calculates clearing price**
  - **Employs bidding limitations**
  - **Support with auction documentation and communications with bidders**

# **REGI CO<sub>2</sub> Allowance Tracking System**

- **REGI COATS uses EPA data to track emissions of compliance entities**
- **REGI COATS records the transfer of allowances**
- **Account holders can view and manage their own holdings of allowances**
- **State agencies can use the system for compliance**
- **Offset allowance awards can be recorded**
- **Contract with Perrin Quarles Associates to build a customized software system**

# Market Monitoring

- **Potomac Economics provides independent market monitoring analytics**
- **Bidding and market analysis and publication of:**
  - **Post Settlement Auction Reports shortly after each auction**
  - **Quarterly market assessment**
- **Ongoing monitoring of auction and secondary market activity to ensure compliance with anti-collusion safeguards**
- **Ongoing observation of qualification and auction process to ensure the processes are followed**

# Offset Allowance Program

- Offset administration with accreditation of 3<sup>rd</sup> party verifiers for RGGI offset allowance projects with GHG Management Institute
- Offset allowances can be created in 5 offset categories:
  - Landfill methane capture and destruction
  - Reduction in emissions of sulfur hexafluoride (SF6) in the electric power sector
  - Sequestration of carbon due to afforestation;
  - Reduction or avoidance of CO<sub>2</sub> emissions from natural gas, oil, or propane end-use combustion due to end-use energy efficiency in the building sector
  - Avoided methane emissions from agricultural manure management

# First RGGI Auction

- On September 25, 2008, states sold 12.5 million allowances
- \$3.07 clearing price
- \$38.6 million revenues to the six states
- Robust participations with 59 participants from the energy, financial and environmental sectors
- Demand was more than 4x supply

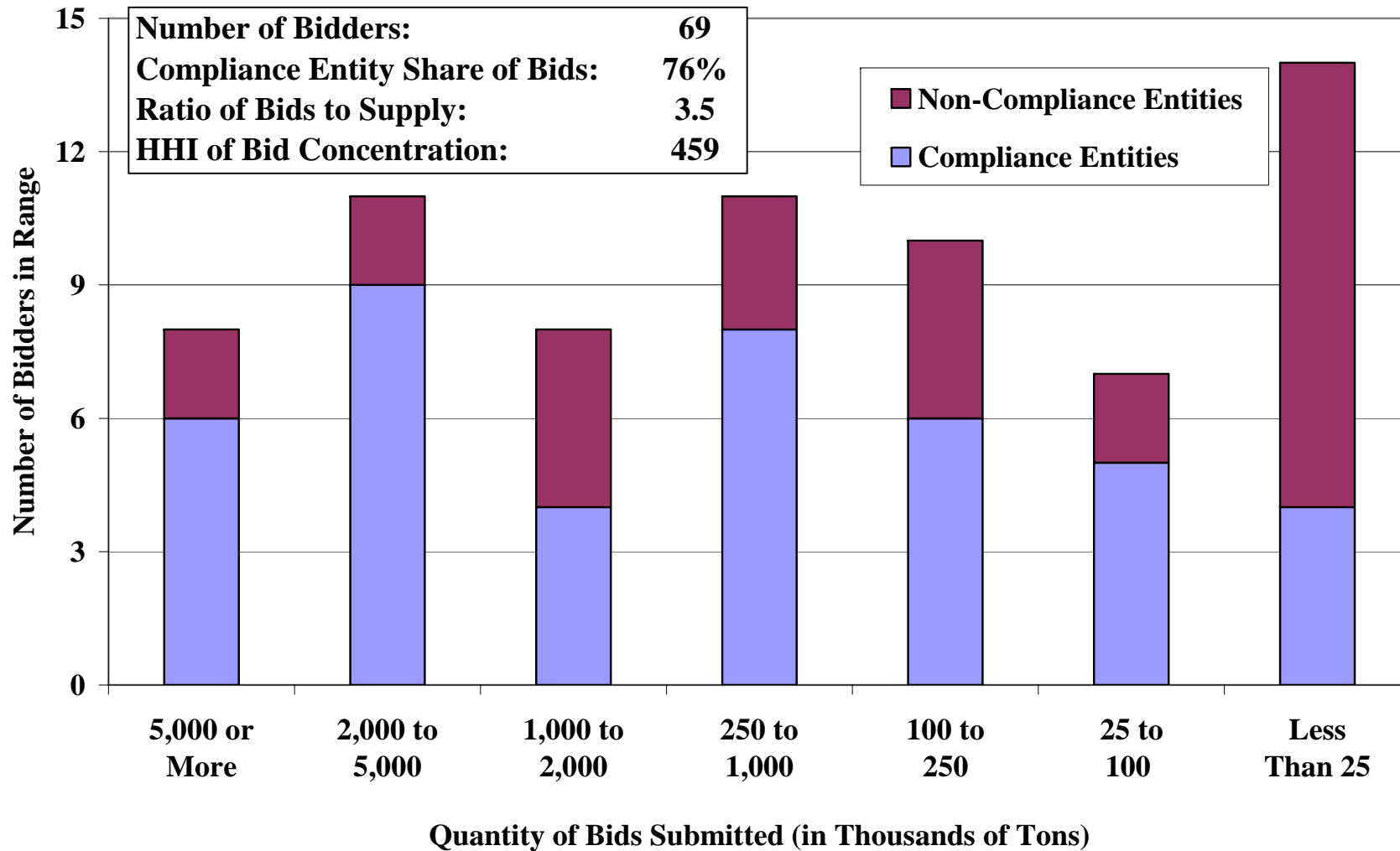


# Second RGGI Auction

- On December 17, 2008, states sold 31.5 million allowances
- \$3.38 clearing price
- \$106.5 million revenues to the ten states
- Robust participation with 69 participants from the energy, financial and environmental sectors
- Demand was nearly 3.5 x supply



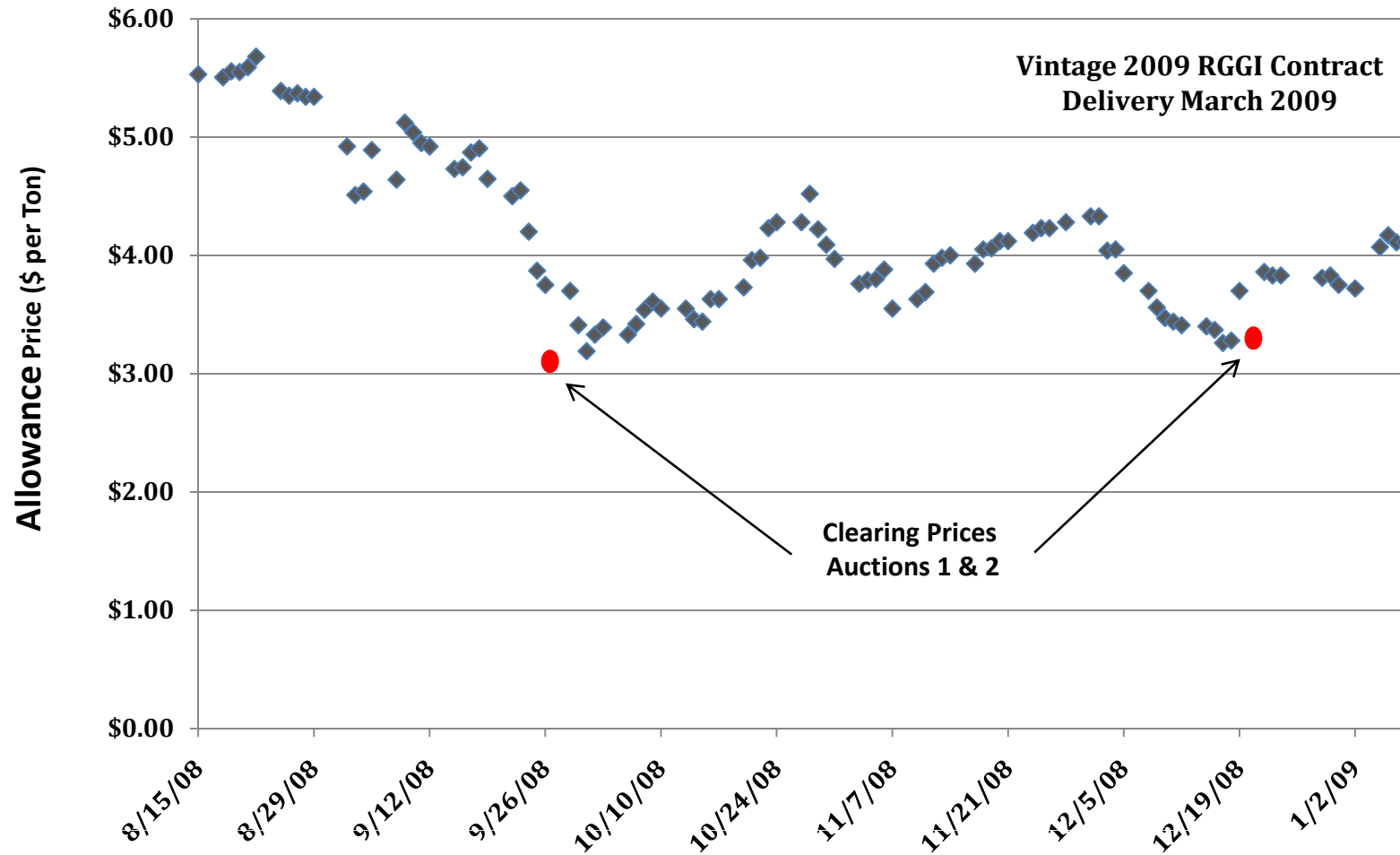
# Second Auction Details



# Auction Outcomes

- **Robust participation across all sectors**
- **Competitive auctions: 80% + of allowances awarded to compliance entities**
- **No evidence of abnormal bidding behavior**
- **Reasonable clearing price**
- **Market monitor reported that the auctions were fair, transparent, and competitive**

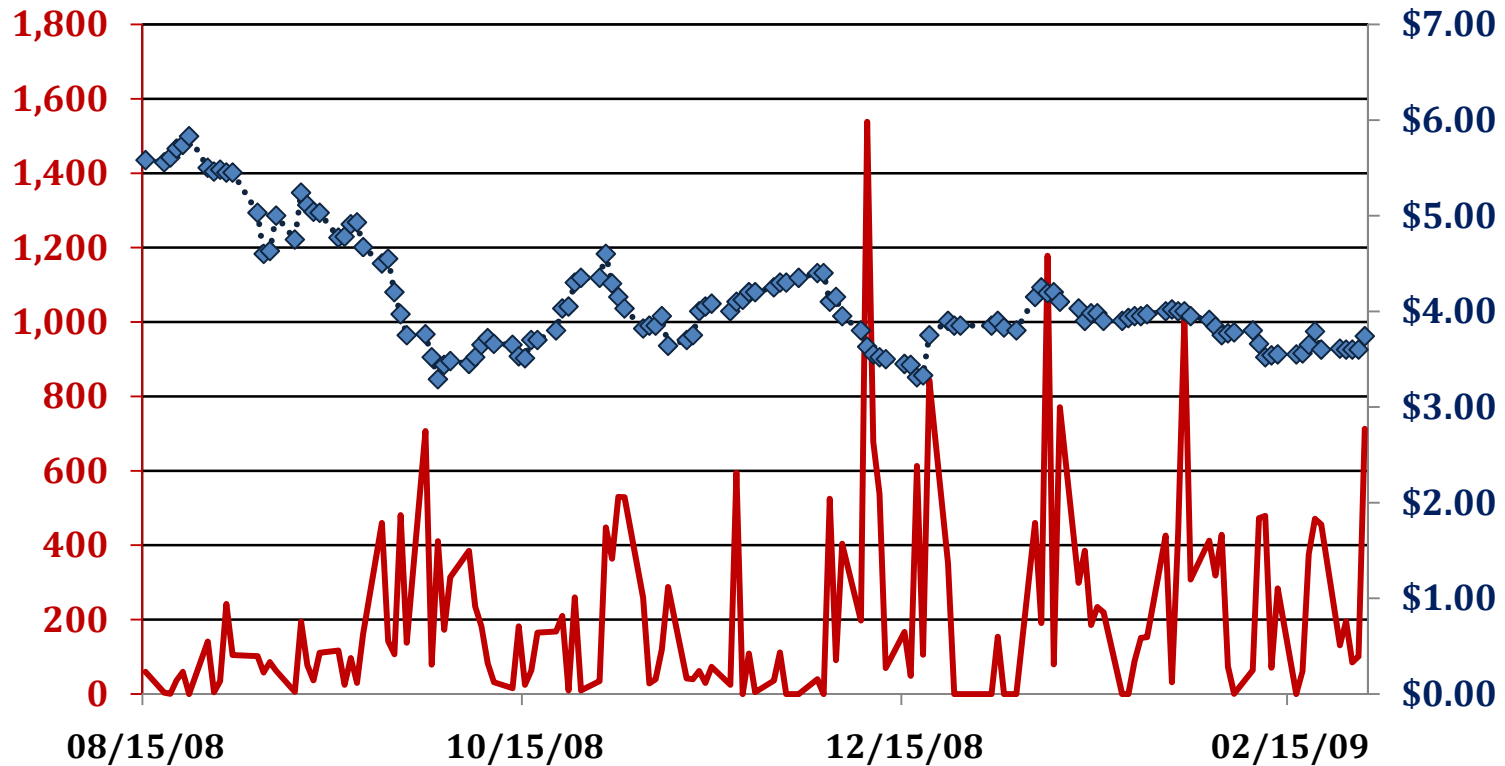
# RGGI Futures Prices on the Chicago Climate Futures Exchange



# RGGI Futures Prices and Volumes on the Chicago Climate Futures Exchange

Volume (000s )

Price (\$ per Ton)



# Investments Have Begun

- **Massachusetts proceeds from first two auctions**
  - Supplement electric utility companies winter 2008 efficiency program (\$6M)
  - Low-income households Energy Efficiency (\$4M)
  - Green Communities Grant Program (\$5M)
  - Efficiency Skills and Innovation Initiative (\$5M)
- **New Hampshire committed \$ in advance**
  - Home weatherization kits
- **NY has engaged a stakeholder group on how best to use proceeds**

# Summary – Auctions Support RGGI Goals

- **Reinvestment of RGGI proceeds**
  - Advancing clean energy technologies
  - Stimulating clean energy economy
  - Benefiting consumers
  - Driving further reductions in GHGs
- **Creation of an environmental commodity market**
  - Robust trading
  - Price discovery
  - Integration with energy markets

# For More Information



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## Informational Websites:

**[www.rggi.org](http://www.rggi.org)**

**[www.nyserda.org](http://www.nyserda.org)**

**[www.dec.ny.gov](http://www.dec.ny.gov)**