

---

**RGGI Inc.**



**MARKET MONITOR REPORT  
FOR AUCTION 4**

**Prepared for:**

**RGGI, Inc., on behalf of the RGGI Participating States**

**Prepared By:**

**POTOMAC  
ECONOMICS**

June 19, 2009

---

This report was prepared by Potomac Economics (the contractor) in the course of performing work contracted for and sponsored by RGGI, Inc. on behalf of the RGGI Participating States (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont). The opinions expressed in this report do not necessarily reflect those of RGGI, Inc. or any of the Participating States, and reference to any specific product, service, process, or method does not constitute an implied or expressed recommendation or endorsement of it. Further, RGGI, Inc., the Participating States, and the contractor make no warranties or representations, expressed or implied, as to the fitness for particular purpose or merchantability of any product, apparatus, or service, or the usefulness, completeness, or accuracy of any processes, methods, or other information contained, described, disclosed, or referred to in this report. RGGI, Inc., the Participating States, and the contractor make no representation that the use of any product, apparatus, process, method, or other information will not infringe privately owned rights and will assume no liability for any loss, injury, or damage resulting from, or occurring in connection with, the use of information contained, described, disclosed, or referred to in this report.

The Regional Greenhouse Gas Initiative (RGGI) is a cooperative effort by participating states to reduce emissions of carbon dioxide (CO<sub>2</sub>), a greenhouse gas that causes global warming.

RGGI, Inc. is a non-profit corporation created to provide technical and administrative services to the CO<sub>2</sub> Budget Trading Programs of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont.

## **MARKET MONITOR REPORT FOR AUCTION 4**

As the Market Monitor for the RGGI CO<sub>2</sub> allowance market, Potomac Economics monitors the conduct of market participants in the auctions and in the secondary market to identify indications of market manipulation or collusion. We also review the administration of the auctions by World Energy Solutions. This report summarizes our findings regarding RGGI Auction 4, which was held on June 17, 2009.

We observed the auction as it occurred and have completed our review and analysis of its results. Based on our review of bids in the auction, we find no material evidence of collusion or manipulation by bidders.

Participation in the 2009 vintage offering was robust with 54 separate entities submitting bids to purchase 2.6 times the available supply of allowances. This liquidity contributed to generating a clearing price of \$3.23 per ton, which is consistent with the underlying supply and demand fundamentals governing the CO<sub>2</sub> allowance market. It is also encouraging that compliance entities or their affiliates purchased 85 percent of the allowances in the auction. The total quantity of allowances for which bids were submitted was comparable to that of Auction 3.

A small number of allowances were auctioned for the second control period (with a 2012 vintage year). All of the 2012 vintage allowances were sold, with 13 entities submitting bids to purchase 1.5 times the available supply of allowances. Similar to the 2009 vintage offering, compliance entities or their affiliates purchased most of the allowances (81 percent) in the 2012 vintage offering. Given the lower demand for the 2012 vintage allowances, the price cleared lower than the 2009 vintage allowances at \$2.06 per ton.

Based on our review of the administration of the market, we found that:

- The auction was administered in a fair and transparent manner in accordance with the noticed auction procedures and limitations.
- The auction results were consistent with the market rules and the bids received.
- Sensitive information was treated appropriately by the auction administrator.
- There were no indications of hardware or software problems, communications issues, security breaches, or other problems with the auction platform.

In summary, the results of our monitoring of RGGI Auction 4 raise no material concerns regarding the auction process or the competitiveness of the auction results. The appendix provides additional information about the market for RGGI CO<sub>2</sub> allowances and outcomes of the auction.

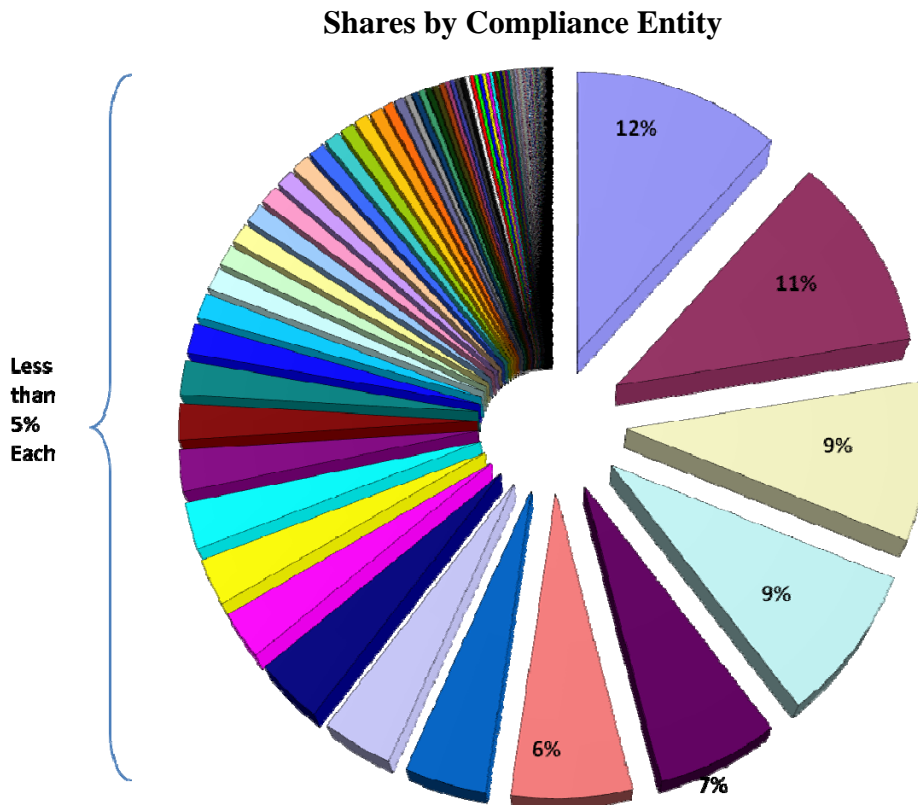
**APPENDIX**

**A. DISPERSION OF PROJECTED DEMAND**

*The wide dispersion of projected demand for RGGI allowances across compliance entities facilitates the competitive performance of the auction.*

The following figure shows the relative shares of projected demand for RGGI allowances by compliance entity. The largest compliance entity represents only 12 percent of the total projected demand for allowances. Almost half of the projected demand is composed of entities that each account for less than 5 percent of the total demand. Participation by a large number of entities facilitates the competitive performance of the auction.

**Figure 1: Projected Demand for RGGI Allowances**



## B. DISPERSION OF BIDS IN AUCTION 4

*In the 2009 vintage offering, bids were submitted for a large quantity of allowances relative to the available supply, and the bids were widely dispersed across both compliance entities and non-compliance entities. These are both positive indicators regarding the competitiveness of the auction.*

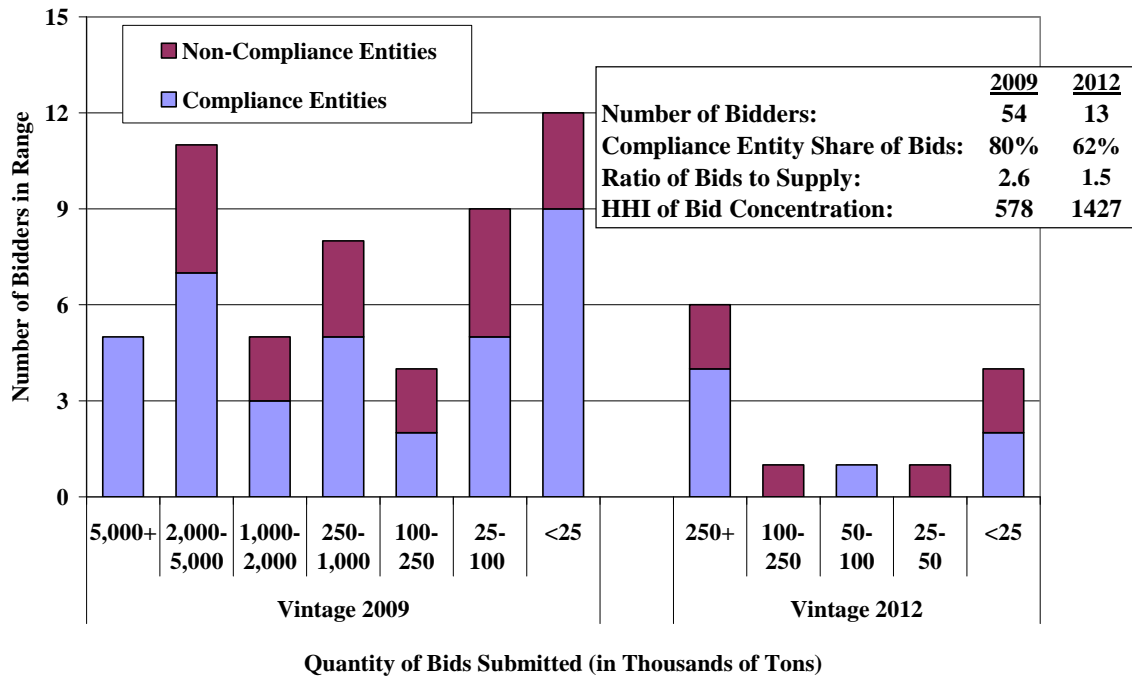
*A small number of allowances was also auctioned in advance for the 2012 vintage year, with 13 entities submitting bids to purchase 1.5 times the available supply of allowances. The volume of bids declined from Auction 3, suggesting there may be uncertainty regarding the value of 2012 vintage allowances if federal cap-and-trade legislation is passed. In our review of the bids and the qualification process, we found no material evidence of anti-competitive conduct or significant barriers to participation.*

The following figure summarizes the quantities of bids submitted in the two offerings. In the 2009 vintage offering, most of the bidders that submitted bids for a large quantity of allowances (e.g., at least 2 million tons which is 6 percent of the available supply) were compliance entities. Overall, compliance entities accounted for 80 percent of the quantity of bids submitted in the 2009 vintage offering. The total quantity of bids submitted was similar to Auction 3.

In the 2012 vintage offering, most of the bidders that submitted bids for a large quantity of allowances (e.g., at least 100,000 tons which is 5 percent of the available supply) were compliance entities. Overall, compliance entities accounted for 62 percent of the quantity of allowances for which bids were submitted in the 2012 vintage offering.

In addition to demand exceeding supply by 2.6 to 1, the bid quantities were widely distributed among the 54 bidders in the 2009 vintage offering. The concentration of bids, using the Herfindahl-Hirschman Index (“HHI”), was very low at 578 in the 2009 vintage offering. Fewer entities submitted bids in the 2012 vintage offering, leading the concentration of bids to be substantially higher (1427), but still moderate for most product markets. The HHI is a standard measure of concentration calculated by squaring each entity’s share and then summing the squares across all entities (hence, the index ranges from 0 to 10,000).

Figure 2: Quantity of Bids Submitted by Entity  
By Type of Entity and Quantity Bid



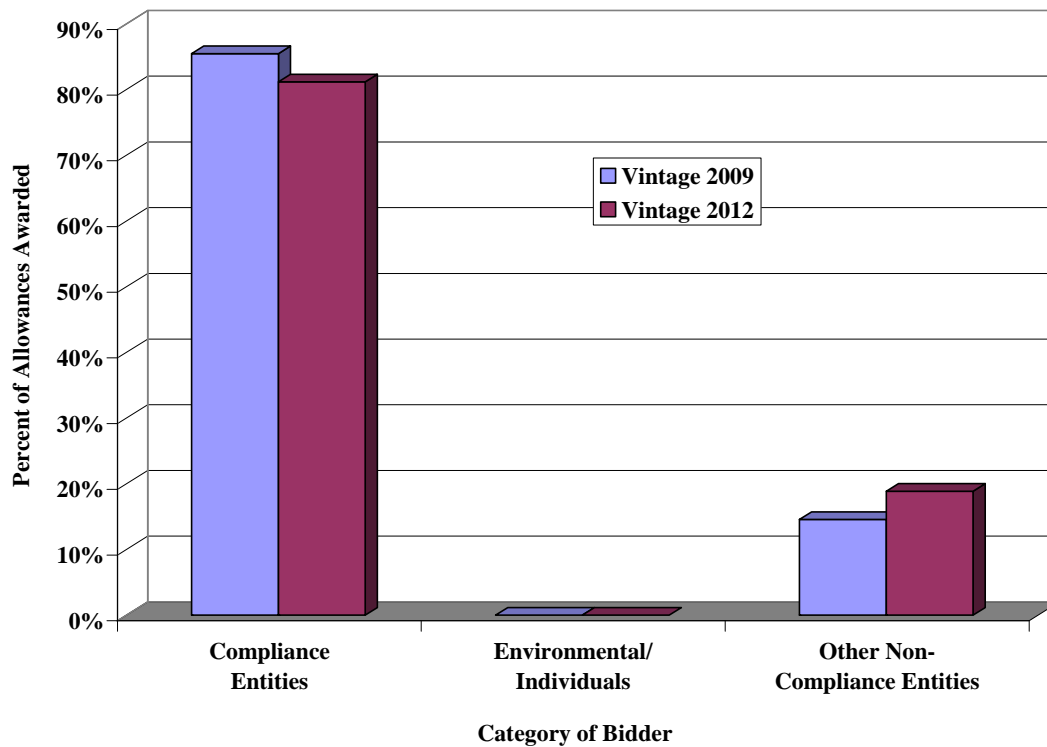
**C. SUMMARY OF PURCHASES OF ALLOWANCES IN AUCTION 4**

*The purchase of most allowances by compliance entities and their affiliates is encouraging, because compliance entities generally value the allowances most highly. In the 2009 vintage offering, awards were widely distributed across 48 bidders with four bidders purchasing two million tons or more, nine bidders purchasing one million tons or more, and 18 bidders purchasing 250,000 tons or more. In the 2012 vintage offering, awards were distributed across 12 bidders with three bidders purchasing approximately 74 percent of the allowances and five additional bidders each purchasing 25,000 tons or more.*

The following figure shows the quantity of allowances purchased in the auction by each of three types of entities:

- *Compliance Entities:* This includes all compliance entities and their affiliates.
- *Environmental/Individuals:* This includes non-compliance entities describing themselves as “Environmental Groups” or “Individual Person” in their qualification application.
- *Other Non-Compliance Entities:* This includes all other non-compliance entities.

**Figure 3: Quantity of Allowances Awarded  
By Type of Entity**



The following table shows the quantity of allowances purchased by each bidder. The identity of each bidder is masked, and the bidders are ranked according to the amount of allowances awarded, from largest to smallest.

**Table 1: Quantity of Allowances Awarded by Bidder**

Bidder	Number of 2009 Allowances Awarded	Bidder	Number of 2012 Allowances Awarded
Bidder 1	7,721,000	Bidder 1	543,000
Bidder 2	4,810,000	Bidder 2	540,000
Bidder 3	2,842,620	Bidder 3	535,000
Bidder 4	2,000,000	Bidder 4	200,000
Bidder 5	1,743,000	Bidder 5	180,540
Bidder 6	1,516,000	Bidder 6	81,000
Bidder 7	1,200,000	Bidder 7	48,000
Bidder 8	1,185,000	Bidder 8	25,000
Bidder 9	1,137,000	Bidder 9	11,000
Bidder 10	900,000	Bidder 10	5,000
Bidder 11	810,000	Bidder 11	3,000
Bidder 12	600,000	Bidder 12	1,000
Bidder 13	500,000		
Bidder 14	500,000		
Bidder 15	500,000		
Bidder 16	450,000		
Bidder 17	350,000		
Bidder 18	350,000		
Bidder 19	220,000		
Bidder 20	200,000		
Bidder 21	200,000		
Bidder 22	160,000		
Bidder 23	130,000		
Bidder 24	110,000		
Bidder 25	110,000		
Bidder 26	100,000		
Bidder 27	85,000		
Bidder 28	78,000		
Bidder 29	68,000		
Bidder 30	50,000		
Bidder 31	50,000		
Bidder 32	50,000		
Bidder 33	29,000		
Bidder 34	25,000		
Bidder 35	25,000		
Bidder 36	23,000		
Bidder 37	20,000		
Bidder 38	10,000		
Bidder 39	8,000		
Bidder 40	7,000		
Bidder 41	5,000		
Bidder 42	4,000		
Bidder 43	1,000		
Bidder 44	1,000		
Bidder 45	1,000		
Bidder 46	1,000		
Bidder 47	1,000		
Bidder 48	1,000		

**D. SUMMARY OF BID PRICES IN AUCTION 4**

*The distribution of bid prices submitted in the auction indicates that the demand for allowances was relatively elastic, which is a signal that the results were competitive.*

The following table reports several statistics regarding the bid prices for bids submitted in Auction 4. The median and mean bid prices are weighted by the quantity of each bid.

	<u>2009</u>	<u>2012</u>
<b>Bid Prices:</b>		
<b>Minimum</b>	<b>\$1.86</b>	<b>\$1.86</b>
<b>Maximum</b>	<b>\$12.00</b>	<b>\$3.84</b>
<b>Average (Median)</b>	<b>\$2.89</b>	<b>\$2.25</b>
<b>Average (Mean)</b>	<b>\$2.83</b>	<b>\$2.31</b>
<b>Clearing Prices:</b>	<b>\$3.23</b>	<b>\$2.06</b>

**E. NAMES OF POTENTIAL BIDDERS IN AUCTION 4**

In accordance with Section 2.8 of the Auction Notice for CO<sub>2</sub> Allowance Auction 4 on June 17, 2009, the Participating States are releasing the names of Potential Bidders in Auction 4. The states defined potential bidders as: “Each Applicant that has been qualified and submitted a complete *Intent to Bid*.” The list of 67 Potential Bidders is as follows:

AES Eastern Energy, LP	Jamestown Board of Public Utilities
Allegheny Energy Supply Company, LLC	JP Morgan Ventures Energy Corporation
ANP Funding I, LLC	Lake Road Generating Company, L.P.
Barclays Bank PLC	Logan Generating Company, LP
Basil P. Bourque	Louis Dreyfus Energy Services, LP
Brick Power Holding, LLC	Macquarie Cook Power Inc.
Brookfield Energy Marketing Inc.	Massachusetts Muni. Wholesale Elec. Co.
Caithness Long Island, LLC	Mercuria Energy Trading
Calpine Energy Services, LP	Merrill Lynch Commodities, Inc.
Chambers Cogeneration, LP	Milford Power Company, LLC
Clean Air Gardening, LLC	Millennium Power Partners, LP
Conectiv Energy Supply, Inc.	Mirant Energy Trading, LLC
ConocoPhillips Company	Morgan Stanley Capital Group, Inc.
Consolidated Edison Comp. of NY, Inc.	National Grid Gen. dba National Grid
Constellation Energy Commodities Group	New Athens Generating Company, LLC
C-Quest Capital, LLC	NextEra Energy Power Marketing, LLC
DigiLog Global Environmental Master Fund	North American Energy Alliance, LLC
Dominion Energy Marketing, Inc.	NRG Power Marketing, LLC
DTE Carbon LLC	Old Dominion Electric Cooperative
Dynegy Marketing and Trade, LLC	Power Authority of the State of New York
Element Markets, LLC	PPL EnergyPlus, LLC
FES Fund I LLC	PSEG Energy Resources & Trade, LLC
Five Rings Capital, LLC	Public Service Company of New Hampshire
Four Oaks Interests, LLC	RBC
GDF SUEZ Energy Marketing NA, Inc.	Rochester Gas and Electric Corporation
Green Fund Partners, LLC	Selkirk Cogen Partners, LP
Green Mountain Power Corporation	Sempra Energy Trading, LLC
H.Q. Energy Services (US) Inc.	Statkraft Markets GmbH
Hess Corporation	TAQA Gen X, LLC
Indeck Energy Serv. of Silver Springs	Tradax Green Energy, LLC
Indeck-Olean Limited Partnership	TransCanada Power Marketing Ltd.
Indeck-Oswego Limited Partnership	Verso Paper Corp.
Indeck-Yerkes Limited Partnership	Vitol Inc.
J. Aron & Company	