

## MEMORANDUM

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**TO:** RGGI, Inc.  
RGGI Participating States

**FROM:** David Patton  
Pallas LeeVanSchaick

**DATE:** October 16, 2008

**RE:** Allowance Auction on September 25, 2008

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Potomac Economics was retained to serve as the market monitor for the RGGI CO<sub>2</sub> allowance market. In this role, we monitor the conduct of the market participants in both the primary auctions and the secondary market to identify indications of market manipulation or collusion. We also review the administration of the auctions by World Energy. This memorandum summarizes our findings regarding the first RGGI allowance auction, which was held on September 25, 2008.

We observed the auction as it occurred and have completed our review and analysis of its results. Based on our monitoring of participant conduct in the auction, we find no material evidence of collusion or manipulation by bidders. The vast majority of bids were submitted in line with competitive expectations.

Participation in the auction was robust with 59 separate entities submitting bids to purchase more than four times the available supply of allowances in the auction. This liquidity contributed to generating a clearing price that 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, which should value the allowances most highly, purchased most of the allowances in the auction.

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 the first CO<sub>2</sub> allowance auction raise no material concerns regarding the auction process or its results. An appendix to this memo provides additional information about the market for RGGI CO<sub>2</sub> allowances and outcomes of the auction.

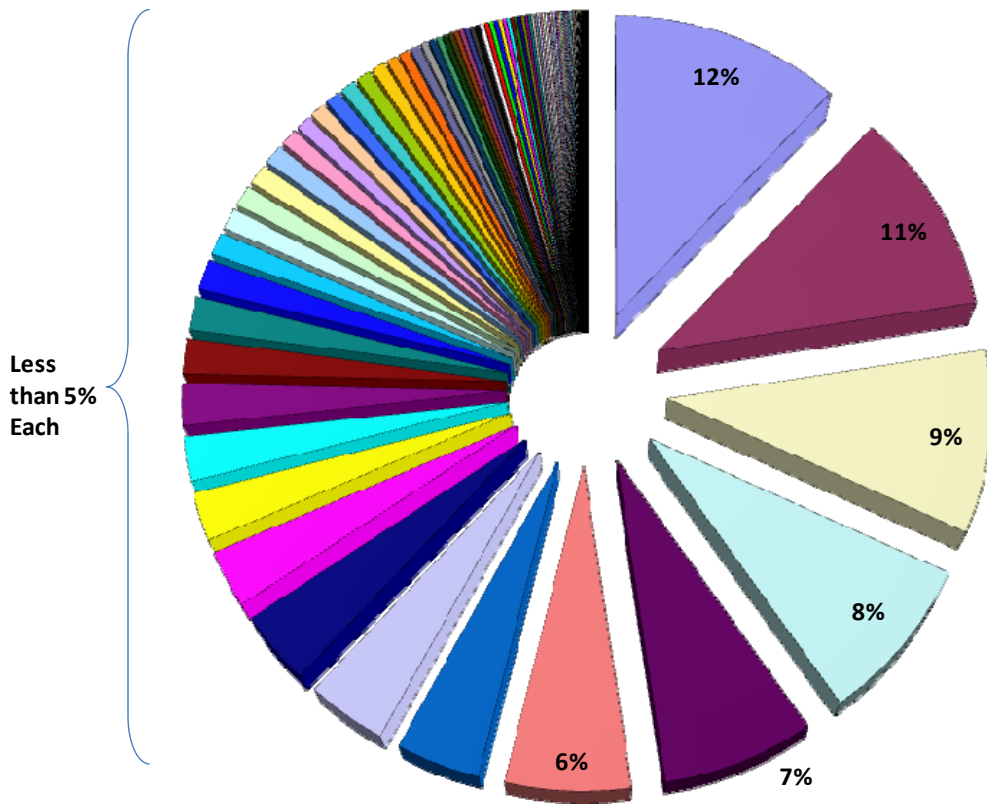
**APPENDIX**

**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  
Shares by Compliance Entity**



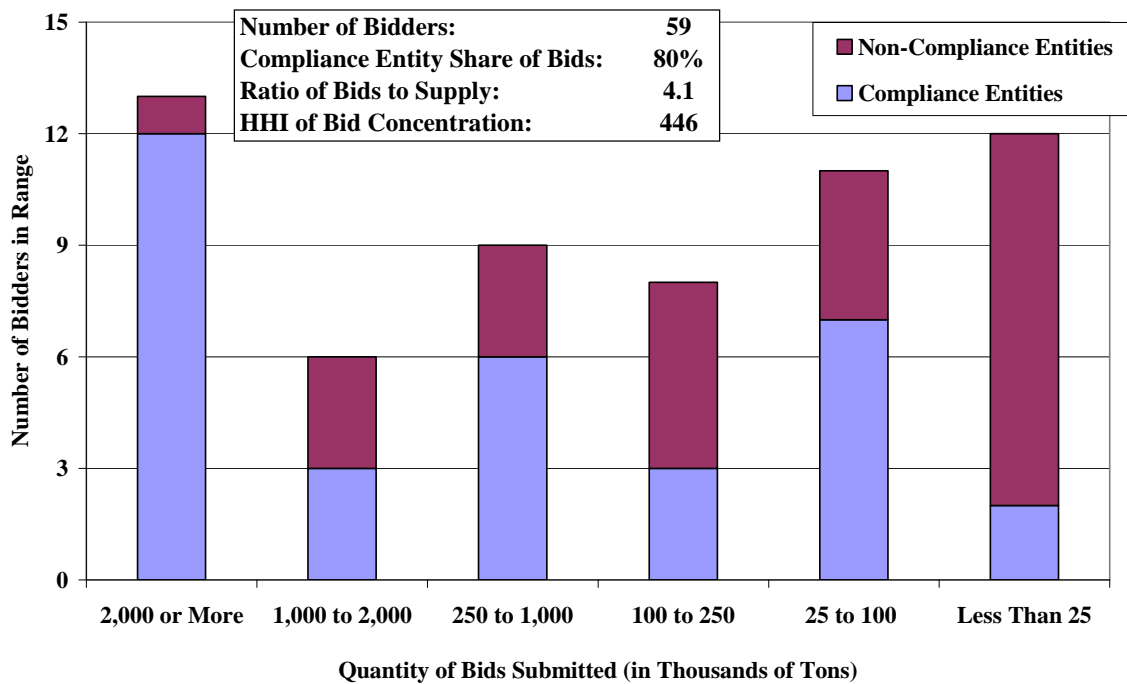
**B. Dispersion of Bids in Auction 1**

*The large amount of bids submitted relative to the available supply and the wide dispersion of bids across both compliance entities and non-compliance entities are positive indicators about the competitiveness of the auction.*

The following figure summarizes the quantity of bids submitted in the auction by 59 bidders. Most of the bidders that submitted a large number of bids (e.g., 2 million tons or more) were compliance entities. Overall, compliance entities accounted for 80 percent of the quantity of bids submitted in the auction.

In addition to demand exceeding supply by more than 4 to 1, the bids quantities were widely distributed among the 59 bidders. The concentration of bids, using the Herfindahl-Hirschman Index (“HHI”), was very low at 446. The HHI is a standard measure of concentration calculated by summing the square of each entities share (hence, the index ranges from 0 to 10,000). The low concentration of bids and high ratio of bids to the available supply indicates that the auction was liquid.

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



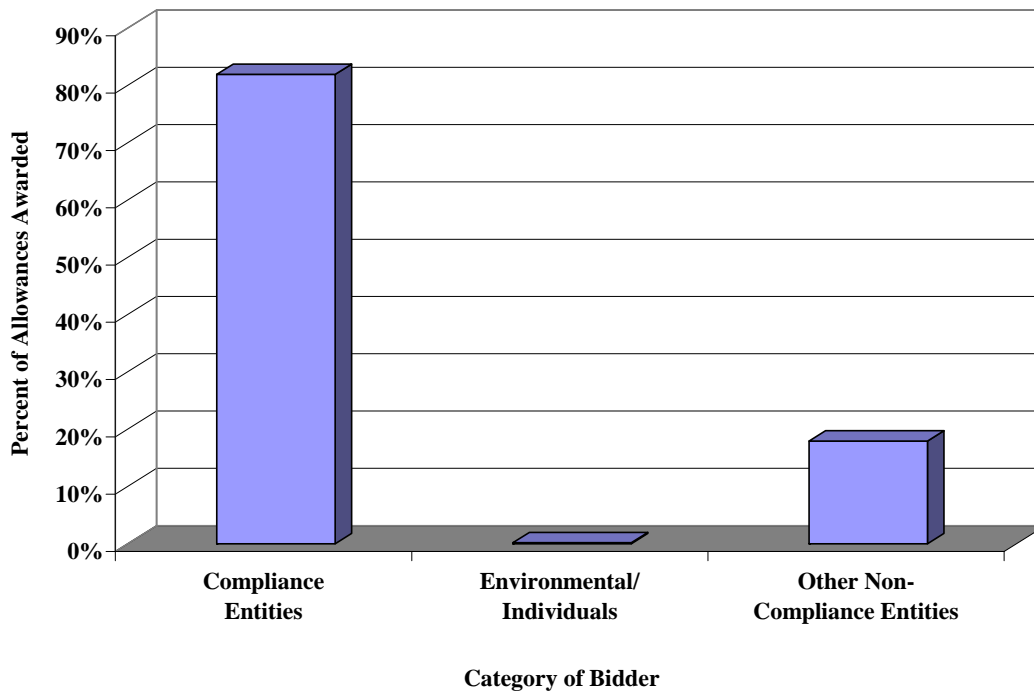
**C. Summary of Purchases of Allowances in Auction 1**

*The purchase of most allowances by compliance entities and their affiliates is encouraging, because compliance entities generally value the allowances most highly. Awards were widely distributed across 44 bidders with three bidders purchasing one million tons or more, eight bidders purchasing 500,000 tons or more, and 18 bidders purchasing 100,000 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 in the auction. The identity of each bidder is masked, and the bidders are ranked according to the amount of allowances awarded in the auction, from largest to smallest.

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

<b>Bidder</b>	<b>Number of Allowances Awarded</b>
Bidder 1	2,528,000
Bidder 2	2,059,000
Bidder 3	1,759,000
Bidder 4	880,000
Bidder 5	737,000
Bidder 6	600,000
Bidder 7	600,000
Bidder 8	515,000
Bidder 9	415,000
Bidder 10	400,000
Bidder 11	325,000
Bidder 12	300,000
Bidder 13	265,000
Bidder 14	240,000
Bidder 15	167,387
Bidder 16	111,000
Bidder 17	100,000
Bidder 18	100,000
Bidder 19	60,000
Bidder 20	60,000
Bidder 21	55,000
Bidder 22	54,000
Bidder 23	50,000
Bidder 24	35,000
Bidder 25	27,000
Bidder 26	24,000
Bidder 27	16,000
Bidder 28	16,000
Bidder 29	12,000
Bidder 30	12,000
Bidder 31	10,000
Bidder 32	10,000
Bidder 33	7,000
Bidder 34	3,000
Bidder 35	2,000
Bidder 36	2,000
Bidder 37	2,000
Bidder 38	1,000
Bidder 39	1,000
Bidder 40	1,000
Bidder 41	1,000
Bidder 42	1,000
Bidder 43	1,000
Bidder 44	1,000

**D. Summary of Bid Prices in Auction 1**

*The distribution of bid prices submitted in the auction indicates that the demand for allowances was 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 1. The median and mean bid prices are weighted by the quantity of each bid.

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<b>Bid Prices:</b>	
<b>Minimum</b>	<b>\$1.86</b>
<b>Maximum</b>	<b>\$12.00</b>
<b>Average (Median)</b>	<b>\$2.51</b>
<b>Average (Mean)</b>	<b>\$2.77</b>

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