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CO₂ Allowances Sold for \$3.79 in 39th RGGI Auction

\$51.4 Million Raised for Reinvestment in First Auction of 2018

NEW YORK — The nine Northeastern and Mid-Atlantic states participating in the Regional Greenhouse Gas Initiative (RGGI), the nation's first market-based regulatory program to reduce greenhouse gas (GHG) pollution, today announced the results of their 39^{th} auction of carbon dioxide (CO₂) allowances.

13,553,767 CO₂ allowances were sold at the auction at a clearing price of \$3.79. Bids for the CO₂ allowances ranged from \$2.20 to \$5.80 per allowance. Additional details are available in the <u>Market Monitor Report for Auction 39</u>, which is also appended.

The auction generated \$51.4 million for reinvestment in strategic programs, including energy efficiency, renewable energy, direct bill assistance, and GHG abatement programs. Cumulative proceeds from all RGGI CO_2 allowance auctions amount to \$2.89 billion.

Ten million cost containment reserve (CCR) allowances were also available for sale. None of the CCR allowances were sold. The CCR is a fixed additional supply of allowances that are only available for sale if CO_2 allowance prices exceed certain price levels (\$10.25 in 2018).

The March 14th auction was the first auction of the fourth control period. RGGI compliance is structured based on three-year control periods, the fourth of which started at the beginning of 2018 and will last until the end of 2020. At the end of the control period, covered entities must provide one allowance for each short ton of CO₂ emitted during the period. They also must provide allowances equal to half their emissions at the end of each interim control period (the first two calendar years of each three-year control period).

"This auction underscores how RGGI participation helps our states to reinvest in a cleaner and more resilient energy system. Recently, new states have become interested in participating in our program and sharing these benefits," said Ben Grumbles, Secretary of the Maryland Department of the Environment and Chair of the RGGI, Inc. Board of Directors. "The RGGI states are eager to share information about our program with any state that is interested, and especially look forward to further discussions with Virginia and New Jersey."

"RGGI's quarterly allowance auctions send a signal to the market, while at the same time generating proceeds for reinvestment," said Katie Dykes, Chair of the Connecticut Public Utilities Regulatory Authority and Vice Chair of the RGGI, Inc. Board of Directors. "States' investments of RGGI proceeds have generated consumer benefits through programs including clean and renewable energy, energy efficiency, and direct bill assistance. The flexibility afforded to the states to invest according to state-specific needs and goals is an important feature of the RGGI program."

Auction 39 Results At-A-Glance		
Auction Date	Mar. 14, 2018	
Allowances Offered for Sale	13,553,767	
Allowances Sold	13,553,767	
Ratio of Bids to Supply	2.9	
Clearing Price	\$3.79	
Reserve Price	\$2.20	
Proceeds from Auction 39	\$51,368,776.93	
Total Cumulative Proceeds (All Auctions)	\$2,887,234,068.02	
Number of Bidders in Auction 39	40	
Percent of Allowances Purchased by Compliance- Oriented Entities in Auction 39	60%	
Percent of Allowances Purchased by Compliance Entities in Auction 39	64%	
Percent of Allowances Purchased by Compliance Entities in Auctions 1 - 39	75%	

More auction data is also available at: <u>https://www.rggi.org/auctions/auction-results</u>. Market monitor reports are available at: <u>https://www.rggi.org/auctions/market-monitor-reports</u>. To receive announcements relating to future auctions and other RGGI news, please join the RGGI, Inc. mailing list at <u>http://eepurl.com/h2ICM</u>.

About the Regional Greenhouse Gas Initiative (RGGI)

The Northeast and Mid-Atlantic states participating in the fourth RGGI control period (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont) have implemented the first mandatory market-based regulatory program in the U.S. to reduce greenhouse gas emissions. The 2018 RGGI cap is 82.2 million short tons. The RGGI states also include interim adjustments to the RGGI cap to account for banked CO₂ allowances. The 2018 RGGI adjusted cap is 60.3 million short tons.

RGGI is composed of individual CO₂ budget trading programs in each state, based on each state's independent legal authority. A CO₂ allowance represents a limited authorization to emit one short ton of CO₂, as issued by a respective state. A regulated power plant must hold CO₂ allowances equal to its emissions for each three-year control period. RGGI's fourth control period began on January 1, 2018 and extends through December 31, 2020. For more information visit www.rggi.org

About Regional Greenhouse Gas Initiative, Inc.

Regional Greenhouse Gas Initiative, Inc. (RGGI, Inc.) was created to provide technical and administrative services to the states participating in the Regional Greenhouse Gas Initiative. RGGI, Inc. is a 501(c)(3) nonprofit organization. For more information, visit: www.rggi.org/rggi



MARKET MONITOR REPORT FOR AUCTION 39

Prepared for:

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

Prepared By:



March 16, 2018



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 states participating in RGGI (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont). The opinions expressed in this report do not necessarily reflect those of RGGI, Inc. or any of the states participating in RGGI, 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 states participating in RGGI, 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 states participating in RGGI, 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 the first mandatory market-based regulatory program in the U.S. to reduce greenhouse gas emissions. RGGI is a cooperative effort of Northeast and Mid-Atlantic states to reduce emissions of carbon dioxide (CO₂) from the power sector.

RGGI, Inc. is a non-profit corporation created to provide technical and administrative services to the states participating in the Regional Greenhouse Gas Initiative.



MARKET MONITOR REPORT FOR AUCTION 39

As the Market Monitor for the RGGI CO_2 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 EnerNOC, Inc. This report summarizes our findings regarding RGGI Auction 39, which was held on March 14, 2018.

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.

Forty bidders participated in the offering of CO_2 allowances. Bids were submitted to purchase 2.9 times the available supply of allowances, resulting in a clearing price of \$3.79 per ton. Compliance-Oriented Entities purchased 60 percent of the allowances in the offering. There was no indication of barriers to participation 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 issues with the auction platform such as hardware or software problems, communications issues, or security breaches.

In summary, the results of our monitoring of RGGI Auction 39 raise no material concerns regarding the auction process, barriers to participation in the auction, or the competitiveness of the auction results. The appendix provides additional information about the market for RGGI CO_2 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 in the current control period. The largest compliance entity represents only 12 percent of the total projected demand for allowances. Over 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.

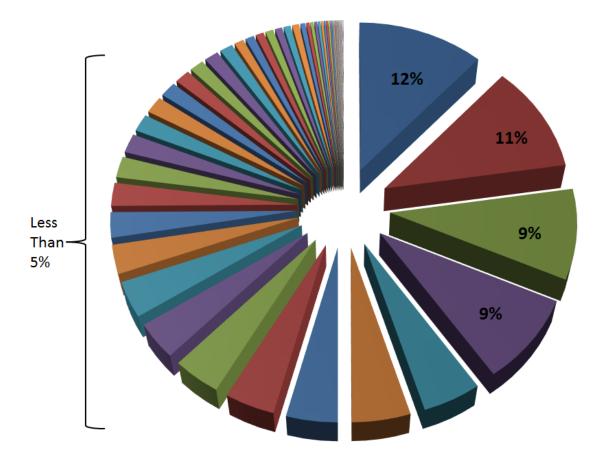


Figure 1: Projected Demand for RGGI Allowances Shares by Compliance Entity

B. SUMMARY OF PURCHASES OF ALLOWANCES IN AUCTION 39

Awards were distributed across 34 bidders with six bidders purchasing one million tons or more and 15 bidders purchasing 300,000 tons or more.

This report summarizes participation in Auction 39. Participation in the RGGI market involves many different firms with various interests in RGGI allowances. Some participate in order to satisfy compliance obligations, others have investment interests, and still others participate for both purposes. To more effectively track the activity of different participants, we use several classifications for participant firms. Figure 2 summarizes the relationship between these classifications.

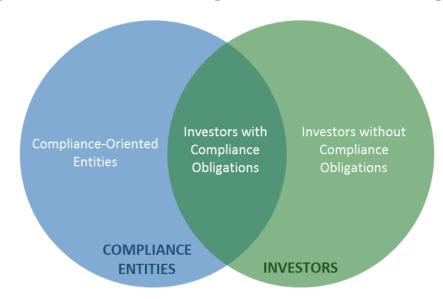


Figure 2: Classifications of Participant Firms in the RGGI Marketplace

- *Compliance-Oriented Entities* are compliance entities that appear to acquire and hold allowances primarily to satisfy their compliance obligations.
- *Investors with Compliance Obligations* are firms that have compliance obligations but which hold a number of allowances that exceeds their estimated compliance obligations by a margin suggesting they also buy for re-sale or some other investment purpose. These firms often transfer significant quantities of allowances to unaffiliated firms.¹

¹ The assessment of whether a compliance entity holds a number of allowances that exceeds its compliance obligations by a margin that suggests they are also buying for re-sale or some other investment purpose is based on: (a) the entity's forecasted share of the total compliance obligations for the entire RGGI footprint through 2020, (b) the total number of allowances in circulation, and (c) consideration of the pattern of the entity's allowance transfers to unaffiliated firms versus affiliated firms. Since the designation of a compliance entity as an investor is based on a review of its transactions and holdings, the designation of a particular firm may change



• Investors without Compliance Obligations are firms without any compliance obligations.

These three categories form the basis for two overlapping groups.

- *Compliance Entities* All firms with compliance obligations, and their affiliates.² Combines the first and second of the above categories.
- *Investors* All firms which are assessed to be purchasing for investment rather than compliance purposes. Combines the second and third of the above categories.

In Auction 39, Compliance Entities purchased 64 percent of the allowances sold. In the first 39 RGGI auctions, Compliance Entities purchased 75 percent of the allowances sold. In Auction 39, Compliance-Oriented Entities purchased 60 percent of the allowances sold.

After settlement of allowances sold in Auction 39:

- Thirty-five percent of the allowances in circulation will be held by Compliance-Oriented Entities.
- Forty-five percent of the allowances in circulation are believed to be held for compliance purposes. The number of allowances that are believed to be held for compliance purposes includes 100 percent of the allowances held by Compliance-Oriented Entities and a portion of allowances held by Investors with Compliance Obligations.

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.

over time as more information becomes available.

² Affiliates are firms that: (i) have a parent-subsidiary relationship with a compliance entity, (ii) are subsidiaries of a parent company that has a large interest in a compliance entity, (iii) have substantial control over the operation of a budget source and/or responsibility for acquiring RGGI allowances to satisfy its compliance obligations.

Bidder	er Number of Allowances Awarded	
Bidder 1	1,448,767	
Bidder 2	1,250,000	
Bidder 3	1,084,000	
Bidder 4	1,050,000	
Bidder 5	1,000,000	
Bidder 6	1,000,000	
Bidder 7	900,000	
Bidder 8	750,000	
Bidder 9	738,000	
Bidder 10	600,000	
Bidder 11	500,000	
Bidder 12	500,000	
Bidder 13	400,000	
Bidder 14	400,000	
Bidder 15	400,000	
Bidder 16	250,000	
Bidder 17	211,000	
Bidder 18	175,000	
Bidder 19	158,000	
Bidder 20	150,000	
Bidder 21	132,000	
Bidder 22	105,000	
Bidder 23	100,000	
Bidder 24	75,000	
Bidder 25	60,000	
Bidder 26	35,000	
Bidder 27	25,000	
Bidder 28	16,000	
Bidder 29	10,000	
Bidder 30	10,000	
Bidder 31	10,000	
Bidder 32 Bidder 33	5,000 4,000	
Bidder 33 Bidder 34	2,000	

Table 1: Quantity of Allowances Awarded by Bidder

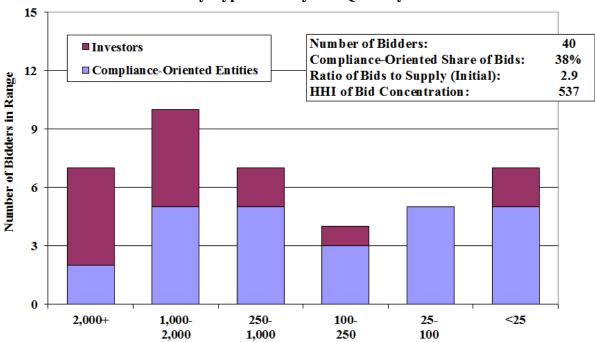


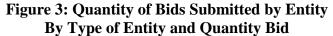
C. DISPERSION OF BIDS IN AUCTION 39

Bids were submitted by 25 Compliance-Oriented Entities and 15 Investors. In our review of the bids and the qualification process, we found no material evidence of anti-competitive conduct or inappropriate barriers to participation.

The following figure summarizes the quantity of allowances for which bids were submitted by each bidder. Two Compliance-Oriented Entities and five Investors submitted bids for a large quantity of allowances (i.e., at least 2 million tons). Overall, Compliance-Oriented Entities accounted for 38 percent of the quantity of allowances for which bids were submitted. The quantity of allowances for which bids were submitted was 2.9 times the available supply. In Auction 38, the quantity of allowances for which bids were submitted was 2.2 times the Initial Offering.

The bid quantities were widely distributed among the 40 bidders. The concentration of bids, using the Herfindahl-Hirschman Index ("HHI"), is relatively low at 537, consistent with recent auctions. The HHI is a standard measure of concentration calculated by squaring each entity's share and then summing the squares across all entities (i.e., the index ranges from 0 to 10,000).





Quantity of Bids Submitted (in Thousands of Tons)



D. SUMMARY OF BID PRICES IN AUCTION 39

Bids were submitted across a wide range of prices in the auction and the clearing price of \$3.79 was relatively consistent with average bid prices submitted.

The following table reports several statistics regarding the bid prices for bids submitted in Auction 39. The median and mean bid prices are weighted by the quantity of each bid.

Bid Prices:	
Minimum	\$2.20
Maximum	\$5.80
Average (Median)	\$3.70
Average (Mean)	\$3.56
Clearing Price:	\$3.79





E. NAMES OF POTENTIAL BIDDERS IN AUCTION 39

In accordance with Sections 2.8 and 3 of the Auction Notice for CO₂ Allowance Auction 39, the Participating States are releasing the names of Potential Bidders in Auction 39. The states defined potential bidders as: "Each Applicant that has been qualified and submitted a complete *Intent to Bid.*" The list of 47 Potential Bidders is as follows:

Adirondack Council Inc. Astoria Energy, LLC BP Products North America Inc. Brooklyn Navy Yard Cogen Partners, LP Caithness Long Island, LLC Calpine Energy Services, LP Carbon Lighthouse Association Cayuga Operating Company, LLC Consolidated Edison Comp. of NY, Inc. CP Energy Marketing (US) Inc. CPV Maryland, LLC CPV Towantic, LLC CPV Valley, LLC Delaware City Refining Company, LLC Delaware Municipal Electric Corp. DTE Energy Trading, Inc. Element Markets, LLC Exelon Generation Company, LLC GenOn Energy Management, LLC Helix Ravenswood, LLC Indeck-Corinth Limited Partnership Indeck-Oswego Limited Partnership Indeck-Yerkes Limited Partnership Jamestown Board of Public Utilities

J-Power USA Development Co., Ltd. Kendall Green Energy, LLC KMC Thermo, LLC Koch Supply & Trading, LP Luminus Energy Partners Master Fund, Ltd. Macquarie Energy, LLC Mercuria Energy America, Inc. Morgan Stanley Capital Group, Inc. National Grid Gen. dba National Grid NextEra Energy Marketing, LLC NRG Power Marketing, LLC Ocean State Power, LLC **Old Dominion Electric Cooperative** Power Authority of the State of New York PSEG Energy Resources & Trade, LLC RBC Selkirk Cogen Partners, LP Shell Energy North America (US), LP Statkraft US, LLC Verso Corporation Village of Freeport Vitol Inc. Wallingford Energy, LLC