

Contact:

Nora Vogel RGGI, Inc. 212-417-3179 nora.vogel@rggi.org

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CO₂ Allowances Sold for \$4.35 in 37th RGGI Auction

\$62.5 Million Raised for Reinvestment in Third Auction of 2017

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 37^{th} auction of carbon dioxide (CO₂) allowances.

14,371,585 CO₂ allowances were sold at the auction at a clearing price of \$4.35. Bids for the CO₂ allowances ranged from \$2.15 to \$6.66 per allowance. Additional details are available in the <u>Market Monitor Report for Auction 37</u>, which is also appended.

The Sept. 6th auction was the third auction of 2017, and generated \$62.5 million for reinvestment in strategic programs, including energy efficiency, renewable energy, direct bill assistance, and GHG abatement programs. Cumulative proceeds from all RGGI CO₂ allowance auctions exceed \$2.78 billion dollars.

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 CO₂ allowance prices exceed certain price levels (\$10 in 2017).

This auction follows the RGGI states' Aug. 23 announcement of consensus on a set of draft program elements that will guide the RGGI states as they conduct final economic analysis and establish a post-2020 path forward for the program. The recent proposal includes a regional cap trajectory that will provide an additional 30% cap reduction by the year 2030, relative to 2020 levels.

"The RGGI states' recent announcement of proposed program improvements makes clear that we are advancing our collective leadership in carbon reduction through the next decade," said Katie Dykes, Chair of the Connecticut Public Utilities Regulatory Authority and Chair of the RGGI, Inc. Board of Directors. "As the RGGI states move forward with implementing these program improvements, this auction serves as a reminder of what has helped make the program so successful. The auctioning of allowances, and the reinvestment of proceeds in clean energy, energy efficiency, and other consumer benefit programs harnesses competition to create a virtuous cycle of pollution reduction."

"The RGGI states continue to demonstrate leadership in transitioning to a clean energy economy," said Jared Snyder, Deputy Commissioner, New York State Department of Environmental Conservation and Vice Chair of the RGGI, Inc. Board of Directors. "While actions to address climate change are stalled at the federal level, the RGGI states' announcement of an additional 30 percent cap reduction shows that meaningful climate action is moving forward at

the state level. The RGGI cap, together with the states' reinvestment of auction proceeds in cleaner and more efficient energy, is improving public health, reducing electricity bills and creating jobs."

Auction 37 Results At-A-Glance		
Auction Date	Sept. 6, 2017	
Allowances Offered for Sale	14,371,585	
Allowances Sold	14,371,585	
Ratio of Bids to Supply	2.7	
Clearing Price	\$4.35	
Reserve Price	\$2.15	
Proceeds from Auction 37	\$62,516,394.75	
Total Cumulative Proceeds (All Auctions)	\$2,780,050,932.89	
Number of Bidders in Auction 37	43	
Percent of Allowances Purchased by Compliance- Oriented Entities in Auction 37	38%	
Percent of Allowances Purchased by Compliance Entities in Auction 37	47%	
Percent of Allowances Purchased by Compliance Entities in Auctions 1 - 37	76%	

More auction data is also available at: <u>http://www.rggi.org/market/co2_auctions/results</u>. Market monitor reports are available at: <u>http://www.rggi.org/market/market_monitor</u>. To receive announcements relating to future auctions and other RGGI news, please join the RGGI, Inc. mailing list at <u>http://www.rggi.org/news/mailing_list</u>.

About the Regional Greenhouse Gas Initiative

The Northeast and Mid-Atlantic states participating in the third 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 2017 RGGI cap is 84.3 million short tons. The RGGI cap declines 2.5 percent each year until 2020. The RGGI states also include interim adjustments to the RGGI cap to account for banked CO₂ allowances. The 2017 RGGI adjusted cap is 62.5 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 third control period began on January 1, 2015 and extends through December 31, 2017. For more information visit <u>www.rggi.org</u>.

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: <u>www.rggi.org/rggi</u>



MARKET MONITOR REPORT FOR AUCTION 37

Prepared for:

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

Prepared By:



September 8, 2017



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 37

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 37, which was held on September 6, 2017.

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-three bidders participated in the offering of CO_2 allowances. Bids were submitted to purchase 2.7 times the available supply of allowances, resulting in a clearing price of \$4.35 per ton. Compliance-Oriented Entities purchased 38 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 37 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.

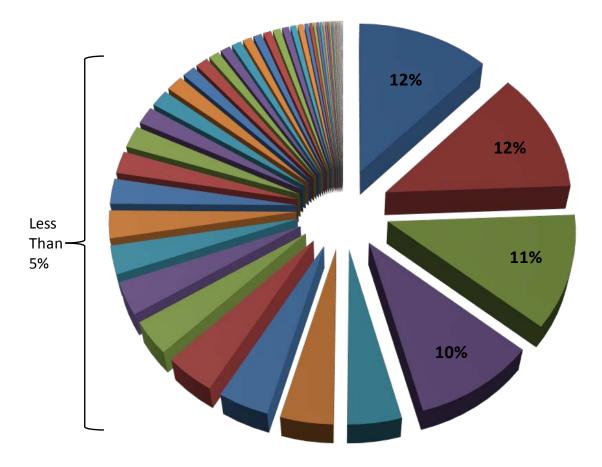


Figure 1: Projected Demand for RGGI Allowances Shares by Compliance Entity



B. SUMMARY OF PURCHASES OF ALLOWANCES IN AUCTION 37

Awards were distributed across 27 bidders with six bidders purchasing one million tons or more and 14 bidders purchasing 300,000 tons or more.

This report summarizes participation in Auction 37. For reporting purposes, firms are often broken up into the following distinct categories.

- *Compliance-Oriented Entities* Compliance entities that appear to acquire and hold allowances primarily to satisfy their compliance obligations.
- *Investors with Compliance Obligations* 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
- Investors without Compliance Obligations 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 37, Compliance Entities purchased 47 percent of the allowances sold. In the first 37 RGGI auctions, Compliance Entities purchased 76 percent of the allowances sold. In Auction 37, Compliance-Oriented Entities purchased 38 percent of the allowances sold.

After settlement of allowances sold in Auction 37:

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 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.



- Fifty-four percent of the allowances in circulation will be held by Compliance-Oriented Entities.
- Fifty-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.

Bidder	Number of Allowances Awarded	
Bidder 1	2,000,000	
Bidder 2	1,590,000	
Bidder 3	1,500,000	
Bidder 4	1,275,000	
Bidder 5	1,150,000	
Bidder 6	1,000,000	
Bidder 7	969,000	
Bidder 8	800,000	
Bidder 9	600,000	
Bidder 10	436,585	
Bidder 11	350,000	
Bidder 12	350,000	
Bidder 13	300,000	
Bidder 14	300,000	
Bidder 15	250,000	
Bidder 16	235,000	
Bidder 17	225,000	
Bidder 18	221,000	
Bidder 19	159,000	
Bidder 20	150,000	
Bidder 21	118,000	
Bidder 22	100,000	
Bidder 23	100,000	
Bidder 24	68,000	
Bidder 25	50,000	
Bidder 26	50,000	
Bidder 27	25,000	

Table 1: Quantity of Allowances Awarded by Bidder



C. DISPERSION OF BIDS IN AUCTION 37

Bids were submitted by 27 Compliance-Oriented Entities and 16 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. One Compliance-Oriented Entity and six Investors submitted bids for a large quantity of allowances (i.e., at least 2 million tons). Overall, Compliance-Oriented Entities accounted for 35 percent of the quantity of allowances for which bids were submitted. The quantity of allowances for which bids were submitted was 2.7 times the available supply. In Auction 36, the quantity of allowances for which bids were submitted was 2.1 times the Initial Offering.

The bid quantities were widely distributed among the 43 bidders. The concentration of bids, using the Herfindahl-Hirschman Index ("HHI"), is relatively low at 515, 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).

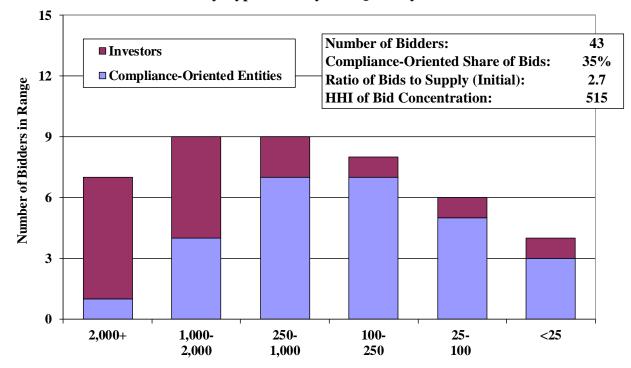


Figure 2: Quantity of Bids Submitted by Entity By Type of Entity and Quantity Bid

Quantity of Bids Submitted (in Thousands of Tons)



D. SUMMARY OF BID PRICES IN AUCTION 37

Bids were submitted across a wide range of prices in the auction and the clearing price of \$4.35 was relatively consistent with average bid prices submitted.

The following table reports several statistics regarding the bid prices for bids submitted in Auction 37. The median and mean bid prices are weighted by the quantity of each bid.

Bid Prices:	
Minimum	\$2.15
Maximum	\$6.66
Average (Median)	\$4.18
Average (Mean)	\$4.13
Clearing Price:	\$4.35



E. NAMES OF POTENTIAL BIDDERS IN AUCTION 37

In accordance with Sections 2.8 and 3 of the Auction Notice for CO₂ Allowance Auction 37, the Participating States are releasing the names of Potential Bidders in Auction 37. The states defined potential bidders as: "Each Applicant that has been qualified and submitted a complete *Intent to Bid.*" The list of 50 Potential Bidders is as follows:

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 Castleton Commodities Merchant Trading, LP Cayuga Operating Company, LLC City of Dover Consolidated Edison Comp. of NY, Inc. CPV Maryland, LLC Delaware City Refining Company, LLC Direct Energy Business Marketing, LLC Dominion Energy Marketing, Inc. DRW Commodities, LLC DTE Energy Trading, Inc. Element Markets, LLC Exelon Generation Company, LLC GenOn Energy Management, LLC Helix Ravenswood, LLC Indeck-Corinth Limited Partnership Indeck-Yerkes Limited Partnership J-Power USA Development Co., Ltd. Kendall Green Energy, LLC Kleen Energy Systems, 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 Nautilus Power, LLC 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 Public Service Company of New Hampshire RBC Rhode Island State Energy Center, LP Selkirk Cogen Partners, LP Shell Energy North America (US), LP Statkraft US, LLC Taunton Municipal Lighting Plant Verso Corporation Village of Freeport Vitol Inc. Wallingford Energy, LLC