



Regional Greenhouse Gas Initiative, Inc.
90 Church Street, 4th Floor
New York, NY 10007

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

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CO₂ Allowances Sold for \$4.50 in 41st RGGI Auction

\$61.2 Million Raised for Reinvestment in Third Auction of 2018

NEW YORK — The nine New England 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 41st auction of carbon dioxide (CO₂) allowances.

13,590,107 CO₂ allowances were sold at the auction at a clearing price of \$4.50. Bids for the CO₂ allowances ranged from \$2.20 to \$6.20 per allowance. Additional details are available in the [Market Monitor Report for Auction 41](#), which is also appended.

The auction generated \$61.2 million for reinvestment in strategic programs, including energy efficiency, renewable energy, direct bill assistance, and GHG abatement programs.

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 (\$10.25 in 2018).

Auction 41 marks ten years since RGGI's first-ever auction in September of 2008, while also reaching the milestone of \$3.00 billion in total auction proceeds.

"This auction represents a major milestone for the RGGI states," said Ben Grumbles, Secretary of the Maryland Department of the Environment and Chair of the RGGI, Inc. Board of Directors. "Our states took an ambitious but (at the time) relatively untested concept, and over the past decade built a substantial track record showing that market-based carbon pricing can deliver economic benefits while helping states to reduce greenhouse gases. Since RGGI's inception, more and more states, jurisdictions, and countries around the world have adopted new market-based climate programs."

"The RGGI states' track record of successful implementation can also be seen as a record of consensus," said Katie Dykes, Chair of the Connecticut Public Utilities Regulatory Authority and Vice Chair of the RGGI, Inc. Board of Directors. "RGGI was originally developed through a bipartisan effort, and has undergone comprehensive program review on two separate occasions. In each case, the participating states worked collaboratively to reach agreement on changes that strengthened the program and targeted additional emissions reductions."

| Auction 41 Results At-A-Glance | |
|---|--------------------|
| Auction Date | Sept. 5, 2018 |
| Allowances Offered for Sale | 13,590,107 |
| Allowances Sold | 13,590,107 |
| Ratio of Bids to Supply | 3.2 |
| Clearing Price | \$4.50 |
| Reserve Price | \$2.20 |
| Proceeds from Auction 41 | \$61,155,481.50 |
| Total Cumulative Proceeds (All Auctions) | \$3,003,749,070.02 |
| Number of Bidders in Auction 41 | 50 |
| Percent of Allowances Purchased by Compliance-Oriented Entities in Auction 41 | 61% |
| Percent of Allowances Purchased by Compliance Entities in Auction 41 | 61% |
| Percent of Allowances Purchased by Compliance Entities in Auctions 1 - 41 | 74% |

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

About the Regional Greenhouse Gas Initiative (RGGI)

The New England 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-inc/contact

RGGI Inc.



**MARKET MONITOR REPORT
FOR AUCTION 41**

Prepared for:

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

Prepared By:

**POTOMAC
ECONOMICS**

September 7, 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 41

As the Market Monitor for the RGGI CO₂ 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 41, which was held on September 5, 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.

Fifty bidders participated in the offering of CO₂ allowances. Bids were submitted to purchase 3.2 times the available supply of allowances, resulting in a clearing price of \$4.50 per ton. Compliance-Oriented Entities purchased 61 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 41 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 CO₂ allowances and outcomes of the auction.

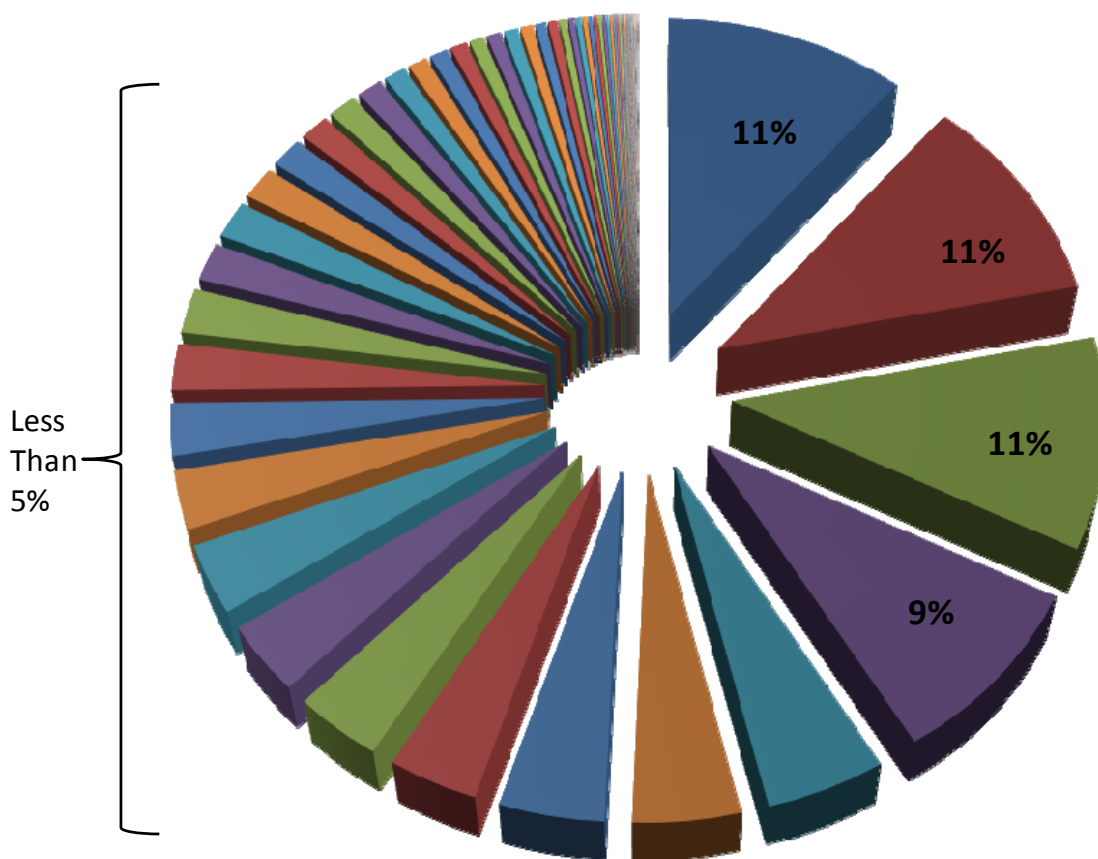
APPENDIX

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 11 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

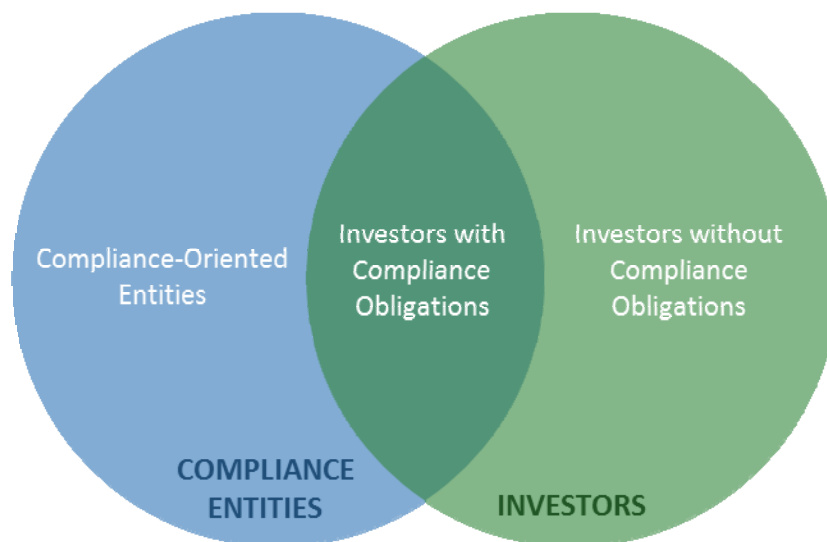


B. SUMMARY OF PURCHASES OF ALLOWANCES IN AUCTION 41

Awards were distributed across 38 bidders with six bidders purchasing one million tons or more and 14 bidders purchasing 200,000 tons or more.

This report summarizes participation in Auction 41. 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 41, Compliance Entities purchased 61 percent of the allowances sold. In the first 41 RGGI auctions, Compliance Entities purchased 74 percent of the allowances sold. In Auction 41, Compliance-Oriented Entities purchased 61 percent of the allowances sold.

After settlement of allowances sold in Auction 41:

- Forty percent of the allowances in circulation will be held by Compliance-Oriented Entities.
- Forty-seven 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.

Table 1: Quantity of Allowances Awarded by Bidder

| Bidder | Number of Allowances Awarded |
|---------------|-------------------------------------|
| Bidder 1 | 2,000,000 |
| Bidder 2 | 1,857,000 |
| Bidder 3 | 1,800,000 |
| Bidder 4 | 1,345,107 |
| Bidder 5 | 1,314,000 |
| Bidder 6 | 1,310,000 |
| Bidder 7 | 800,000 |
| Bidder 8 | 600,000 |
| Bidder 9 | 500,000 |
| Bidder 10 | 250,000 |
| Bidder 11 | 250,000 |
| Bidder 12 | 250,000 |
| Bidder 13 | 200,000 |
| Bidder 14 | 200,000 |
| Bidder 15 | 100,000 |
| Bidder 16 | 100,000 |
| Bidder 17 | 100,000 |
| Bidder 18 | 85,000 |
| Bidder 19 | 76,000 |
| Bidder 20 | 75,000 |
| Bidder 21 | 74,000 |
| Bidder 22 | 55,000 |
| Bidder 23 | 50,000 |
| Bidder 24 | 35,000 |
| Bidder 25 | 30,000 |
| Bidder 26 | 26,000 |
| Bidder 27 | 23,000 |
| Bidder 28 | 15,000 |
| Bidder 29 | 15,000 |
| Bidder 30 | 15,000 |
| Bidder 31 | 15,000 |
| Bidder 32 | 8,000 |
| Bidder 33 | 5,000 |
| Bidder 34 | 4,000 |
| Bidder 35 | 4,000 |
| Bidder 36 | 2,000 |
| Bidder 37 | 1,000 |
| Bidder 38 | 1,000 |

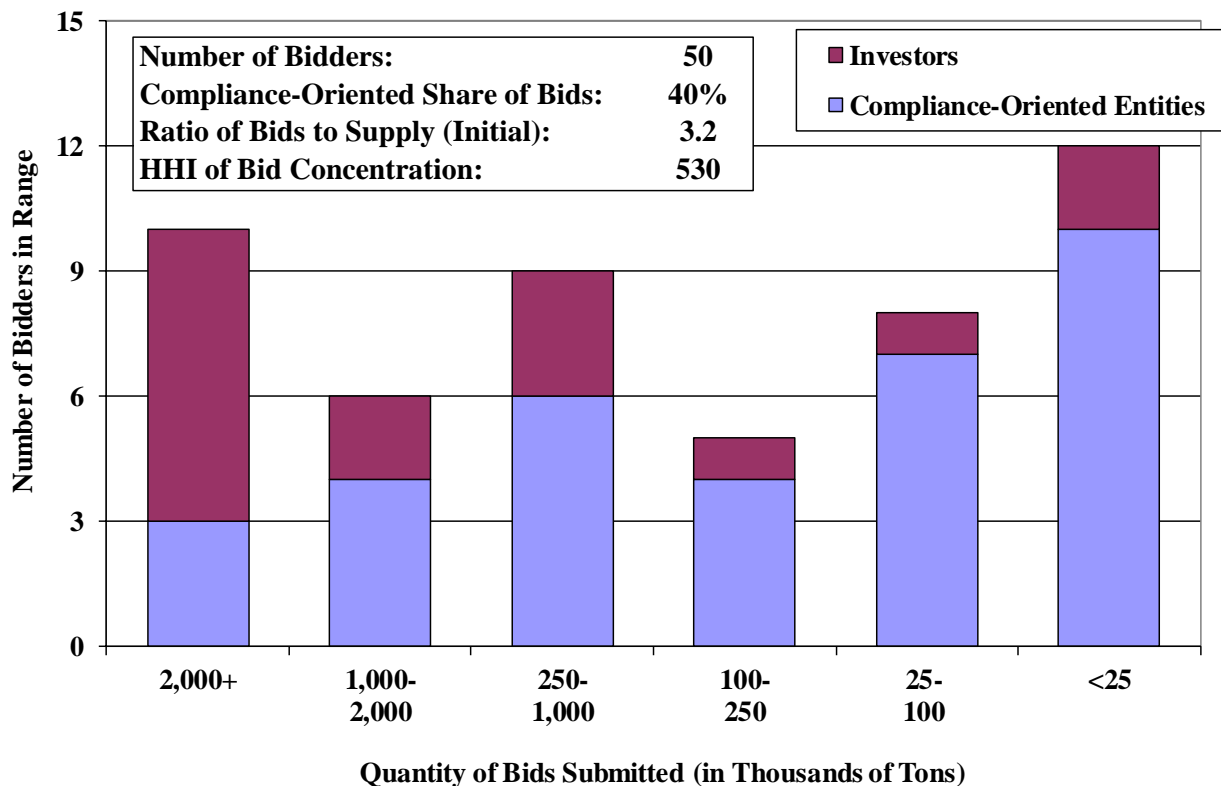
C. DISPERSION OF BIDS IN AUCTION 41

Bids were submitted by 34 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. Three Compliance-Oriented Entities and seven Investors submitted bids for a large quantity of allowances (i.e., at least 2 million tons). Overall, Compliance-Oriented Entities accounted for 40 percent of the quantity of allowances for which bids were submitted. The quantity of allowances for which bids were submitted was 3.2 times the available supply. In Auction 40, the quantity of allowances for which bids were submitted was 3.1 times the Initial Offering.

The bid quantities were widely distributed among the 50 bidders. The concentration of bids, using the Herfindahl-Hirschman Index (“HHI”), is relatively low at 530, 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 3: Quantity of Bids Submitted by Entity
By Type of Entity and Quantity Bid**



D. SUMMARY OF BID PRICES IN AUCTION 41

Bids were submitted across a wide range of prices in the auction and the clearing price of \$4.50 was relatively consistent with average bid prices submitted.

The following table reports several statistics regarding the bid prices for bids submitted in Auction 41. The median and mean bid prices are weighted by the quantity of each bid.

| | |
|-------------------------|---------------|
| Bid Prices: | |
| Minimum | \$2.20 |
| Maximum | \$6.20 |
| Average (Median) | \$4.40 |
| Average (Mean) | \$4.28 |
| Clearing Price: | \$4.50 |

E. NAMES OF POTENTIAL BIDDERS IN AUCTION 41

In accordance with Sections 2.8 and 3 of the Auction Notice for CO₂ Allowance Auction 41, the Participating States are releasing the names of Potential Bidders in Auction 41. The states defined potential bidders as: “Each Applicant that has been qualified and submitted a complete *Intent to Bid.*” The list of 55 Potential Bidders is as follows:

| | |
|--|---|
| Astoria Energy, LLC | KMC Thermo, LLC |
| Blue Delta Energy, LLC | Koch Supply & Trading, LP |
| BP Products North America Inc. | Luminus Energy Partners Master Fund, Ltd. |
| Brooklyn Navy Yard Cogen Partners, LP | Macquarie Energy, LLC |
| Caithness Long Island, LLC | Mercuria Energy America, Inc. |
| Calpine Energy Services, LP | Morgan Stanley Capital Group, Inc. |
| Carbon Lighthouse Association | National Grid Gen. dba National Grid |
| Consolidated Edison Comp. of NY, Inc. | NextEra Energy Marketing, LLC |
| CPV Maryland, LLC | NRG Power Marketing, LLC |
| CPV Towantic, LLC | Ocean State Power, LLC |
| CPV Valley, LLC | Old Dominion Electric Cooperative |
| Delaware City Refining Company, LLC | Pinelawn Power, LLC |
| Direct Energy Business Marketing, LLC | Power Authority of the State of New York |
| DTE Energy Trading, Inc. | PSEG Energy Resources & Trade, LLC |
| Dynegy Marketing and Trade, LLC | RBC |
| Edgewood Energy, LLC | Roger Caiazza |
| Element Markets, LLC | Selkirk Cogen Partners, LP |
| Equus Power I, LP | Shell Energy North America (US), LP |
| Exelon Generation Company, LLC | Shoreham Energy, LLC |
| Footprint Power Salem Harbor Development, LP | Statkraft US, LLC |
| Helix Ravenswood, LLC | Taunton Municipal Lighting Plant |
| Indeck Energy Serv. of Silver Springs | Tenaska Power Services Co. |
| Indeck-Corinth Limited Partnership | Tenaska, Inc. |
| Indeck-Olean Limited Partnership | Verso Corporation |
| Indeck-Oswego Limited Partnership | Village of Freeport |
| Indeck-Yerkes Limited Partnership | Vitol Inc. |
| Jamestown Board of Public Utilities | Wallingford Energy, LLC |
| Kendall Green Energy, LLC | |