



Friday, September 6, 2019

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CO₂ Allowances Sold for \$5.20 in 45th RGGI Auction

\$68.2 Million Raised for Reinvestment in Third Auction of 2019

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 45th auction of carbon dioxide (CO₂) allowances.

13,116,447 CO₂ allowances were sold at the auction at a clearing price of \$5.20. Bids for the CO₂ allowances ranged from \$2.26 to \$8.00 per allowance. Additional details are available in the [Market Monitor Report for Auction 45](#), which is appended.

The auction generated \$68.2 million for states to reinvest 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 made available for sale if CO₂ allowance prices exceed certain price levels (\$10.51 in 2019).

"The RGGI states are proud to announce the historic milestone of the one billionth CO₂ allowance sold at auction," said Ben Grumbles, Secretary of the Maryland Department of the Environment and Chair of the RGGI, Inc. Board of Directors. "The RGGI states work together as bipartisan partners providing a robust, stable market that has delivered remarkable success over the last decade, and we look forward to continued collaboration for even greater results in the decades to come."

"The RGGI states continue to serve as an example of the environmental and economic benefits that can be gained under a well-functioning regional market," said Katie Dykes, Commissioner of the Connecticut Department of Energy and Environmental Protection and Vice Chair of the RGGI, Inc. Board of Directors. "With one billion allowances now sold at auction, the states remain committed to the reinvestment of proceeds towards advancing the transition to a clean energy system and achieving emissions reductions."

Auction 45 Results At-A-Glance	
Auction Date	September 4, 2019
Allowances Offered for Sale	13,116,447
Allowances Sold	13,116,447
Ratio of Bids to Supply	2.9
Clearing Price	\$5.20
Reserve Price	\$2.26
Proceeds from Auction 45	\$68,205,524.40
Total Cumulative Proceeds (All Auctions)	\$3,285,634,340.15
Number of Bidders in Auction 45	47
Percent of Allowances Purchased by Compliance-Oriented Entities in Auction 45	61%
Percent of Allowances Purchased by Compliance Entities in Auction 45	67%
Percent of Allowances Purchased by Compliance Entities in Auctions 1 - 45	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 2019 RGGI cap is 80.2 million short tons. The RGGI states also include interim adjustments to the RGGI cap to account for banked CO₂ allowances. The 2019 RGGI adjusted cap is 58.3 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 the Regional Greenhouse Gas Initiative, Inc.

The 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 45**

Prepared for:

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

Prepared By:

**POTOMAC
ECONOMICS**

September 6, 2019

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 New England 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 45

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 allowance auctions by Enel X. This report summarizes our findings regarding RGGI Auction 45, which was held on September 4, 2019.

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-seven bidders participated in the offering of CO₂ allowances. Bids were submitted to purchase 2.9 times the available supply of allowances, resulting in a clearing price of \$5.20 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 45 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.

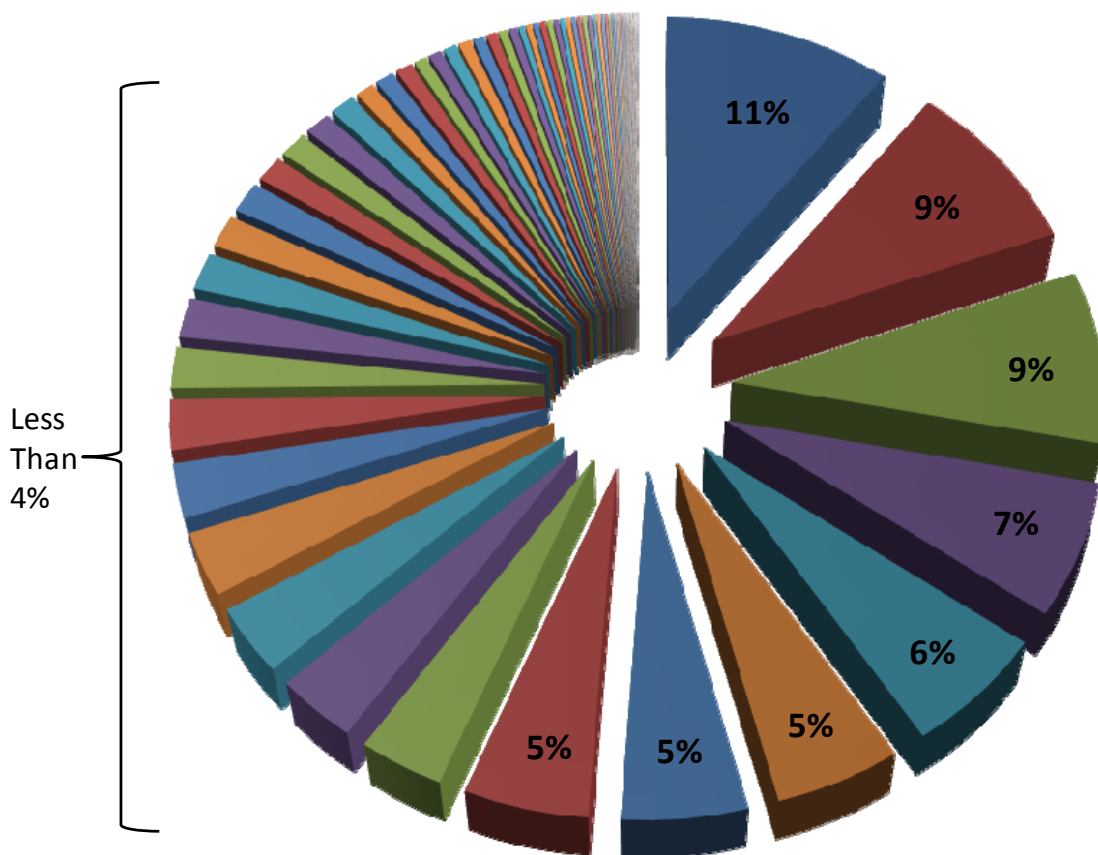
APPENDIX

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. The largest compliance entity represents only 11 percent of the total projected demand for allowances. Nearly half of the projected demand is composed of entities that each account for less than 4 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

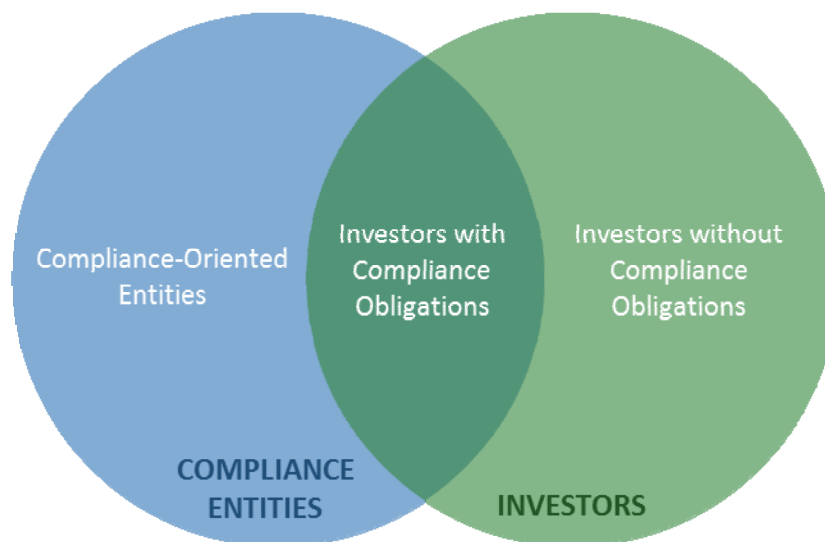


B. SUMMARY OF PURCHASES OF ALLOWANCES IN AUCTION 45

Awards were distributed across 41 bidders with two bidders purchasing one million tons or more and 18 bidders purchasing 200,000 tons or more.

This report summarizes participation in Auction 45. 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 2026, (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.

- *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 obligations² and their affiliates.³ 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 45, Compliance Entities purchased 67 percent of the allowances sold. In the first 45 RGGI auctions, Compliance Entities purchased 74 percent of the allowances sold. In Auction 45, Compliance-Oriented Entities purchased 61 percent of the allowances sold.

After settlement of allowances sold in Auction 45:

- Forty-nine 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.

² Before New Jersey announced on June 17, 2019 that it would resume participation in RGGI beginning in January 2020, firms owning Budget Sources in New Jersey but not in currently Participating States were not treated as compliance entities. However, since the announcement, such firms are treated as compliance entities in our reports.

³ 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	2,050,000
Bidder 2	1,144,000
Bidder 3	950,000
Bidder 4	900,000
Bidder 5	855,000
Bidder 6	766,000
Bidder 7	700,000
Bidder 8	650,000
Bidder 9	575,000
Bidder 10	540,000
Bidder 11	500,000
Bidder 12	500,000
Bidder 13	400,000
Bidder 14	360,000
Bidder 15	351,000
Bidder 16	300,000
Bidder 17	282,000
Bidder 18	200,000
Bidder 19	150,000
Bidder 20	150,000
Bidder 21	100,000
Bidder 22	100,000
Bidder 23	100,000
Bidder 24	75,000
Bidder 25	60,000
Bidder 26	51,000
Bidder 27	49,447
Bidder 28	48,000
Bidder 29	30,000
Bidder 30	28,000
Bidder 31	26,000
Bidder 32	24,000
Bidder 33	24,000
Bidder 34	20,000
Bidder 35	14,000
Bidder 36	12,000
Bidder 37	10,000
Bidder 38	10,000
Bidder 39	6,000
Bidder 40	4,000
Bidder 41	2,000
Bidder 42	0
Bidder 43	0
Bidder 44	0
Bidder 45	0
Bidder 46	0
Bidder 47	0

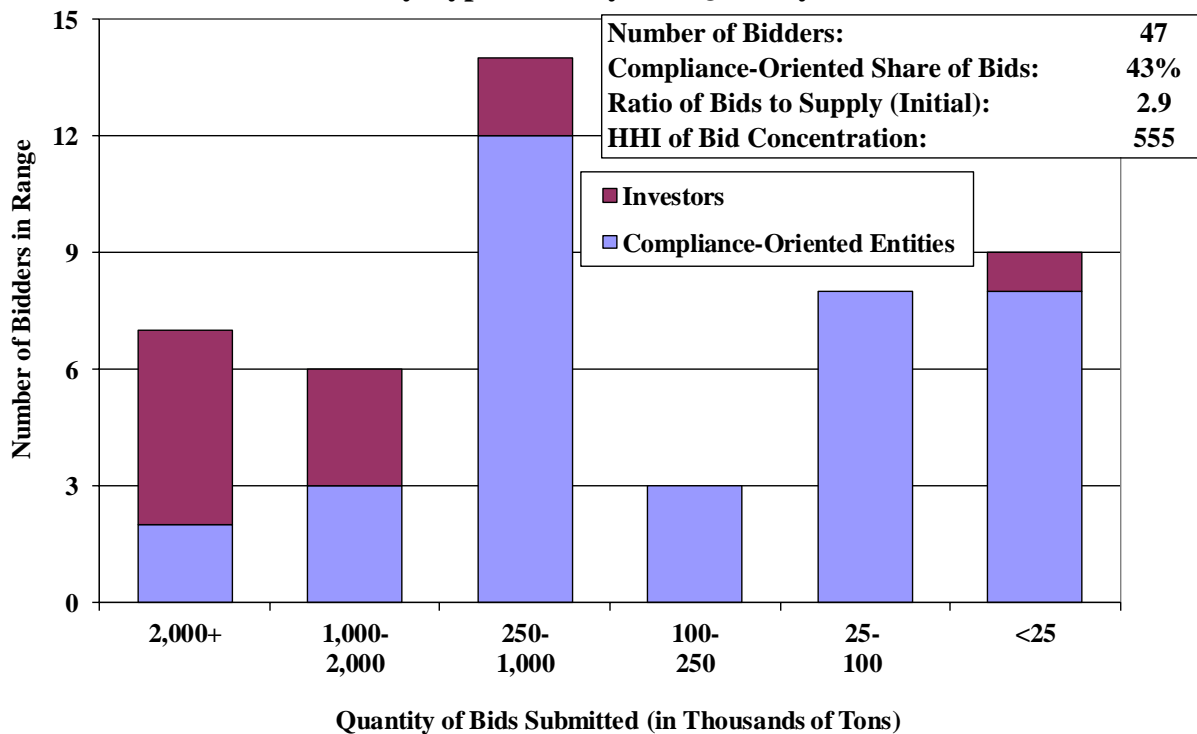
C. DISPERSION OF BIDS IN AUCTION 45

Bids were submitted by 36 Compliance-Oriented Entities and 11 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. Five Compliance-Oriented Entities and eight Investors submitted bids for a large quantity of allowances (i.e., at least 1 million tons). Overall, Compliance-Oriented Entities accounted for 43 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 Initial Offering. In the previous auction, the quantity of allowances for which bids were submitted was 2.8 times the Initial Offering.

The bid quantities were widely distributed among the 47 bidders. The concentration of bids, using the Herfindahl-Hirschman Index (“HHI”), is relatively low at 555, consistent with recent auctions. The HHI is a standard measure of concentration calculated by squaring each entity’s percent 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 45

Bids were submitted across a wide range of prices in the auction and the clearing price of \$5.20 was relatively consistent with average bid prices submitted.

The following table reports several statistics regarding the bid prices for bids submitted in Auction 45. The median and mean bid prices are weighted by the quantity of each bid.

Bid Prices:	
Minimum	\$2.26
Maximum	\$8.00
Average (Median)	\$5.07
Average (Mean)	\$4.87
Clearing Price:	\$5.20

E. NAMES OF POTENTIAL BIDDERS IN AUCTION 45

In accordance with Sections 2.8 and 3 of the Auction Notice for CO₂ Allowance Auction 45, the Participating States are releasing the names of Potential Bidders in Auction 45. The states defined potential bidders as: “Each Applicant that has been qualified and submitted a complete *Intent to Bid.*” The list of 51 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 Shore, LLC	Old Dominion Electric Cooperative
CPV Towantic, LLC	Pinelawn Power, LLC
CPV Valley, LLC	Power Authority of the State of New York
Delaware City Refining Company, LLC	PSEG Energy Resources & Trade, LLC
DTE Energy Trading, Inc.	RBC
Dynegy Marketing and Trade, LLC	Revere Power, LLC
Edgewood Energy, LLC	Rhode Island State Energy Center, LP
Equus Power I, LP	Selkirk Cogen Partners, LP
Exelon Generation Company, LLC	Shell Energy North America (US), LP
Footprint Power Salem Harbor Development, LP	Shoreham Energy, LLC
Gen IV Investment Opportunities, LLC	Taunton Municipal Lighting Plant
Hawkeye Energy Greenport	Tenaska Power Services Co.
Indeck Energy Serv. of Silver Springs	Verso Corporation
Indeck-Corinth Limited Partnership	Victory Renewables, LLC
Indeck-Olean Limited Partnership	Village of Freeport
Jamestown Board of Public Utilities	Wallingford Energy, LLC
Kendall Green Energy, LLC	