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Friday, March 5

CO₂ Allowances Sold for \$7.60 in 51st RGGI Auction

\$178.4 Million Raised for Reinvestment in First Auction of 2021

NEW YORK — The eleven participating states 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 51st auction of carbon dioxide (CO₂) allowances.

23,467,261 CO₂ allowances were sold at the auction at a clearing price of \$7.60. Bids for the CO₂ allowances ranged from \$2.38 to \$12.86 per allowance. Additional details are available in the [Market Monitor Report for Auction 51](#), which is appended.

The auction generated \$178.4 million for states to reinvest in strategic programs, including energy efficiency, renewable energy, direct bill assistance, and GHG abatement programs.

11.98 million cost containment reserve (CCR) allowances were also available for sale. No 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 (\$13.00 in 2021).

In addition, 11.31 million emissions containment reserve (ECR) allowances were available for withholding. The ECR is a designated quantity of allowances to be withheld if auctions clear below an established price level (\$6.00 in 2021). No ECR allowances were withheld in Auction 51.

After finalizing state regulations, Virginia commenced participation in RGGI on January 1, 2021, realizing an eleven-state RGGI.

"The successful completion of 2021's first auction marks RGGI's smooth expansion into an eleven-state initiative," said Martin Suuberg, Commissioner of the Massachusetts Department of Environmental Protection and Chair of the RGGI, Inc. Board of Directors. "The momentum towards continued expansion shows the impact of RGGI states' climate leadership. Over the last decade, the RGGI states have proved that ambitious climate action can result in tangible benefits for communities, with over \$2.5 billion dollars reinvested in households and businesses across participating states."

"RGGI's track record achieving cost-effective carbon emissions reductions continues to attract attention from states invested in real-world climate solutions," said Ben Grumbles, Secretary of the Maryland Department of the Environment and Vice Chair of the RGGI, Inc. Board of Directors. "The RGGI framework shows its effectiveness in securing significant emissions reductions, while strengthening local economies through reinvestment."

"Virginia's participation in RGGI signals our commitment to addressing climate change while creating economic and health benefits for communities across the Commonwealth," said David Paylor, Director of the Virginia Department of Environmental Quality. "Through the work of our agency partners at the Virginia Department of Conservation and Recreation and the Virginia

Department of Housing and Community Development, auction proceeds will protect those most vulnerable to the risks of sea-level rise and flooding, and apply badly needed upgrades to new and existing residential buildings. This funding will help defend Virginia against the risks of climate change and advance an equitable transition to a clean energy future.”

Auction 51 Results At-A-Glance	
Auction Date	March 3, 2021
Allowances Offered for Sale	23,467,261
Allowances Sold	23,467,261
Ratio of Bids to Supply	1.4x
Clearing Price	\$7.60
Reserve Price	\$2.38
Proceeds from Auction 51	\$178,351,183.60
Total Cumulative Proceeds (All Auctions)	\$3,953,834,280.29
Number of Bidders in Auction 51	48
Percent of Allowances Purchased by Compliance-Oriented Entities in Auction 51	42%
Percent of Allowances Purchased by Compliance Entities in Auction 51	44%
Percent of Allowances Purchased by Compliance Entities in Auctions 1 - 51	73%

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 Eastern states participating in the fifth RGGI control period (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont, and Virginia) have implemented the first mandatory market-based regulatory program in the U.S. to reduce greenhouse gas emissions. The 2021 RGGI cap is 119.8 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 fifth control period began on January 1, 2021 and extends through December 31, 2023. 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 51**

Prepared for:

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

Prepared By:

**POTOMAC
ECONOMICS**

March 5, 2021

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 Jersey, New York, Rhode Island, Vermont, and Virginia). 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 Eastern 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 51

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 51, which was held on March 3, 2021.

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-eight bidders participated in the offering of CO₂ allowances. Bids were submitted to purchase 1.4 times the available supply of allowances, resulting in a clearing price of \$7.60 per ton. Compliance-Oriented Entities purchased 42 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 51 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.

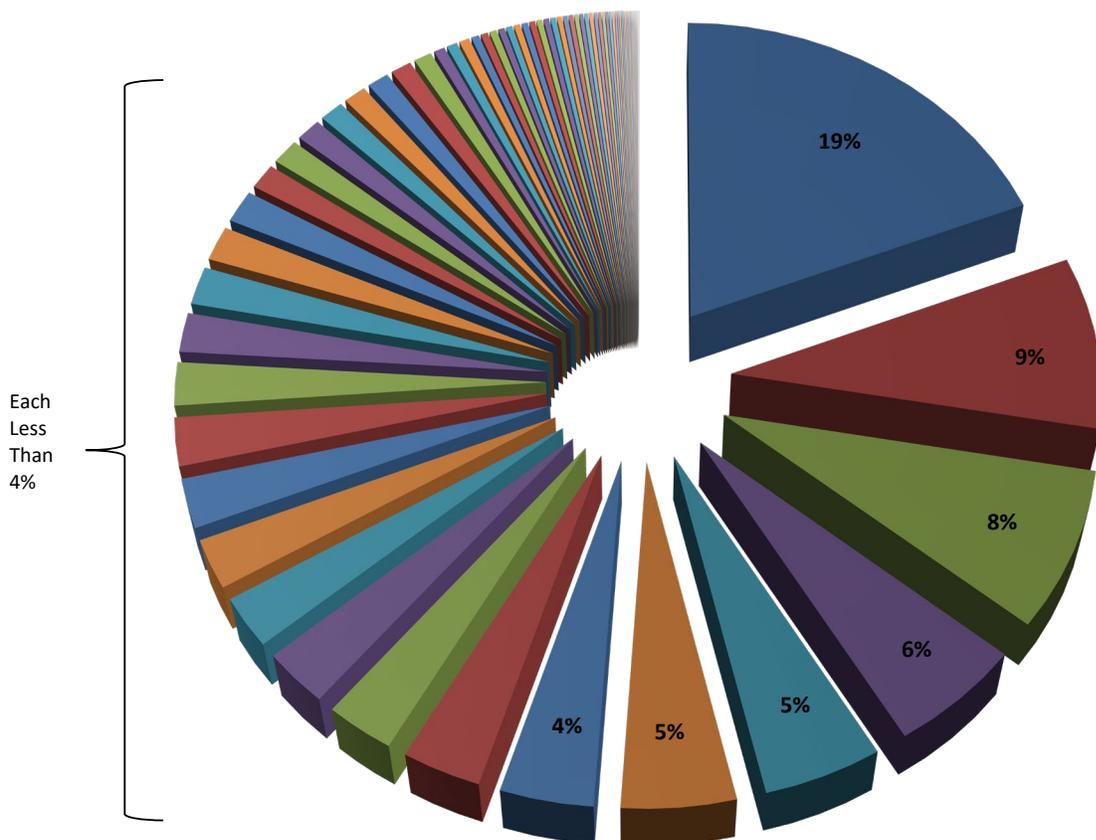
APPENDIX

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 demand for CO₂ allowances is based on the requirement for each compliance entity in the RGGI footprint to obtain one CO₂ allowance for each short ton of CO₂ that it emits from the sale of electricity. The following figure shows the relative shares of projected demand for RGGI allowances by compliance entity in the fifth control period. The largest compliance entity represents 19 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

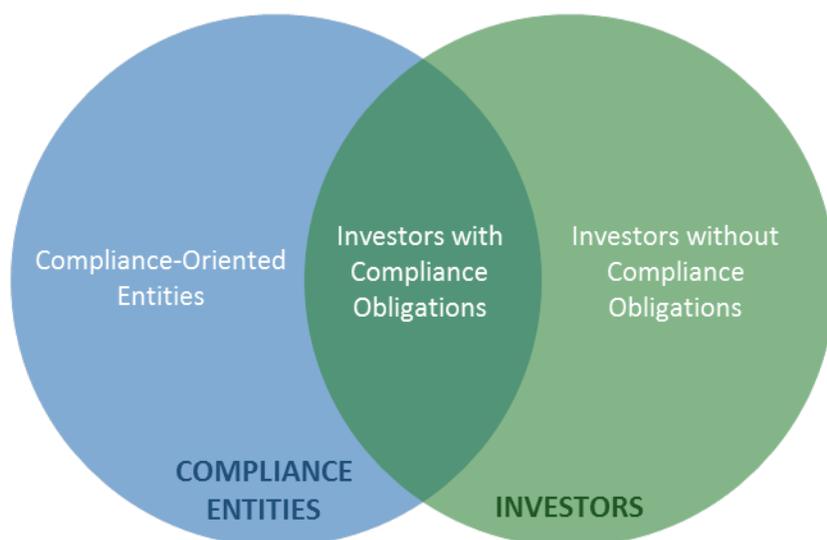


B. SUMMARY OF PURCHASES OF ALLOWANCES IN AUCTION 51

Awards were distributed across 44 bidders with five bidders purchasing one million tons or more and 21 bidders purchasing 200,000 tons or more.

This report summarizes participation in Auction 51. 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 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 51, Compliance Entities purchased 44 percent of the allowances sold. In the first 51 RGGI auctions, Compliance Entities purchased 73 percent of the allowances sold. In Auction 51, Compliance-Oriented Entities purchased 42 percent of the allowances sold.

After settlement of allowances sold in Auction 51:

- Thirty-five percent of the allowances in circulation will be held by Compliance-Oriented Entities.
- Forty-three 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 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	4,750,000
Bidder 2	4,075,000
Bidder 3	4,070,000
Bidder 4	1,182,000
Bidder 5	1,100,000
Bidder 6	833,000
Bidder 7	700,000
Bidder 8	625,000
Bidder 9	625,000
Bidder 10	600,000
Bidder 11	500,000
Bidder 12	500,000
Bidder 13	375,000
Bidder 14	355,000
Bidder 15	341,261
Bidder 16	300,000
Bidder 17	300,000
Bidder 18	300,000
Bidder 19	250,000
Bidder 20	246,000
Bidder 21	240,000
Bidder 22	179,000
Bidder 23	177,000
Bidder 24	150,000
Bidder 25	150,000
Bidder 26	125,000
Bidder 27	100,000
Bidder 28	90,000
Bidder 29	40,000
Bidder 30	39,000
Bidder 31	30,000
Bidder 32	30,000
Bidder 33	25,000
Bidder 34	13,000
Bidder 35	10,000
Bidder 36	10,000
Bidder 37	6,000
Bidder 38	6,000
Bidder 39	5,000
Bidder 40	5,000
Bidder 41	4,000
Bidder 42	2,000
Bidder 43	2,000
Bidder 44	2,000

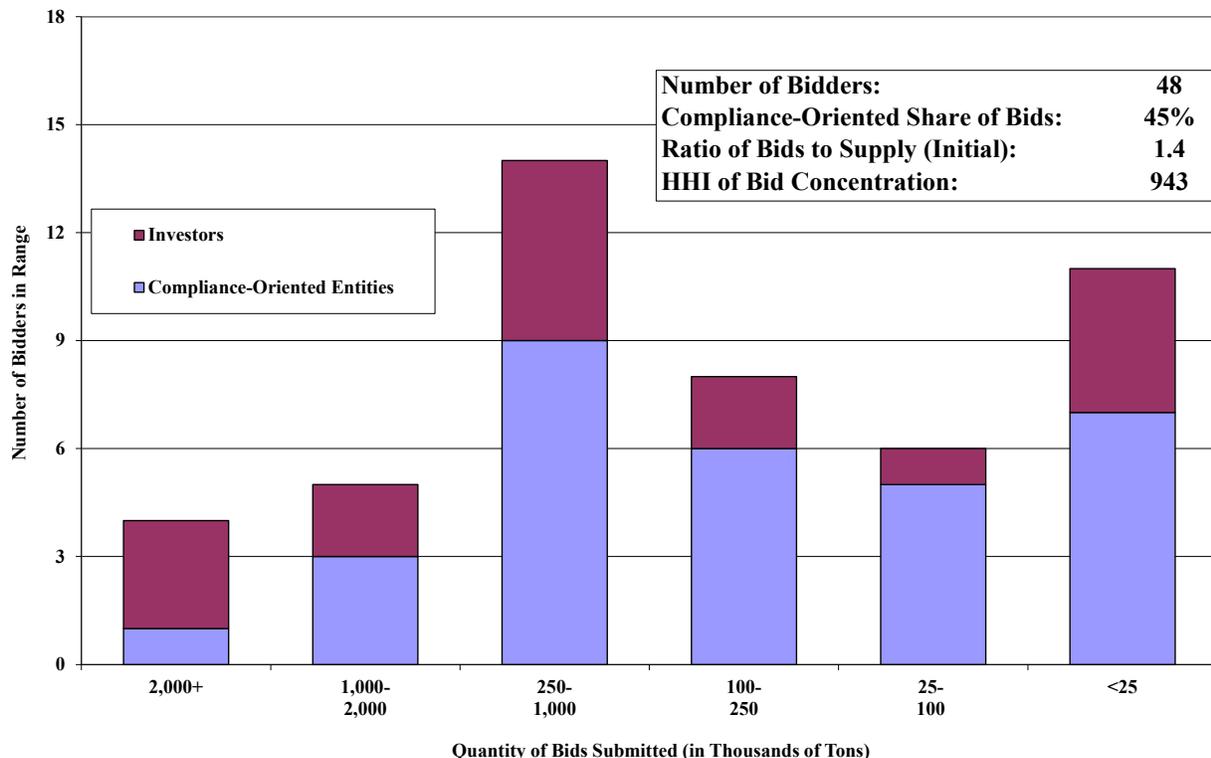
C. DISPERSION OF BIDS IN AUCTION 51

Bids were submitted by 31 Compliance-Oriented Entities and 17 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. Four Compliance-Oriented Entities and five Investors submitted bids for a large quantity of allowances (i.e., at least 1 million tons). Overall, Compliance-Oriented Entities accounted for 45 percent of the quantity of allowances for which bids were submitted. The quantity of allowances for which bids were submitted was 1.4 times the Initial Offering. In the previous auction, the quantity of allowances for which bids were submitted was 2.4 times the Initial Offering.

The bid quantities were widely distributed among the 48 bidders. The concentration of bids, using the Herfindahl-Hirschman Index (“HHI”), was relatively low at 943. 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 51

Bids were submitted across a wide range of prices in the auction and the clearing price of \$7.60 was relatively consistent with average bid prices submitted.

The following table reports several statistics regarding the bid prices for bids submitted in Auction 51. The median and mean bid prices are weighted by the quantity of each bid.

Bid Prices:	
Minimum	\$2.38
Maximum	\$12.86
Average (Median)	\$8.18
Average (Mean)	\$8.12
Clearing Price:	\$7.60

E. NAMES OF POTENTIAL BIDDERS IN AUCTION 51

In accordance with Sections 2.8 and 3 of the Auction Notice for CO₂ Allowance Auction 51, the Participating States are releasing the names of Potential Bidders in Auction 51. The states defined potential bidders as: “Each Applicant that has been qualified and submitted a complete *Intent to Bid.*” The list of 63 Potential Bidders is as follows:

A2E Solutions LLC	KMC Thermo, LLC
Air to Earth LLC	Koch Supply & Trading, LP
Appalachian Power Company	Liquidity Energy
Astoria Energy, LLC	Macquarie Energy, LLC
Blue Delta Energy, LLC	Mercuria Energy America, LLC
Buchanan Generation	Merrill Lynch Commodities, Inc.
Caithness Long Island, LLC	Morgan Stanley Capital Group, Inc.
Calpine Energy Services, LP	National Grid Generation LLC dba National Grid
Carbon Lighthouse Association	Nautilus Power, LLC
City of Vineland	New Athens Generating Company, LLC
Clay Hills Management Ltd.	Newark Energy Center
Consolidated Edison Comp. of NY, Inc.	NextEra Energy Marketing, LLC
Cooler, Inc.	NRG Power Marketing LLC
CPV Maryland, LLC	Old Dominion Electric Cooperative
CPV Shore, LLC	Pinelawn Power, LLC
CPV Towantic, LLC	Pixelle Androscoggin LLC
CPV Valley LLC	Power Authority of the State of New York
Cricket Valley Energy Center, LLC	RBC
Delaware City Refining Company, LLC	Revere Power, LLC
Delaware Municipal Electric Corp.	Rhode Island State Energy Center, LP
DTE Energy Trading, Inc.	Selkirk Cogen Partners, LP
Dynegy Marketing and Trade, LLC	Shell Energy North America (US), LP
Edgewood Energy, LLC	Shoreham Energy, LLC
Empire Generating Co., LLC	Statkraft US, LLC
Equus Power I, LP	Tenaska Power Services Co.
Exelon Generation Company, LLC	Tenaska, Inc.
Footprint Power Salem Harbor Development LP	Trafigura Trading LLC
Hawkeye Energy Greenport	Village of Freeport
Jamestown Board of Public Utilities	Virginia Electric and Power Company
Kcarbon Holdings LLC	Vitol Inc.
Kendall Green Energy LLC	Wallingford Energy, LLC
Kleen Energy Systems, LLC	