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CO₂ Allowances Sold for \$7.97 in 52nd RGGI Auction

\$183.2 Million Raised for Reinvestment in Second 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 52nd auction of carbon dioxide (CO₂) allowances.

22,987,719 CO₂ allowances were sold at the auction at a clearing price of \$7.97. Bids for the CO₂ allowances ranged from \$2.38 to \$12.51 per allowance. Additional details are available in the *Market Monitor Report for Auction 52*, which is appended.

The auction generated \$183,212,120 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. The CCR is a fixed additional supply of allowances that are made available for sale if an auction's interim clearing price exceeds a certain price level (\$13.00 in 2021). None of the CCR allowances were sold in Auction 52.

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 an auction's interim clearing price is below an established price level (\$6.00 in 2021). No ECR allowances were withheld in Auction 52.

"We applaud the completion this week of another successful RGGI auction," said Martin Suuberg, Commissioner of the Massachusetts Department of Environmental Protection and Chair of the RGGI, Inc. Board of Directors. "We are proud of RGGI's long-term stability and success, which exemplify the benefits of continued regional cooperation. The \$183 million in funds raised by the 52nd RGGI auction will allow participating states to invest in their communities and to advance energy efficiency and clean energy goals, while delivering benefits for consumers and public health."

"RGGI continues to be a resounding environmental success story for bipartisan climate action and economic progress," said Ben Grumbles, Secretary of the Maryland Department of the Environment and Vice Chair of the RGGI, Inc. Board of Directors. "RGGI's regional market enables cost-effective emissions reductions, maximizes consumer benefits, and ensures a robust energy supply for the future."

Auction 52 Results At-A-Glance				
Auction Date	June 2, 2021			
Allowances Offered for Sale	22,987,719			
Allowances Sold	22,987,719			
Ratio of Bids to Supply	2.3			
Clearing Price	\$7.97			
Reserve Price	\$2.38			
Proceeds from Auction 52	\$183,212,120.43			
Total Cumulative Proceeds (All Auctions)	\$4,137,046,400.72			
Number of Bidders in Auction 52	65			
Percent of Allowances Purchased by Compliance- Oriented Entities in Auction 52	56%			
Percent of Allowances Purchased by Compliance Entities in Auction 52	65%			
Percent of Allowances Purchased by Compliance Entities in Auctions 1 - 52	73%			

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 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. The RGGI states also include interim adjustments to the RGGI cap to account for banked CO₂ allowances. The 2021 RGGI adjusted cap is 100.7 million short tons.

RGGI is composed of individual CO_2 budget trading programs in each state, based on each state's independent legal authority. A CO_2 allowance represents a limited authorization to emit one short ton of CO_2 , as issued by a respective state. A regulated power plant must provide CO_2 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 <u>www.rggi.org</u>.

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: <u>www.rggi.org/rggi-inc/contact</u>.



MARKET MONITOR REPORT FOR AUCTION 52

Prepared for:

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

Prepared By:



June 4, 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, disclosed, or referred to in this report approaches 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 (CO_2) 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 52

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 52, which was held on June 2, 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.

Sixty-five bidders participated in the offering of CO_2 allowances. Bids were submitted to purchase 2.3 times the available supply of allowances, resulting in a clearing price of \$7.97 per ton. Compliance-Oriented Entities purchased 56 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 52 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 demand for CO_2 allowances is based on the requirement for each compliance entity in the RGGI footprint to obtain one CO_2 allowance for each short ton of CO_2 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. Approximately 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.







B. SUMMARY OF PURCHASES OF ALLOWANCES IN AUCTION 52

Awards were distributed across 62 bidders with five bidders purchasing one million allowances or more and 29 bidders purchasing 200,000 allowances or more.

This report summarizes participation in Auction 52. 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 52, Compliance Entities purchased 65 percent of the allowances sold. In the first 52 RGGI auctions, Compliance Entities purchased 73 percent of the allowances sold. In Auction 52, Compliance-Oriented Entities purchased 56 percent of the allowances sold.

After settlement of allowances sold in Auction 52:

- Thirty-six 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.

Bidder	Number of Allowances Awarded	Bidder	Number of Allowances
Bidder 1	4,125,000	Bidder 32	126,000
Bidder 2	2,000,000	Bidder 33	100,000
Bidder 3	1,570,000	Bidder 34	50,000
Bidder 4	1,400,000	Bidder 35	50,000
Bidder 5	1,200,000	Bidder 36	42,000
Bidder 6	950,000	Bidder 37	31,000
Bidder 7	750,000	Bidder 38	30,000
Bidder 8	750,000	Bidder 39	30,000
Bidder 9	710,000	Bidder 40	26,000
Bidder 10	693,000	Bidder 41	25,000
Bidder 11	600,000	Bidder 42	25,000
Bidder 12	572,000	Bidder 43	25,000
Bidder 13	550,000	Bidder 44	25,000
Bidder 14	550,000	Bidder 45	15,000
Bidder 15	535,000	Bidder 46	15,000
Bidder 16	510,000	Bidder 47	10,000
Bidder 17	500,000	Bidder 48	10,000
Bidder 18	460,719	Bidder 49	10,000
Bidder 19	400,000	Bidder 50	10,000
Bidder 20	400,000	Bidder 51	10,000
Bidder 21	375,000	Bidder 52	8,000
Bidder 22	375,000	Bidder 53	8,000
Bidder 23	357,000	Bidder 54	7,000
Bidder 24	300,000	Bidder 55	6,000
Bidder 25	300,000	Bidder 56	5,000
Bidder 26	297,000	Bidder 57	4,000
Bidder 27	250,000	Bidder 58	3,000
Bidder 28	250,000	Bidder 59	3,000
Bidder 29	200,000	Bidder 60	1,000
Bidder 30	190,000	Bidder 61	1,000
Bidder 31	156,000	Bidder 62	1,000

Table 1: Quantity of Allowances Awarded by Bidder



C. DISPERSION OF BIDS IN AUCTION 52

Bids were submitted by 45 Compliance-Oriented Entities and 20 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 eleven Investors submitted bids for a large quantity of allowances (i.e., at least 1 million allowances). 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 2.3 times the Initial Offering. In the previous auction, the quantity of allowances for which bids were submitted was 1.4 times the Initial Offering.

The bid quantities were widely distributed among the 65 bidders. The concentration of bids, using the Herfindahl-Hirschman Index ("HHI"), was relatively low at 588. 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 52

Bids were submitted across a wide range of prices in the auction and the clearing price of \$7.97 was relatively consistent with average bid prices submitted.

The following table reports several statistics regarding the bid prices for bids submitted in Auction 52. The median and mean bid prices are weighted by the quantity of each bid.

Bid Prices:	
Minimum	\$2.38
Maximum	\$12.51
Average (Median)	\$7.89
Average (Mean)	\$7.72
Clearing Price:	\$7.97



E. NAMES OF POTENTIAL BIDDERS IN AUCTION 52

In accordance with Sections 2.8 and 3 of the Auction Notice for CO₂ Allowance Auction 52, the Participating States are releasing the names of Potential Bidders in Auction 52. The states defined potential bidders as: "Each Applicant that has been qualified and submitted a complete *Intent to Bid.*" The list of 75 Potential Bidders is as follows:

A2E Solutions LLC Air to Earth LLC Appalachian Power Company Astoria Energy, LLC Birchwood Power Partners, L.P Blue Delta Energy, LLC BP Products North America Inc. **Buchanan** Generation Caithness Long Island, LLC Calpine Energy Services, LP Carbon Lighthouse Association Carbon Market Exchange Castleton Commodities Merchant Trading, LP City of Vineland Consolidated Edison Comp. of NY, Inc. Cooler, Inc. CPV Maryland, LLC CPV Shore, LLC CPV Towantic, LLC CPV Valley, LLC Cricket Valley Energy Center, LLC Delaware City Refining Company, LLC Delaware Municipal Electric Corp. Dighton Power, LLC DTE Energy Trading, Inc. Dynegy Marketing and Trade, LLC ECP Capital LP Edgewood Energy, LLC Empire Generating Co., LLC Energy Center Dover Equus Power I, LP Exelon Generation Company, LLC Footprint Power Salem Harbor Development LP Gen IV Investment Opportunities, LLC Hawkeye Energy Greenport Indeck Energy Serv. of Silver Springs Indeck-Corinth Limited Partnership Indeck-Olean Limited Partnership

Indeck-Oswego Limited Partnership Indeck-Yerkes Limited Partnership Jamestown Board of Public Utilities Kcarbon Holdings LLC Kendall Green Energy LLC Kleen Energy Systems, LLC KMC Thermo, LLC Koch Supply & Trading, LP Liquidity Energy Luminus Capital Partners Master Fund LP Macquarie Energy, LLC Manchester Street, L.L.C. Mercuria Energy America, LLC Morgan Stanley Capital Group, Inc. National Grid Generation LLC dba National Grid Nautilus Power, LLC Newark Energy Center NextEra Energy Marketing, LLC **Old Dominion Electric Cooperative** Pinelawn Power, LLC Pixelle Androscoggin LLC Power Authority of the State of New York RBC Revere Power, LLC Rhode Island State Energy Center, LP Selkirk Cogen Partners, LP Shell Energy North America (US), LP Shoreham Energy, LLC Statkraft US, LLC Taunton Municipal Lighting Plant Tenaska Power Services Co. Tenaska, Inc. Trafigura Trading LLC Village of Freeport Virginia Electric and Power Company Vitol Inc. Wallingford Energy, LLC