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CO₂ Allowances Sold for \$13.50 in 55th RGGI Auction

First Auction of 2022 raises \$294 Million for Reinvestment

NEW YORK — The eleven participating states in the Regional Greenhouse Gas Initiative (RGGI), the nation's first market-based regulatory effort to reduce greenhouse gas (GHG) pollution, today announced the results of their 55th auction of carbon dioxide (CO₂) allowances.

21,761,269 CO₂ allowances were sold at the auction at a clearing price of \$13.50. Bids for the CO₂ allowances ranged from \$2.44 to \$30.00 per allowance. Additional details are available in the <u>Market Monitor Report for Auction 55</u>, which is appended.

The auction generated \$294 million for states to reinvest in strategic programs, including energy efficiency, renewable energy, direct bill assistance, and GHG abatement programs.

11.61 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 (\$13.91 in 2022). No CCR allowances were sold in Auction 55.

In addition, 10.96 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 (\$6.42 in 2022). No ECR allowances were withheld in Auction 55.

"The completion of the first RGGI auction of 2022 marks a promising start to an exciting year for the RGGI states," said Katie Dykes, Commissioner of the Connecticut Department of Energy & Environmental Protection and Chair of the RGGI, Inc. Board of Directors. "The RGGI states continue to deliver emissions reductions and economic benefits across the region, while conducting the Third RGGI Program Review to update and improve RGGI design with lessons learned over more than a decade of RGGI operation."

"To date, RGGI auctions have raised nearly \$5 billion in proceeds, which the RGGI states invest in local communities to achieve environmental, economic, and public health goals," said Martin Suuberg, Commissioner of the Massachusetts Department of Environmental Protection and Vice Chair of the RGGI, Inc. Board of Directors. "For more than a decade, RGGI has demonstrated that bipartisan cooperation can drive climate progress and deliver an array of regional benefits."

Auction 55 Results At-A-Glance			
Auction Date	March 9, 2022		
Allowances Initially Offered for Sale	21,761,269		
Total Allowances Sold	21,761,269		
Ratio of Bids to Supply	2.5x		
Clearing Price	\$13.50		
Reserve Price	\$2.44		
Proceeds from Auction 55	\$293,777,131.50		
Total Cumulative Proceeds (All Auctions)	\$4,995,432,766.12		
Number of Bidders in Auction 55	75		
Percent of Allowances Purchased by Compliance- Oriented Entities in Auction 55	72%		
Percent of Allowances Purchased by Compliance Entities in Auction 55	73%		
Percent of Allowances Purchased by Compliance Entities in Auctions 1 - 55	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 2022 RGGI cap is 116.1 million short tons. The RGGI states also include interim adjustments to the RGGI cap to account for banked CO₂ allowances. The 2022 RGGI adjusted cap is 97 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 provide 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.



MARKET MONITOR REPORT FOR AUCTION 55

Prepared for:

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

Prepared By:



March 11, 2022



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 initiative 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 55

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 55, which was held on March 9, 2022.

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.

Seventy-five bidders participated in the auction for CO₂ allowances. Bids were submitted to purchase 2.5 times the initial offering of approximately 21.8 million allowances, resulting in a clearing price of \$13.50 per ton in the auction. The Cost Containment Reserve ("CRR") Trigger Price is \$13.91 per ton for auctions held in 2022, so no CCR allowances were sold in the auction. Compliance-Oriented Entities purchased 72 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 55 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. 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.

Each Less Than 5% 8%

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



B. SUMMARY OF PURCHASES OF ALLOWANCES IN AUCTION 55

Awards were distributed across 59 bidders with five bidders purchasing one million tons or more and 24 bidders purchasing 200,000 tons or more.

This report summarizes participation in Auction 55. 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.

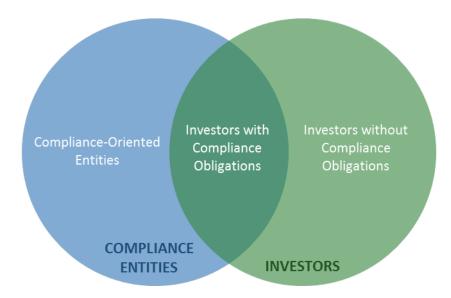


Figure 2: Classifications of Participant Firms in the RGGI Marketplace

- 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

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 55, Compliance Entities purchased 73 percent of the allowances sold. In the first 55 RGGI auctions, Compliance Entities purchased 73 percent of the allowances sold. In Auction 55, Compliance-Oriented Entities purchased 72 percent of the allowances sold.

After settlement of allowances sold in Auction 55:

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

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	Number of Allowances Awarded
Bidder 1	3,775,000	Bidder 39	33,000
Bidder 2	2,248,269	Bidder 40	33,000
Bidder 3	2,000,000	Bidder 41	32,000
Bidder 4	1,360,000	Bidder 42	31,000
Bidder 5	1,020,000	Bidder 43	25,000
Bidder 6	864,000	Bidder 44	25,000
Bidder 7	751,000	Bidder 45	17,000
Bidder 8	750,000	Bidder 46	16,000
Bidder 9	750,000	Bidder 47	15,000
Bidder 10	661,000	Bidder 48	15,000
Bidder 11	650,000	Bidder 49	15,000
Bidder 12	600,000	Bidder 50	15,000
Bidder 13	600,000	Bidder 51	13,000
Bidder 14	600,000	Bidder 52	10,000
Bidder 15	522,000	Bidder 53	8,000
Bidder 16	500,000	Bidder 54	7,000
Bidder 17	500,000	Bidder 55	6,000
Bidder 18	359,000	Bidder 56	3,000
Bidder 19	315,000	Bidder 57	3,000
Bidder 20	270,000	Bidder 58	2,000
Bidder 21	250,000	Bidder 59	1,000
Bidder 22	247,000	Bidder 60	0
Bidder 23	243,000	Bidder 61	0
Bidder 24	200,000	Bidder 62	0
Bidder 25	185,000	Bidder 63	0
Bidder 26	167,000	Bidder 64	0
Bidder 27	155,000	Bidder 65	0
Bidder 28	120,000	Bidder 66	0
Bidder 29	100,000	Bidder 67	0
Bidder 30	100,000	Bidder 68	0
Bidder 31	93,000	Bidder 69	0
Bidder 32	80,000	Bidder 70	0
Bidder 33	80,000	Bidder 71	0
Bidder 34	75,000	Bidder 72	0
Bidder 35	75,000	Bidder 73	0
Bidder 36	70,000	Bidder 74	0
Bidder 37	54,000	Bidder 75	0
Bidder 38	47,000		



C. DISPERSION OF BIDS IN AUCTION 55

Bids were submitted by 52 Compliance-Oriented Entities and 23 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. Seven Compliance-Oriented Entities and twelve Investors submitted bids for a large quantity of allowances (i.e., at least 1 million tons). Overall, Compliance-Oriented Entities accounted for 44 percent of the quantity of allowances for which bids were submitted. The quantity of allowances for which bids were submitted was 2.5 times the Initial Offering. In the previous auction, the quantity of allowances for which bids were submitted was 2.5 times the Initial Offering.

The bid quantities were widely distributed among the 75 bidders. The concentration of bids, using the Herfindahl-Hirschman Index ("HHI"), was relatively low at 484. 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).

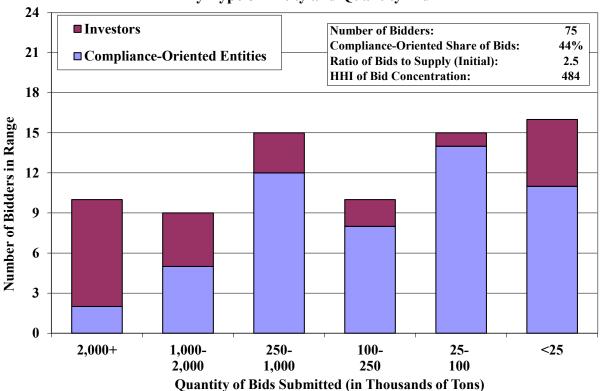


Figure 3: Quantity of Bids Submitted by Entity By Type of Entity and Quantity Bid



D. SUMMARY OF BID PRICES IN AUCTION 55

Bids were submitted across a wide range of prices in the auction and the clearing price of \$13.50 was relatively consistent with average bid prices submitted.

The following table reports several statistics regarding the bid prices for bids submitted in Auction 55. The median and mean bid prices are weighted by the quantity of each bid.

Bid Prices:	
Minimum	\$2.44
Maximum	\$30.00
Average (Median)	\$13.09
Average (Mean)	\$11.77
Clearing Price:	\$13.50



E. NAMES OF POTENTIAL BIDDERS IN AUCTION 55

In accordance with Sections 2.8 and 3 of the Auction Notice for CO₂ Allowance Auction 55, the Participating States are releasing the names of Potential Bidders in Auction 55. The states defined potential bidders as: "Each Applicant that has been qualified and submitted a complete *Intent to Bid.*" The list of 90 Potential Bidders is as follows:

A2E Solutions LLC Indeck-Corinth Limited Partnership
Air to Earth LLC Indeck-Olean Limited Partnership
Appalachian Power Company Indeck-Oswego Limited Partnership
Astoria Energy, LLC Indeck-Yerkes Limited Partnership

Astoria Energy, LLC Indeck-Yerkes Limited Partnership
Bellus Ventures III LP Jamestown Board of Public Utilities
Birchwood Power Partners, L.P Jane Street Global Trading

BP Products North America Inc.

Braintree Electric Light Department

Kendall Green Energy LLC

When a Comment System LLC

Buchanan Generation Kleen Energy Systems, LLC
Caithness Long Island, LLC KMC Thermo, LLC
Calpine Energy Services, LP Koch Supply & Trading, LP
Carbon Lighthouse Association Macquarie Energy, LLC
Carbon Point Partners LP Mercuria Energy America, LLC

Castleton Commodities Merchant Trading, LP Morgan Stanley Capital Group, Inc.
City of Vineland MV Global Carbon Fund LP

Clay Hills Management Ltd. National Grid Generation LLC dba National Grid

Clear Sky Enhanced Inflation Carbon Master Fund LP Nautilus Power, LLC

Cogen Technologies Linden Venture, L.P. New Athens Generating Company, LLC

Coloma Strategies LLC Newark Energy Center
Commonwealth Chesapeake Company, LLC NextEra Energy Marketing, LLC

Consolidated Edison Comp. of NY, Inc.

NRG Power Marketing LLC

Constellation Energy Generation, LLC

Ocean State Power, LLC

Cooler, Inc. Old Dominion Electric Cooperative CPV Maryland, LLC Pegasus Development Corporation

CPV Shore, LLC
CPV Towantic, LLC
CPV Valley, LLC
Pixelle Androscoggin LLC
Potomac Energy Center, LLC

Cricket Valley Energy Center, LLC

Power Authority of the State of New York

Daniel Morton

PSEG Energy Resources & Trade LLC

Delaware City Refining Company, LLC

RBC

RBC

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

EDF Trading North America, LLC

Shoreham Energy, LLC

Edgewood Energy, LLC SRV Associates I LLC EFS Parlin Holdings, LLC Statkraft US, LLC

Elbow River Marketing LTD. Taunton Municipal Lighting Plant Element Markets Emissions, LLC Tenaska, Inc.

Empire Generating Co., LLC Trafigura Trading LLC

Energy Center Dover Victory Renewables, LLC Equus Power I, LP Village of Freeport

Footprint Power Salem Harbor Development LP Virginia Electric and Power Company

Hawkeye Energy Greenport Vitol Inc.

Helix Ravenswood Energy, LLC Wallingford Energy, LLC Indeck Energy Serv. of Silver Springs World Carbon Fund