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CO₂ Allowances Sold for \$4.54 in 33rd RGGI Auction

\$67.7 Million Raised for Reinvestment in Third Auction of 2016

NEW YORK — The nine Northeastern 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 33rd auction of carbon dioxide (CO₂) allowances.

14,911,315 CO₂ allowances were sold at the auction at a clearing price of \$4.54. Bids for the CO₂ allowances ranged from \$2.10 to \$12.65 per allowance. Additional details are available in the *Market Monitor Report for Auction 33*, which is also appended.

The September 7th auction was the third auction of 2016, and generated \$67.7 million for reinvestment in strategic programs, including energy efficiency, renewable energy, direct bill assistance, and GHG abatement programs. Cumulative proceeds from all RGGI CO₂ allowance auctions exceed \$2.58 billion dollars.

10 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 (\$8 in 2016, \$10 in 2017, and rising by 2.5 percent each year thereafter to account for inflation). RGGI program elements, including the CCR cap and trigger price, are potentially subject to amendment as part of the 2016 program review.

"This auction demonstrates RGGI's benefits to each participating state, helping to reduce harmful emissions while generating proceeds for reinvestment. Each RGGI state directs investments according to its individual goals, and this flexibility has been key to the program's success across a diverse region." said Katie Dykes, Deputy Commissioner at the Connecticut Department of Energy and Environmental Protection and Chair of the RGGI, Inc. Board of Directors. "Another key RGGI strength is our commitment to constant improvement, as exemplified in the program review process. The RGGI states are continuing to evaluate program elements and improvements as part of the 2016 Program Review, with the goal of reaching consensus on program revisions that support each state's unique goals and priorities."

"Independent reports have found the reinvestment of RGGI proceeds is creating jobs, reducing consumers' utility bills, and boosting state economies while driving down carbon emissions," said Jared Snyder, Deputy Commissioner at the New York State Department of Environmental Conservation and Vice Chair of the RGGI, Inc. Board of Directors. "Our reinvestment of RGGI proceeds is supporting Governor Cuomo's transformational clean energy and energy efficiency goals to generate 50 percent of New York's energy from renewable sources and reduce carbon emissions 40 percent by 2030, ushering in the low-carbon economy essential to the wellbeing of future generations."

Auction 33 Results At-A-Glance		
Auction Date	Sept. 7, 2016	
Allowances Offered for Sale	14,911,315	
Allowances Sold	14,911,315	
Ratio of Bids to Supply	2.8	
Clearing Price	\$4.54	
Reserve Price	\$2.10	
Proceeds from Auction 33	\$67,697,370.10	
Total Cumulative Proceeds (All Auctions)	\$2,584,979,870.79	
Number of Bidders in Auction 33	41	
Percent of Allowances Purchased by Compliance Entities & their Affiliates in Auction 33	61%	
Percent of Allowances Purchased by Compliance Entities & their Affiliates in Auctions 1-33	77%	
Percent of Allowances Purchased by Compliance- Oriented Entities in Auction 33	42%	

More auction data is also available at: http://www.rggi.org/market/co2 auctions/results.

Market monitor reports are available at: http://www.rggi.org/market/market_monitor

To receive announcements relating to future auctions and other RGGI news, please join the RGGI, Inc. mailing list at http://www.rggi.org/news/mailing_list.

About the Regional Greenhouse Gas Initiative

The Northeast and Mid-Atlantic states participating in the third 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 2016 RGGI cap is 86.5 million short tons. The RGGI cap declines 2.5 percent each year until 2020. The RGGI states also include interim adjustments to the RGGI cap to account for banked CO₂ allowances. The 2016 RGGI adjusted cap is 64.6 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 third control period began on January 1, 2015 and extends through December 31, 2017. 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



MARKET MONITOR REPORT FOR AUCTION 33

Prepared for:

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

Prepared By:



September 9, 2016



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 33

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 33, which was held on September 7, 2016.

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-one bidders participated in the offering of CO₂ allowances. Bids were submitted to purchase 2.8 times the available supply of allowances, resulting in a clearing price of \$4.54 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 33 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 16 percent of the total projected demand for allowances. 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.

Less Than 5%

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



B. SUMMARY OF PURCHASES OF ALLOWANCES IN AUCTION 33

Awards were distributed across 33 bidders with six bidders purchasing one million tons or more and 15 bidders purchasing 300,000 tons or more.

This report summarizes participation for three categories: Compliance Entities and their Affiliates¹; Compliance-Oriented Entities and Other Entities.

- *Compliance-Oriented Entities* Includes compliance entities that appear to acquire and hold allowances primarily to satisfy their compliance obligations.
- Other Entities Includes:
 - ✓ Firms without any compliance obligations, and
 - ✓ Firms that have compliance obligations but which hold a number of allowances that exceeds their estimated compliance obligations by a margin that suggests they are also buying for re-sale or some other investment purpose.²

In Auction 33, Compliance Entities and their Affiliates purchased 61 percent of the allowances sold. In the first 33 RGGI auctions, Compliance Entities and their Affiliates purchased 77 percent of the allowances sold. In Auction 33, Compliance-Oriented Entities purchased 42 percent of the allowances sold.

After settlement of allowances sold in Auction 33:

- Fifty-two percent of the allowances in circulation will be held by Compliance-Oriented Entities.
- Fifty-eight 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 Other Entities for compliance purposes.

In this report, affiliated firms 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.

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 and (b) the total number of allowances in circulation.



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.

Table 1: Quantity of Allowances Awarded by Bidder

Bidder	Number of Allowances Awarded
Bidder 1	2,801,000
Bidder 2	1,964,315
Bidder 3	1,513,000
Bidder 4	1,500,000
Bidder 5	1,000,000
Bidder 6	1,000,000
Bidder 7	675,000
Bidder 8	500,000
Bidder 9	493,000
Bidder 10	461,000
Bidder 11	450,000
Bidder 12	350,000
Bidder 13	350,000
Bidder 14	350,000
Bidder 15	320,000
Bidder 16	250,000
Bidder 17	210,000
Bidder 18	160,000
Bidder 19	103,000
Bidder 20	70,000
Bidder 21	70,000
Bidder 22	62,000
Bidder 23	50,000
Bidder 24	50,000
Bidder 25	50,000
Bidder 26	46,000
Bidder 27	17,000
Bidder 28	14,000
Bidder 29	10,000
Bidder 30	10,000
Bidder 31	6,000 4,000
Bidder 32	4,000 2,000
Bidder 33	4,000



C. DISPERSION OF BIDS IN AUCTION 33

Bids were submitted by 26 Compliance-Oriented Entities and 15 Other Entities. 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. Two Compliance-Oriented Entities and eight Other Entities submitted bids for a large quantity of allowances (i.e., at least 2 million tons). Overall, Compliance-Oriented Entities accounted for 32 percent of the quantity of allowances for which bids were submitted. The quantity of allowances for which bids were submitted was 2.8 times the available supply. In Auction 32, the quantity of allowances for which bids were submitted was 3.1 times the Initial Offering.

The bid quantities were widely distributed among the 41 bidders. The concentration of bids, using the Herfindahl-Hirschman Index ("HHI"), is relatively low at 625, 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).

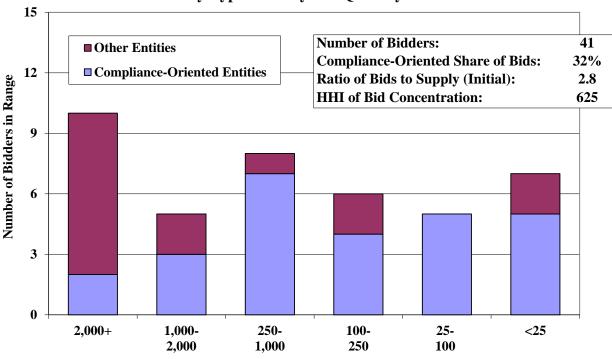


Figure 2: Quantity of Bids Submitted by Entity By Type of Entity and Quantity Bid

Quantity of Bids Submitted (in Thousands of Tons)



D. SUMMARY OF BID PRICES IN AUCTION 33

Bids were submitted across a wide range of prices in the auction and the clearing price of \$4.54 was relatively consistent with average bid prices submitted.

The following table reports several statistics regarding the bid prices for bids submitted in Auction 33. The median and mean bid prices are weighted by the quantity of each bid.

Bid Prices:	
Minimum	\$2.10
Maximum	\$12.65
Average (Median)	\$4.30
Average (Mean)	\$4.10
Clearing Price:	\$4.54



E. NAMES OF POTENTIAL BIDDERS IN AUCTION 33

In accordance with Sections 2.8 and 3 of the Auction Notice for CO₂ Allowance Auction 33, the Participating States are releasing the names of Potential Bidders in Auction 33. The states defined potential bidders as: "Each Applicant that has been qualified and submitted a complete *Intent to Bid.*" The list of 50 Potential Bidders is as follows:

Astoria Energy, LLC

Biourja Nehme Commodities, LLC BP Products North America Inc.

Brooklyn Navy Yard Cogen Partners, LP

Caithness Long Island, LLC Calpine Energy Services, LP Carbon Lighthouse Association

Castleton Commodities Merchant Trading, LP

City of Dover

Consolidated Edison Comp. of NY, Inc. Delaware City Refining Company, LLC

Dominion Energy Marketing, Inc.

DRW Commodities, LLC DTE Energy Trading, Inc. Energie Row, LLC

Exelon Generation Company, LLC GDF SUEZ Energy Marketing NA, Inc.

GenOn Energy Management, LLC Green Olive Holdings, LLC

Hawkeye Energy Greenport

Indeck-Corinth Limited Partnership Indeck-Olean Limited Partnership Indeck-Oswego Limited Partnership Indeck-Yerkes Limited Partnership

Jamestown Board of Public Utilities

J-Power USA Development Co., Ltd.

Kendall Green Energy, LLC

KMC Thermo, LLC

Koch Supply & Trading, LP

Luminus Energy Partners Master Fund, Ltd.

Macquarie Energy, LLC
Maxim Power (USA), Inc.
Mercuria Energy America, Inc.
Morgan Stanley Capital Group, Inc.
National Grid Gen. dba National Grid
NextEra Energy Power Marketing, LLC

NRG Power Marketing, LLC

Old Dominion Electric Cooperative Power Authority of the State of New York PSEG Energy Resources & Trade, LLC Public Service Company of New Hampshire

RBC

Rhode Island State Energy Center, LP

Selkirk Cogen Partners, LP Statkraft Markets GmbH

Taunton Municipal Lighting Plant

Verso Corporation Village of Freeport

Vitol Inc.

Wallingford Energy, LLC