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CO₂ Allowances Sold for \$5.50 in 28th RGGI Auction

\$85 Million Raised for Reinvestment in Strategic Programs

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 28^{th} auction of carbon dioxide (CO₂) allowances. The June 3^{rd} auction was the second auction of 2015.

15,507,571 CO₂ allowances were sold at the auction at a clearing price of \$5.50. Bids for the CO₂ allowances ranged from \$2.05 to \$12.50 per allowance. Additional details are available in the <u>Market Monitor Report for Auction 28</u>, which is also appended.

The auction generated \$85 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 are \$2.1 billion dollars.

10 million cost containment reserve (CCR) allowances were also available for sale, none of which were sold. The CCR is a fixed additional supply of allowances that are only available for sale if CO_2 allowance prices exceed certain price levels (\$6 in 2015, \$8 in 2016, \$10 in 2017, and rising by 2.5 percent each year thereafter to account for inflation). 10 million CCR allowances remain available for sale in 2015.

"The proceeds generated by this auction can be reinvested in programs that benefit energy consumers in the RGGI states," said Katie Dykes, Deputy Commissioner for Energy of the Connecticut Department of Energy and Environmental Protection, and Chair of the RGGI, Inc. Board of Directors. "Past investments of RGGI auction proceeds have saved consumers money on their electric bills while reducing harmful pollution and encouraging clean energy innovation."

"Today's results demonstrate RGGI's success as a market-based program to reduce carbon pollution," said Joe Martens, Commissioner of the New York State Department of Environmental Conservation and Vice-Chair of the RGGI, Inc. Board of Directors. "The program updates implemented in 2014 have strengthened the market, and it continues to function competitively after more than six years of cost-effective operation."

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

Auction 28 Results At-A-Glance		
Auction Date	June 3, 2015	
Allowances Offered for Sale	15,507,571	
Allowances Sold	15,507,571	
Ratio of Bids to Initial Supply	3.1	
Clearing Price	\$5.50	
Reserve Price	\$2.05	
Proceeds from Auction 28	\$85,291,640.50	
Total Cumulative Proceeds (All Auctions)	\$2,102,962,729.25	
Number of Bidders in Auction 28	48	
Percent of Allowances Purchased by Compliance Entities & their Affiliates in Auction 28	68%	
Percent of Allowances Purchased by Compliance Entities & their Affiliates in Auctions 1-28	77%	
Percent of Allowances Purchased by Compliance- Oriented Entities in Auction 28	47%	

Beginning in the <u>Market Monitor Report for Auction 28</u>, the independent market monitor has included information for "compliance-oriented entities." In the market monitor's assessment, compliance-oriented entities are a subcategory of compliance entities whose purchases are primarily for compliance obligations (rather than resale or some other investment purpose).

More data is also available at: <u>http://www.rggi.org/market/co2_auctions/results</u>.

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 2015 RGGI cap is 88.7 million short tons. The RGGI cap then 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 2015 RGGI adjusted cap is 66.8 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 hold CO_2 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: <u>www.rggi.org/rggi</u>.



MARKET MONITOR REPORT FOR AUCTION 28

Prepared for:

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

Prepared By:



June 5, 2015



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 28

As the Market Monitor for the RGGI CO_2 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 World Energy Solutions. This report summarizes our findings regarding RGGI Auction 28, which was held on June 3, 2015.

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 CO_2 allowances. Bids were submitted to purchase 3.1 times the available supply of allowances, resulting in a clearing price of \$5.50 per ton. Compliance-oriented entities purchased 47 percent of the allowances in the offering. There was no indication of barriers to participation in the auction.

An additional ten million CO₂ allowances were available for sale in Auction 28 from the Cost Containment Reserve ("CCR"). Allowances are sold from the CCR when the auction clearing price reaches the level of the CCR Trigger Price. The CCR Trigger Price is \$6.00 per ton in 2015, so none of the CCR allowances were sold in Auction 28. These allowances will be available in the next 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 28 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 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 17 percent of the total projected demand for allowances. Nearly 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.



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



B. SUMMARY OF PURCHASES OF ALLOWANCES IN AUCTION 28

In the offering of allowances for the current control period, awards were distributed across 36 bidders with six bidders purchasing one million tons or more and 12 bidders purchasing 300,000 tons or more.

As in previous post-auction reports, this report summarizes participation by compliance entities and their affiliates.¹ In Auction 28, compliance entities and their affiliates purchased 68 percent of the allowances sold. In the first 28 RGGI auctions, all compliance entities and their affiliates purchased 77 percent of the allowances sold.

Beginning in this post-auction report, we also separately report the share of allowances purchased and other quantities are also reported for:

- *Compliance-Oriented Entities*: This includes most compliance entities and their affiliates. This category excludes 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
- Other Entities: This includes all other entities.

The following statistics summarize the purchases and holdings of allowances by type of participant under the RGGI program:

- In Auction 28, compliance-oriented entities purchased 47 percent of the allowances sold.
- After settlement of allowances sold in Auction 28, 55 percent of the allowances in circulation will be held by firms that are believed to hold them for compliance purposes.³

¹ 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.

² 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.

³ 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 compliance entities. that are not included in the compliance-oriented category.

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.

Bidder	Number of Allowances Awarded
Bidder 1	3,020,000
Bidder 2	1,931,571
Bidder 3	1,500,000
Bidder 4	1,449,000
Bidder 5	1,250,000
Bidder 6	1,200,000
Bidder 7	623,000
Bidder 8	525,000
Bidder 9	450,000
Bidder 10	359,000
Bidder 11	350,000
Bidder 12	325,000
Bidder 13	250,000
Bidder 14	236,000
Bidder 15	215,000
Bidder 16	200,000
Bidder 17	200,000
Bidder 18	187,000
Bidder 19	175,000
Bidder 20	151,000
Bidder 21	135,000
Bidder 22	125,000
Bidder 23	120,000
Bidder 24	100,000
Bidder 25	100,000
Bidder 26	68,000
Bidder 27	60,000
Bidder 28	50,000
Bidder 29	50,000
Bidder 30	30,000
Bidder 31	25,000
Bidder 32	22,000
Bidder 33	10,000
Bidder 34	7,000
Bidder 35	5,000
Bidder 36	4,000

Table 1: Quantity of Allowances Awarded by Bidder



C. DISPERSION OF BIDS IN AUCTION 28

In the offering of allowances for the current control period, bids were submitted by 35 compliance-oriented entities and 13 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 six other entities submitted bids for a large quantity of allowances (i.e., at least 2 million tons). Overall, compliance-oriented entities accounted for 39 percent of the quantity of allowances for which bids were submitted. The quantity of allowances for which bids were submitted was 3.1 times the Initial Offering of 15,507,571 allowances. In Auction 27, the quantity of allowances for which bids were submitted was 2.8 times the Initial Offering of 15,272,670 allowances.

The bid quantities were widely distributed among the 48 bidders. The concentration of bids, using the Herfindahl-Hirschman Index ("HHI"), is relatively low at 528, 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 (hence, 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 **28**

Bids were submitted across a wide range of prices in the auction and the clearing price of \$5.50 was relatively consistent with average bid prices submitted.

The following table reports several statistics regarding the bid prices for bids submitted in Auction 28. The median and mean bid prices are weighted by the quantity of each bid.

Bid Prices:	
Minimum	\$2.05
Maximum	\$12.50
Average (Median)	\$5.38
Average (Mean)	\$4.82
Clearing Price:	\$5.50



E. NAMES OF POTENTIAL BIDDERS IN AUCTION 28

In accordance with Sections 2.8 and 3 of the Auction Notice for CO_2 Allowance Auction 28 on June 3, 2015, the Participating States are releasing the names of Potential Bidders in Auction 28. The states defined potential bidders as: "Each Applicant that has been qualified and submitted a complete *Intent to Bid.*" The list of 53 Potential Bidders is as follows:

Astoria Energy, LLC Brookfield Energy Marketing LP Brooklyn Navy Yard Cogen Partners, LP Caithness Long Island, LLC Calpine Energy Services, LP Castleton Commodities Merchant Trading, LP Castleton Power, LLC CE2 Carbon Capital, LLC City of Dover Consolidated Edison Comp. of NY, Inc. CP Energy Marketing (US) Inc. Delaware City Refining Company, LLC Delaware Municipal Electric Corp. Direct Energy Business Marketing, LLC Dominion Energy Marketing, Inc. DTE Energy Trading, Inc. EDF Trading North America, LLC Element Markets, LLC Entergy Rhode Island State Energy, LP Essential Power, LLC Exelon Generation Company, LLC GDF SUEZ Energy Marketing NA, Inc. GenOn Energy Management, LLC Granite Ridge Energy, LLC 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 Kleen Energy Systems, LLC Koch Supply & Trading, LP Luminus Energy Partners Master Fund, Ltd. Massachusetts Bay Transportation Auth. Maxim Power (USA), Inc. Mercuria Energy America, Inc. Millennium Power Partners, LP Morgan Stanley Capital Group, Inc. National Grid Gen. dba National Grid New Athens Generating Company, LLC 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 Selkirk Cogen Partners, LP TransCanada Power Marketing, Ltd. Upstate New York Power Producers, LLC Verso Corporation Vitol Inc.