Friday, September 10, 2021

CO₂ Allowances Sold for $9.30 in 53rd RGGI Auction

$213 Million Raised for Reinvestment in Third Auction of 2021

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 53rd auction of carbon dioxide (CO₂) allowances.

22,911,423 CO₂ allowances were sold at the auction at a clearing price of $9.30. 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 53, which is appended.

The auction generated $213 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. 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). No CCR allowances were sold in Auction 53.

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 53.

“For more than a decade the RGGI auctions have demonstrated the success of this collaborative, market-based mechanism in achieving economic, environmental, and public health benefits,” said Martin Suuberg, Commissioner of the Massachusetts Department of Environmental Protection and Chair of the RGGI, Inc. Board of Directors. “The completion of the 53rd RGGI auction comes as the states prepare for the Third Program Review, which will build on lessons learned over the years and draw on public input to help further the goals of each RGGI state and deliver greater benefits to communities across the region.”

“Over the years, RGGI auctions have delivered more than $4 billion in proceeds, which the states use to boost clean energy goals, invest in our communities, and deliver benefits directly to consumers,” said Ben Grumbles, Secretary of the Maryland Department of the Environment and Vice Chair of the RGGI, Inc. Board of Directors. “RGGI continues to be a shining example of bipartisan cooperation on climate and clean energy.”
### Auction 53 Results At-A-Glance

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auction Date</td>
<td>September 8, 2021</td>
</tr>
<tr>
<td>Allowances Offered for Sale</td>
<td>22,911,423</td>
</tr>
<tr>
<td>Allowances Sold</td>
<td>22,911,423</td>
</tr>
<tr>
<td>Ratio of Bids to Supply</td>
<td>2.4</td>
</tr>
<tr>
<td>Clearing Price</td>
<td>$9.30</td>
</tr>
<tr>
<td>Reserve Price</td>
<td>$2.38</td>
</tr>
<tr>
<td>Proceeds from Auction 53</td>
<td>$213,076,233.90</td>
</tr>
<tr>
<td>Total Cumulative Proceeds (All Auctions)</td>
<td>$4,350,122,634.62</td>
</tr>
<tr>
<td>Number of Bidders in Auction 53</td>
<td>65</td>
</tr>
<tr>
<td>Percent of Allowances Purchased by Compliance-Oriented Entities in Auction 53</td>
<td>50%</td>
</tr>
<tr>
<td>Percent of Allowances Purchased by Compliance Entities in Auction 53</td>
<td>52%</td>
</tr>
<tr>
<td>Percent of Allowances Purchased by Compliance Entities in Auctions 1 - 53</td>
<td>73%</td>
</tr>
</tbody>
</table>


### 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 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](http://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](http://www.rggi.org/rggi-inc/contact).
MARKET MONITOR REPORT
FOR AUCTION 53

Prepared for:
RGGI, Inc., on behalf of the RGGI Participating States

Prepared By:

September 10, 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 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 53

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 53, which was held on September 8, 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 CO₂ allowances. Bids were submitted to purchase 2.4 times the available supply of allowances, resulting in a clearing price of $9.30 per ton. Compliance-Oriented Entities purchased 50 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 53 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 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 53

Awards were distributed across 46 bidders with seven bidders purchasing one million tons or more and 27 bidders purchasing 200,000 tons or more.

This report summarizes participation in Auction 53. 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 53, Compliance Entities purchased 52 percent of the allowances sold. In the first 53 RGGI auctions, Compliance Entities purchased 73 percent of the allowances sold. In Auction 53, Compliance-Oriented Entities purchased 50 percent of the allowances sold.

After settlement of allowances sold in Auction 53:

  • Forty percent of the allowances in circulation will be held by Compliance-Oriented Entities.
  
  • Forty-six 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.

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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

<table>
<thead>
<tr>
<th>Bidder</th>
<th>Number of Allowances Awarded</th>
<th>Bidder</th>
<th>Number of Allowances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bidder 1</td>
<td>3,750,000</td>
<td>Bidder 34</td>
<td>53,000</td>
</tr>
<tr>
<td>Bidder 2</td>
<td>2,150,000</td>
<td>Bidder 35</td>
<td>50,000</td>
</tr>
<tr>
<td>Bidder 3</td>
<td>2,000,000</td>
<td>Bidder 36</td>
<td>42,000</td>
</tr>
<tr>
<td>Bidder 4</td>
<td>1,913,000</td>
<td>Bidder 37</td>
<td>35,000</td>
</tr>
<tr>
<td>Bidder 5</td>
<td>1,600,000</td>
<td>Bidder 38</td>
<td>31,000</td>
</tr>
<tr>
<td>Bidder 6</td>
<td>1,226,000</td>
<td>Bidder 39</td>
<td>16,000</td>
</tr>
<tr>
<td>Bidder 7</td>
<td>1,000,000</td>
<td>Bidder 40</td>
<td>15,000</td>
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<tr>
<td>Bidder 8</td>
<td>844,000</td>
<td>Bidder 41</td>
<td>10,000</td>
</tr>
<tr>
<td>Bidder 9</td>
<td>750,000</td>
<td>Bidder 42</td>
<td>10,000</td>
</tr>
<tr>
<td>Bidder 10</td>
<td>520,000</td>
<td>Bidder 43</td>
<td>6,000</td>
</tr>
<tr>
<td>Bidder 11</td>
<td>517,000</td>
<td>Bidder 44</td>
<td>5,000</td>
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<td>Bidder 12</td>
<td>500,000</td>
<td>Bidder 45</td>
<td>3,000</td>
</tr>
<tr>
<td>Bidder 13</td>
<td>500,000</td>
<td>Bidder 46</td>
<td>1,000</td>
</tr>
<tr>
<td>Bidder 14</td>
<td>497,423</td>
<td>Bidder 47</td>
<td>0</td>
</tr>
<tr>
<td>Bidder 15</td>
<td>430,000</td>
<td>Bidder 48</td>
<td>0</td>
</tr>
<tr>
<td>Bidder 16</td>
<td>400,000</td>
<td>Bidder 49</td>
<td>0</td>
</tr>
<tr>
<td>Bidder 17</td>
<td>400,000</td>
<td>Bidder 50</td>
<td>0</td>
</tr>
<tr>
<td>Bidder 18</td>
<td>400,000</td>
<td>Bidder 51</td>
<td>0</td>
</tr>
<tr>
<td>Bidder 19</td>
<td>372,000</td>
<td>Bidder 52</td>
<td>0</td>
</tr>
<tr>
<td>Bidder 20</td>
<td>315,000</td>
<td>Bidder 53</td>
<td>0</td>
</tr>
<tr>
<td>Bidder 21</td>
<td>315,000</td>
<td>Bidder 54</td>
<td>0</td>
</tr>
<tr>
<td>Bidder 22</td>
<td>305,000</td>
<td>Bidder 55</td>
<td>0</td>
</tr>
<tr>
<td>Bidder 23</td>
<td>270,000</td>
<td>Bidder 56</td>
<td>0</td>
</tr>
<tr>
<td>Bidder 24</td>
<td>258,000</td>
<td>Bidder 57</td>
<td>0</td>
</tr>
<tr>
<td>Bidder 25</td>
<td>225,000</td>
<td>Bidder 58</td>
<td>0</td>
</tr>
<tr>
<td>Bidder 26</td>
<td>200,000</td>
<td>Bidder 59</td>
<td>0</td>
</tr>
<tr>
<td>Bidder 27</td>
<td>200,000</td>
<td>Bidder 60</td>
<td>0</td>
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<tr>
<td>Bidder 28</td>
<td>180,000</td>
<td>Bidder 61</td>
<td>0</td>
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<tr>
<td>Bidder 29</td>
<td>156,000</td>
<td>Bidder 62</td>
<td>0</td>
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<tr>
<td>Bidder 30</td>
<td>140,000</td>
<td>Bidder 63</td>
<td>0</td>
</tr>
<tr>
<td>Bidder 31</td>
<td>105,000</td>
<td>Bidder 64</td>
<td>0</td>
</tr>
<tr>
<td>Bidder 32</td>
<td>100,000</td>
<td>Bidder 65</td>
<td>0</td>
</tr>
<tr>
<td>Bidder 33</td>
<td>96,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
C. DISPERSION OF BIDS IN AUCTION 53

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. Seven Compliance-Oriented Entities and ten Investors submitted bids for a large quantity of allowances (i.e., at least 1 million). Overall, Compliance-Oriented Entities accounted for 46 percent of the quantity of allowances for which bids were submitted. The quantity of allowances for which bids were submitted was 2.4 times the Initial Offering. In the previous auction, the quantity of allowances for which bids were submitted was 2.3 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 501. 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

<table>
<thead>
<tr>
<th>Number of Bidders:</th>
<th>65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance-Oriented Share of Bids:</td>
<td>46%</td>
</tr>
<tr>
<td>Ratio of Bids to Supply (Initial):</td>
<td>2.4</td>
</tr>
<tr>
<td>HHI of Bid Concentration:</td>
<td>501</td>
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</tbody>
</table>
D. SUMMARY OF BID PRICES IN AUCTION 53

Bids were submitted across a wide range of prices in the auction and the clearing price of $9.30 was relatively consistent with average bid prices submitted.

The following table reports several statistics regarding the bid prices for bids submitted in Auction 53. The median and mean bid prices are weighted by the quantity of each bid.

<table>
<thead>
<tr>
<th>Bid Prices:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>$2.38</td>
</tr>
<tr>
<td>Maximum</td>
<td>$12.51</td>
</tr>
<tr>
<td>Average (Median)</td>
<td>$9.17</td>
</tr>
<tr>
<td>Average (Mean)</td>
<td>$9.08</td>
</tr>
<tr>
<td>Clearing Price:</td>
<td>$9.30</td>
</tr>
</tbody>
</table>
E. NAMES OF POTENTIAL BIDDERS IN AUCTION 53

In accordance with Sections 2.8 and 3 of the Auction Notice for CO₂ Allowance Auction 53, the Participating States are releasing the names of Potential Bidders in Auction 53. The states defined potential bidders as: “Each Applicant that has been qualified and submitted a complete Intent to Bid.” The list of 73 Potential Bidders is as follows:

- A2E Solutions LLC
- Air to Earth LLC
- Appalachian Power Company
- Astoria Energy, LLC
- Bellus Ventures III LP
- Birchwood Power Partners, L.P
- Blue Delta Energy, LLC
- BP Products North America Inc.
- Buchanan Generation
- Caithness Long Island, LLC
- Calpine Energy Services, L.P
- Carbon Lighthouse Association
- Carbon Market Exchange
- Castleton Commodities Merchant Trading, LP
- City of Vineland
- Clear Sky Enhanced Inflation Carbon Master Fund LP
- 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.
- DTE Energy Trading, Inc.
- Dynegy Marketing and Trade, LLC
- Edgewood Energy, LLC
- Elbow River Marketing LTD.
- Element Markets Emissions, LLC
- Empire Generating Co., LLC
- Equus Power I, LP
- Exelon Generation Company, LLC
- Footprint Power Salem Harbor Development LP
- Hawkeye Energy Greenport
- Indeck-Corinth 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
- 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
- Panda Stonewall LLC
- Pinelawn Power, LLC
- Pixelle Androscoggin LLC
- Power Authority of the State of New York
- RBC
- Revere Power, LLC
- Rhode Island State Energy Center, LP
- Robert Farrell
- Robert Fox
- 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.
- Trafalgar Trading LLC
- Village of Freeport
- Virginia Electric and Power Company
- Vitol Inc.
- Wallingford Energy, LLC