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Friday, December 3, 2021

## **CO<sub>2</sub> Allowances Sold for \$13.00 in 54<sup>th</sup> RGGI Auction**

*\$351 Million Raised for Reinvestment in Final 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 54<sup>th</sup> auction of carbon dioxide (CO<sub>2</sub>) allowances.

27,041,000 CO<sub>2</sub> allowances were sold at the auction at a clearing price of \$13.00. This includes an initial offering of 23,121,518 allowances, and 3,919,482 CCR allowances. Bids for the CO<sub>2</sub> allowances ranged from \$2.38 to \$17.00 per allowance. Additional details are available in the [Market Monitor Report for Auction 54](#), which is appended.

The auction generated \$351 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). 3,919,482 CCR allowances were sold in Auction 54.

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 54.

"The 54th RGGI auction marks another successful year of RGGI operations, and over \$4.7 billion raised to date for the RGGI states to invest in clean energy, energy efficiency, and direct consumer benefits," said Martin Suuberg, Commissioner of the Massachusetts Department of Environmental Protection and Chair of the RGGI, Inc. Board of Directors. "With the Third RGGI Program Review now underway, we are looking forward in 2022 to a year of engagement and improvement for RGGI design and operations."

"Our 54th auction shows RGGI continues to deliver strong economic, environmental, and public health benefits to the region," said Ben Grumbles, Secretary of the Maryland Department of the Environment and Vice Chair of the RGGI, Inc. Board of Directors. "RGGI states are also showing the world that bipartisan collaboration matters, and well-run carbon markets can boost our climate progress."

| Auction 54 Results At-A-Glance  |                    |
|---|--------------------|
| Auction Date  | December 1, 2021   |
| Allowances Initially Offered for Sale   | 23,121,518         |
| CCR Allowances Available  | 11,976,778         |
| CCR Allowances Sold   | 3,919,482          |
| Total Allowances Sold   | 27,041,000         |
| Ratio of Bids to Initial Supply   | 2.5x               |
| Clearing Price  | \$13.00            |
| Reserve Price   | \$2.38             |
| Proceeds from Auction 54  | \$351,533,000      |
| Total Cumulative Proceeds (All Auctions)                                      | \$4,701,655,634.62 |
| Number of Bidders in Auction 54   | 67                 |
| Percent of Allowances Purchased by Compliance-Oriented Entities in Auction 54 | 67%                |
| Percent of Allowances Purchased by Compliance Entities in Auction 54          | 68%                |
| Percent of Allowances Purchased by Compliance Entities in Auctions 1 - 54     | 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 2021 RGGI cap is 119.8 million short tons. The RGGI states also include interim adjustments to the RGGI cap to account for banked CO<sub>2</sub> allowances. The 2021 RGGI adjusted cap is 100.7 million short tons.

RGGI is composed of individual CO<sub>2</sub> budget trading programs in each state, based on each state's independent legal authority. A CO<sub>2</sub> allowance represents a limited authorization to emit one short ton of CO<sub>2</sub>, as issued by a respective state. A regulated power plant must provide CO<sub>2</sub> 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).

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**RGGI Inc.**



**MARKET MONITOR REPORT  
FOR AUCTION 54**

**Prepared for:**

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

**Prepared By:**

**POTOMAC  
ECONOMICS**

December 3, 2021

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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 (CO<sub>2</sub>) 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 54**

As the Market Monitor for the RGGI CO<sub>2</sub> 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 54, which was held on December 1, 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-seven bidders participated in the auction for CO<sub>2</sub> allowances. Bids were submitted to purchase 2.5 times the initial offering of approximately 23.1 million allowances. However, the quantity for which bids were submitted above \$13.00 per ton exceeded the initial offering, so the Cost Containment Reserve (“CRR”) was made available at the CCR Trigger Price of \$13.00 per ton. Over 3.9 million additional allowances were sold, resulting in partial depletion of the CCR for 2021 and a clearing price of \$13.00 per ton in the auction. Compliance-Oriented Entities purchased 67 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 54 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<sub>2</sub> allowances and outcomes of the auction.

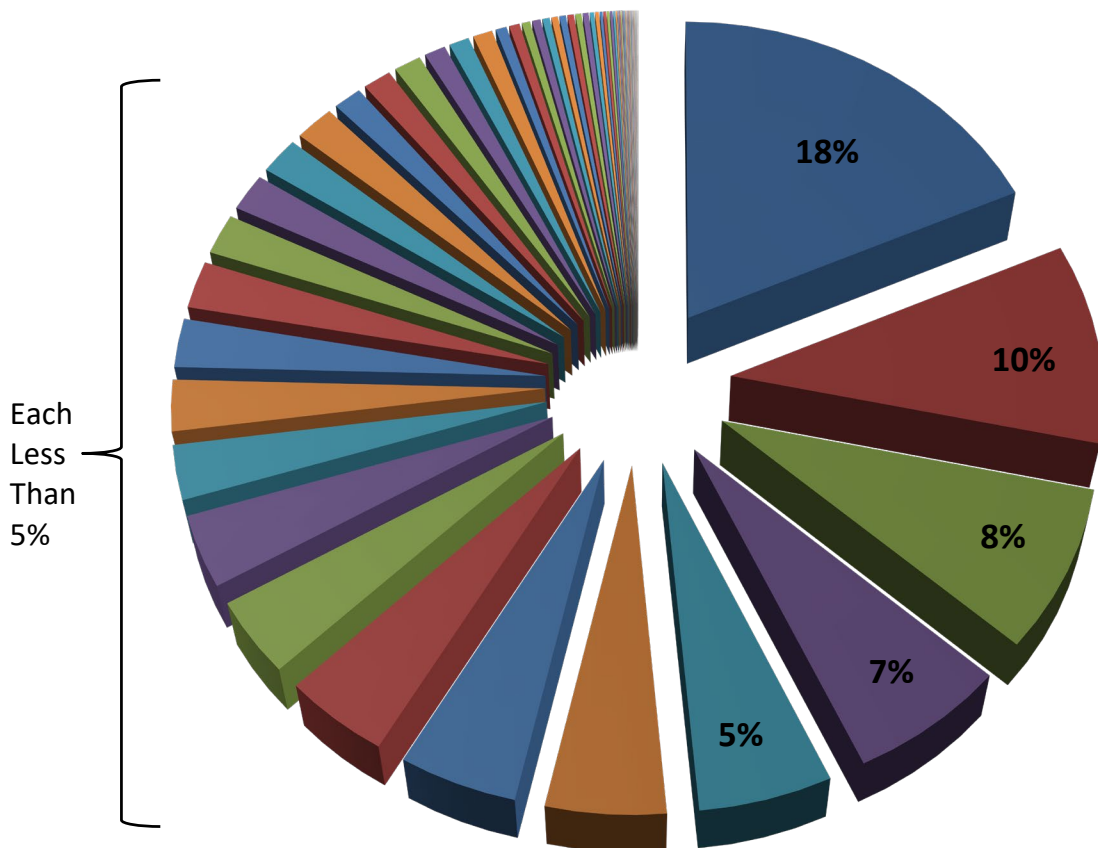
APPENDIX

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<sub>2</sub> allowances is based on the requirement for each compliance entity in the RGGI footprint to obtain one CO<sub>2</sub> allowance for each short ton of CO<sub>2</sub> 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 18 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.

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

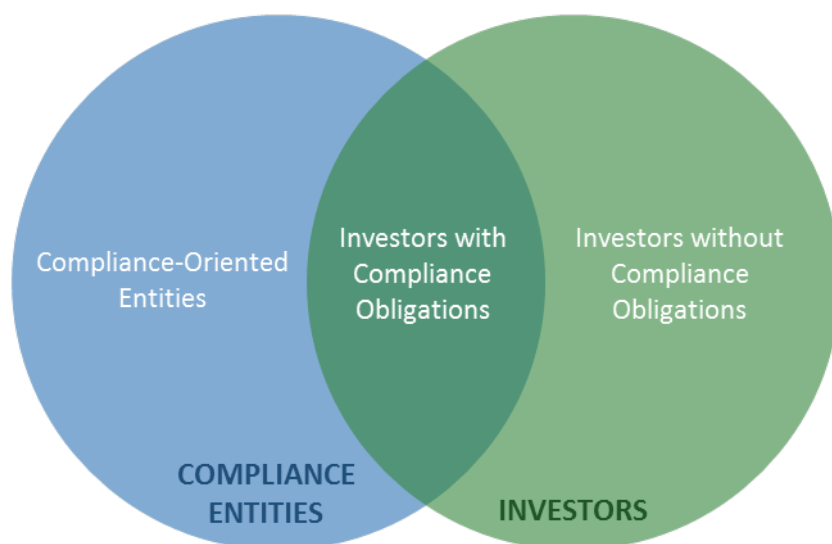


## B. SUMMARY OF PURCHASES OF ALLOWANCES IN AUCTION 54

*Awards were distributed across 53 bidders with five bidders purchasing one million tons or more and 28 bidders purchasing 200,000 tons or more.*

This report summarizes participation in Auction 54. 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.<sup>1</sup>

<sup>1</sup> 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.<sup>2</sup> 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 54, Compliance Entities purchased 68 percent of the allowances sold. In the first 54 RGGI auctions, Compliance Entities purchased 73 percent of the allowances sold. In Auction 54, Compliance-Oriented Entities purchased 67 percent of the allowances sold.

After settlement of allowances sold in Auction 54:

- Forty-five percent of the allowances in circulation will be held by Compliance-Oriented Entities.
- Fifty 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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<sup>2</sup> 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**

| <b>Bidder</b> | <b>Number of Allowances Awarded</b> | <b>Bidder</b> | <b>Number of Allowances</b> |
|---------------|-------------------------------------|---------------|-----------------------------|
| Bidder 1      | 5,780,000                           | Bidder 35     | 88,000                      |
| Bidder 2      | 4,869,000                           | Bidder 36     | 85,000                      |
| Bidder 3      | 3,450,000                           | Bidder 37     | 75,000                      |
| Bidder 4      | 1,212,000                           | Bidder 38     | 75,000                      |
| Bidder 5      | 1,120,000                           | Bidder 39     | 69,000                      |
| Bidder 6      | 764,000                             | Bidder 40     | 61,000                      |
| Bidder 7      | 750,000                             | Bidder 41     | 33,000                      |
| Bidder 8      | 750,000                             | Bidder 42     | 32,000                      |
| Bidder 9      | 720,000                             | Bidder 43     | 31,000                      |
| Bidder 10     | 613,000                             | Bidder 44     | 28,000                      |
| Bidder 11     | 595,000                             | Bidder 45     | 25,000                      |
| Bidder 12     | 500,000                             | Bidder 46     | 25,000                      |
| Bidder 13     | 397,000                             | Bidder 47     | 20,000                      |
| Bidder 14     | 360,000                             | Bidder 48     | 19,000                      |
| Bidder 15     | 322,000                             | Bidder 49     | 15,000                      |
| Bidder 16     | 322,000                             | Bidder 50     | 14,000                      |
| Bidder 17     | 300,000                             | Bidder 51     | 13,000                      |
| Bidder 18     | 300,000                             | Bidder 52     | 10,000                      |
| Bidder 19     | 300,000                             | Bidder 53     | 10,000                      |
| Bidder 20     | 275,000                             | Bidder 54     | 0                           |
| Bidder 21     | 270,000                             | Bidder 55     | 0                           |
| Bidder 22     | 250,000                             | Bidder 56     | 0                           |
| Bidder 23     | 250,000                             | Bidder 57     | 0                           |
| Bidder 24     | 250,000                             | Bidder 58     | 0                           |
| Bidder 25     | 200,000                             | Bidder 59     | 0                           |
| Bidder 26     | 200,000                             | Bidder 60     | 0                           |
| Bidder 27     | 200,000                             | Bidder 61     | 0                           |
| Bidder 28     | 200,000                             | Bidder 62     | 0                           |
| Bidder 29     | 160,000                             | Bidder 63     | 0                           |
| Bidder 30     | 160,000                             | Bidder 64     | 0                           |
| Bidder 31     | 150,000                             | Bidder 65     | 0                           |
| Bidder 32     | 128,000                             | Bidder 66     | 0                           |
| Bidder 33     | 100,000                             | Bidder 67     | 0                           |
| Bidder 34     | 96,000                              |               |                             |

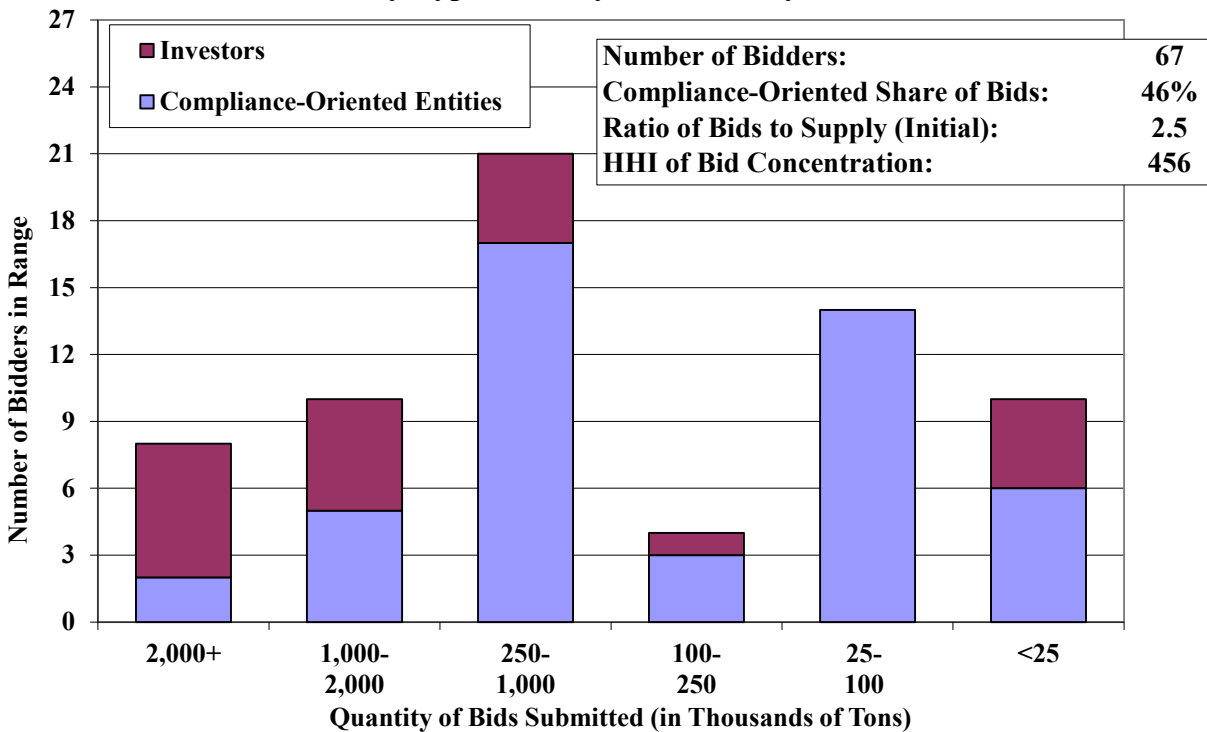
**C. DISPERSION OF BIDS IN AUCTION 54**

*Bids were submitted by 47 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 eleven Investors submitted bids for a large quantity of allowances (i.e., at least 1 million tons). 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 2.5 times the Initial Offering. In the previous auction, the quantity of allowances for which bids were submitted was 2.4 times the Initial Offering.

The bid quantities were widely distributed among the 67 bidders. The concentration of bids, using the Herfindahl-Hirschman Index (“HHI”), was relatively low at 456. 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 54**

*Bids were submitted across a wide range of prices in the auction and the clearing price of \$13.00 was relatively consistent with average bid prices submitted.*

The following table reports several statistics regarding the bid prices for bids submitted in Auction 54. The median and mean bid prices are weighted by the quantity of each bid.

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|                         |                |
|-------------------------|----------------|
| <b>Bid Prices:</b>      |                |
| <b>Minimum</b>          | <b>\$2.38</b>  |
| <b>Maximum</b>          | <b>\$17.00</b> |
| <b>Average (Median)</b> | <b>\$12.91</b> |
| <b>Average (Mean)</b>   | <b>\$12.47</b> |
| <b>Clearing Price:</b>  | <b>\$13.00</b> |

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**E. NAMES OF POTENTIAL BIDDERS IN AUCTION 53**

In accordance with Sections 2.8 and 3 of the Auction Notice for CO<sub>2</sub> Allowance Auction 54, the Participating States are releasing the names of Potential Bidders in Auction 54. The states defined potential bidders as: “Each Applicant that has been qualified and submitted a complete *Intent to Bid.*” The list of 79 Potential Bidders is as follows:

|  |  |
|--|--|
| A2E Solutions LLC                                  | Indeck-Olean Limited Partnership               |
| Air to Earth LLC                                   | Jamestown Board of Public Utilities            |
| Appalachian Power Company                          | Kcarbon Holdings LLC                           |
| Astoria Energy, LLC                                | Kendall Green Energy LLC                       |
| Bellus Ventures III LP                             | Kleen Energy Systems, LLC                      |
| Birchwood Power Partners, L.P                      | KMC Thermo, LLC                                |
| BP Products North America Inc.                     | Koch Supply & Trading, LP                      |
| Braintree Electric Light Department                | Liquidity Energy                               |
| Buchanan Generation                                | Macquarie Energy, LLC                          |
| Caithness Long Island, LLC                         | Manchester Street, L.L.C.                      |
| Calpine Energy Services, LP                        | Massachusetts Muni. Wholesale Elec. Co.        |
| Carbon Lighthouse Association                      | Mercuria Energy America, LLC                   |
| Carbon Market Exchange                             | 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                            |
| Coloma Strategies LLC                              | New Athens Generating Company, LLC             |
| Commonwealth Chesapeake Company, LLC               | Newark Energy Center                           |
| Consolidated Edison Comp. of NY, Inc.              | NextEra Energy Marketing, LLC                  |
| Cooler, Inc.                                       | Ocean State Power, LLC                         |
| CPV Maryland, LLC                                  | Old Dominion Electric Cooperative              |
| CPV Shore, LLC                                     | Pegasus Development Corporation                |
| CPV Towantic, LLC                                  | Pinelawn Power, LLC                            |
| CPV Valley, LLC                                    | Pixelle Androscoggin LLC                       |
| Cricket Valley Energy Center, LLC                  | Power Authority of the State of New York       |
| Delaware City Refining Company, LLC                | PSEG Energy Resources & Trade LLC              |
| Dighton Power, LLC                                 | RBC  |
| DTE Energy Trading, Inc.                           | Rhode Island State Energy Center, LP           |
| Dynegy Marketing and Trade, LLC                    | Selkirk Cogen Partners, LP                     |
| Edgewood Energy, LLC                               | Shell Energy North America (US), LP            |
| Elbow River Marketing LTD.                         | Shoreham Energy, LLC                           |
| Element Markets Emissions, LLC                     | Statkraft US, LLC                              |
| Empire Generating Co., LLC                         | Tenaska Power Services Co.                     |
| Energy Center Dover                                | Tenaska, Inc.                                  |
| Equus Power I, LP                                  | Trafigura Trading LLC                          |
| Exelon Generation Company, LLC                     | Village of Freeport                            |
| Footprint Power Salem Harbor Development LP        | Virginia Electric and Power Company            |
| Helix Ravenswood Energy, LLC                       | Vitol Inc.                                     |
| Indeck Energy Serv. of Silver Springs              | Wallingford Energy, LLC                        |
| Indeck-Corinth Limited Partnership                 |  |