

**California Cap-and-Trade Program and
Québec Cap-and-Trade System
August 2016 Joint Auction #8**

Summary Results Report

Background

The California Air Resources Board (ARB) and Québec's ministère du Développement durable, de l'Environnement et de la Lutte contre les changements climatiques (MDDELCC)¹ held the eighth joint auction of greenhouse gas (GHG) allowances on August 16, 2016. The auction included a Current Auction of 2016 vintage allowances and an Advance Auction of 2019 vintage allowances. The information provided in this report is a balance between the need for program transparency and protection of individual auction participants' market positions.

Prior to the certification of the auction, ARB and MDDELCC staff and the Market Monitor carefully evaluated the bids and determined that the auction process and procedures complied with the requirements of the California and Québec Cap-and-Trade Regulations. As provided below, the Market Monitor made the following determination:

The Market Monitor found that the auction was cleared consistent with the auction clearing rules in the regulations and appropriate economic logic. The Market Monitor confirmed the clearing price and clearing quantities by participant for the current vintage auction for 2016 vintage allowances and for the advanced auction for 2019 vintage allowances. The auction algorithm correctly applied the regulation requirements covering the bid guarantee. The Market Monitor did not observe any breaches of security or communication protocols. The Market Monitor recommends that ARB and MDDELCC approve the August Auction results.

Auction proceeds figures are not shown in this report because of the exchange rate process for determining final auction proceeds in a joint auction. Winning bids are submitted in one of two currencies – U.S. dollars (USD) or Canadian dollars (CAD). After receiving payment from the winning bidders, and using instructions from the jurisdictions (California and Québec), the financial services administrator will exchange some amount of currency at then-prevailing market rates prior to transferring the auction proceeds to the jurisdictions.

Proceeds to the jurisdictions are paid after all bidder payments are received and will occur by September 12, 2016. As provided in the California Cap-and-Trade Regulation, sellers who consigned allowances in this auction will be paid the auction settlement price in USD for every consigned allowance sold. Information regarding jurisdiction specific auction proceeds will be published after the auction is final.

¹ Ministry of Sustainable Development, Environment and the Fight against Climate Change.

California must receive auction proceeds only in USD and Québec must receive auction proceeds only in CAD. Thus, the total amount of auction proceeds received by California and by Québec from the sale of state- and province-owned allowances may vary (upwards or downwards) depending on the prevailing exchange rates in effect at the time of distribution of auction proceeds. Each jurisdiction will issue a Post Joint Auction Public Proceeds Report on September 12, 2016 providing the final amount of proceeds transferred.

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Auction Results

| | Current 2016 Vintage | Future 2019 Vintage |
|---|-------------------------|------------------------|
| Total Allowances Available for Sale | 86,278,410 | 10,078,750 |
| CA Entity Consignment | 40,550,635 | |
| ARB | 35,610,823 | 8,657,500 |
| MDDELCC | 10,116,952 | 1,421,250 |
| Total Allowances Sold at Auction | 30,021,000 | 769,000 |
| CA Entity Consignment | 26,500,756 | |
| ARB | 0 | 660,560 |
| MDDELCC | 3,520,244 | 108,440 |
| Total Qualified Bids Divided by Total Allowances Available for Sale | 0.35 | 0.08 |
| Proportion of Allowances Purchased by Compliance Entities | 91.5% | 100.0% |
| Herfindahl-Hirschman Index | 1210 | 5758 |

Qualified Bid Summary Statistics

All Qualified Bid Summary Statistics are determined in USD including all bids submitted in USD and CAD. The CAD equivalent of the USD Qualified Bid Summary Statistics is based on the Auction Exchange Rate. USD statistics are converted into CAD in whole cents to be able to compare statistics on a common basis.

| | 2016 Vintage | | 2019 Vintage | |
|------------------------------------|--------------|---------|--------------|---------|
| | USD | CAD | USD | CAD |
| Auction Reserve Price | \$12.73 | \$16.45 | \$12.73 | \$16.45 |
| Settlement Price | \$12.73 | \$16.45 | \$12.73 | \$16.45 |
| Maximum Price | \$47.55 | \$61.44 | \$13.36 | \$17.26 |
| Minimum Price | \$12.73 | \$16.45 | \$12.73 | \$16.45 |
| Mean Price | \$14.39 | \$18.59 | \$13.17 | \$17.02 |
| Median Price | \$12.74 | \$16.46 | \$12.73 | \$16.45 |
| Median Allowance Price | \$13.50 | \$17.44 | \$13.32 | \$17.21 |
| Auction Exchange Rate (USD to CAD) | | | | 1.2922 |

List of Qualified Bidders for the Current Auction of 2016 Vintage Allowances and the Advance Auction of 2019 Vintage Allowances

A Qualified Bidder is an entity that completed an auction application or confirmed an intent to bid for the auction, submitted an acceptable bid guarantee, and was approved by ARB or MDDELCC to participate in the auction.

| Entity ID Number | Entity Legal Name |
|-------------------------|--|
| CA1185 | Aera Energy LLC |
| QC1724 | Bell-Gaz Itée |
| CA1463 | California Power Holdings LLC |
| CA1075 | Chevron U.S.A. Inc. |
| CA1037 | City of Anaheim, Public Utilities Department |
| CA1105 | City of Banning |
| CA1288 | City of Cerritos |
| CA1732 | City of Long Beach, Gas and Oil Department |
| CA1073 | City of Roseville |
| CA1166 | City of Vernon, Vernon Gas & Electric |
| QC1384 | Énergie Valero Inc. |
| CA1110 | Exelon Generation Company, LLC |
| CA1081 | Foster Poultry Farms |
| QC1750 | Gazifère Inc. |
| QC1938 | Gestion Dominic Belleville inc. |
| QC1764 | Gestion Énergie Québec Inc. |
| QC1359 | Hydro-Québec |
| CA1727 | Jaco Oil Company |
| QC1901 | La Coop Carbone |
| QC1444 | Lafarge Canada Inc. |
| QC1431 | Lantic Inc. |
| QC1730 | Les Produits Pétroliers Norcan S.E.N.C |
| CA1233 | Liberty Utilities (CalPeco Electric) LLC |
| CA1830 | Luminus Energy Partners, LLC |
| QC2117 | Michel Poitevin |
| CA1209 | Modesto Irrigation District |
| CA1239 | Morgan Stanley Capital Group Inc. |
| CA1191 | Northern California Power Agency |
| CA1138 | NRG Power Marketing LLC |
| CA1046 | Pacific Gas and Electric Company |
| CA2046 | Pacific Gas and Electric Company |
| CA1034 | PacifiCorp |
| CA1279 | Phillips 66 Company |
| CA1505 | Powerex Corp. |

| | |
|--------|---|
| QC1474 | Produits Suncor Énergie S.E.N.C. |
| CA1102 | Royal Bank of Canada |
| CA1163 | Sacramento Municipal Utility District (SMUD) |
| CA1551 | San Diego Gas & Electric Company |
| CA1085 | San Diego Gas & Electric Company |
| CA1757 | Shiralian Enterprises |
| CA1031 | Silicon Valley Power (SVP), City of Santa Clara |
| QC1502 | Société en commandite Gaz Métro |
| QC1430 | Société en commandite Revenu Noranda |
| CA1029 | Southern California Edison Company |
| CA1170 | Southern California Gas Company |
| CA1674 | Southwest Gas Corporation |
| CA1921 | Statkraft US LLC |
| CA1172 | Surprise Valley Electrification Corp. |
| QC1486 | TEMBEC |
| CA1274 | USS-POSCO Industries |
| CA1135 | Vitol Inc. |
| CA1229 | Walnut Creek Energy, LLC |
| CA2056 | Wild Goose Storage, LLC |

Explanatory Notes: Qualified Bid Summary Statistics
Current Auction of 2016 Vintage Allowances

| | |
|--|---|
| Total Allowances Available for Sale: | Total allowances available, by vintage, for purchase in the Current Auction in metric tons, including allowances consigned by consigning entities and allowances sold by the State of California and the Province of Québec. |
| Total Allowances Sold at Auction: | Total allowances, by vintage, purchased in the Current Auction in metric tons. |
| Total Qualified Bids Divided by Total Allowances Available for Sale: | Total number of allowances (all vintages) included in all the qualified bids for the Current Auction allowances (regardless of bid price) divided by the total number of Current Auction allowances available in the auction. |
| Proportion of Allowances Purchased by Compliance Entities: | The total number of Current Auction allowances (by vintage) purchased in the Current Auction by compliance entities divided by the total number of Current Auction allowances sold in the Current Auction. A Compliance Entity is a Covered Entity or Opt-in Covered Entity as defined in the Cap-and-Trade Regulation or an Emitter as defined in Québec's Cap-and-Trade Regulation. |
| Herfindahl–Hirschman Index (HHI): | The HHI is a measure of the concentration of allowances purchased by winning bidders relative to the total sale of current auction allowances (regardless of vintage) in the auction. The percentage of allowances purchased by each winning bidder is squared and then summed across all winning bidders. The HHI can range up to 10,000, representing 100% of the current vintage allowances purchased by a single bidder (i.e., $100 \times 100 = 10,000$). |

| | |
|---|---|
| Qualified Bid Price Summary Statistics: | Statistics are calculated from all the qualified bids for the Current Auction allowances (regardless of bid price). All price statistics are shown in USD and CAD. |
| Auction Reserve Price: | The minimum acceptable auction bid price for Current Auction allowances shown in both USD and CAD per metric ton. |
| Settlement Price: | The Current Auction allowance price that resulted from the auction, in USD and CAD per metric ton. |
| Maximum Price: | Highest qualified bid |
| Minimum Price: | Lowest qualified bid |
| Mean Price: | Average qualified bid calculated as the sum of the bid price times the bid quantity of each qualified bid divided by the sum of the bid quantities across all qualified bids. |
| Median Price: | The price per metric ton calculated so that 50% of the qualified bids fall above and below the median bid price. |
| Median Allowance Price: | The price per metric ton calculated so that 50% of the quantity of allowances in the qualified bids fall above and below that price median value. |
| Auction Exchange Rate (USD to CAD): | The most recently available noon daily buying rate for USD and CAD as published by the Bank of Canada the day before the auction. |

Advance Auction of 2019 Vintage Allowances

The data for future vintage allowances available for sale at the Advance Auction are computed in the same manner as computed for the Current Auction. No allowances are consigned to the Advance Auction.