California Cap-and-Trade Program,
and
Québec Cap-and-Trade System
November 2019 Joint Auction #21
Summary Results Report

Background
The California Air Resources Board (CARB) and Québec’s ministère de l’Environnement et de la Lutte contre les changements climatiques (MELCC)\(^1\) held a joint auction of greenhouse gas (GHG) allowances on November 19, 2019. The auction included a Current Auction of 2013, 2014, 2015, 2016, 2017, 2018, and 2019 vintage allowances and an Advance Auction of 2022 vintage allowances. The information provided in this report is a balance between the need for program transparency and protection of information about individual qualified bidders’ market positions.

Prior to the certification of the auction, CARB and MELCC staff and the independent 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 (the 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 qualified bidder for the Current Auction of 2013/2014/2015/2016/2017/2018/2019 (current) vintage allowances and for the Advance Auction of 2022 vintage allowances. The auction algorithm correctly applied requirements of the Regulations covering the bid guarantee. The Market Monitor did not observe any breaches of security or communication protocols.

The Market Monitor recommends that CARB and MELCC approve the November 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 linked

\(^1\) Ministry of the Environment and the Fight against Climate Change
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.

The Financial Services Administrator will distribute auction proceeds to the jurisdictions after all qualified bidder payments are received. The jurisdictions will receive auction proceeds by December 18, 2019. 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.

California must receive auction proceeds only in USD. Québec must receive auction proceeds only in CAD. Thus, the total amount of auction proceeds received by the jurisdictions from the sale of allowances may be higher or lower than the auction settlement price multiplied by allowances sold depending on the prevailing exchange rates in effect at the time of currency exchange prior to the distribution of auction proceeds. Each jurisdiction will separately post information on December 18, 2019, providing the final amount of proceeds transferred.

**Auction Results**

The three tables below provide key data and information on the results of the auction. The fourth table provides qualified bid summary statistics from the auction. Please see Explanatory Notes after the list of qualified bidders for descriptions of all summary information.

**Table 1: Auction Results for November 2019 Joint Auction #21**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Allowances offered by CA Entity Consignment</td>
<td>-</td>
<td>21,996,805</td>
<td>21,996,805</td>
<td>-</td>
</tr>
<tr>
<td>Allowances offered by CARB</td>
<td>787,032</td>
<td>35,076,844</td>
<td>35,863,876</td>
<td>7,687,500</td>
</tr>
<tr>
<td>Allowances offered by MELCC</td>
<td>1,914,996</td>
<td>7,659,984</td>
<td>9,574,980</td>
<td>1,350,500</td>
</tr>
<tr>
<td>Total Allowances Offered for Sale</td>
<td>2,702,028</td>
<td>64,733,633</td>
<td>67,435,661</td>
<td>9,038,000</td>
</tr>
</tbody>
</table>
## Description of Allowances

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Allowances sold for CA Entity Consignment</td>
<td>-</td>
<td>21,996,805</td>
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<td>-</td>
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<td>Allowances sold for CARB</td>
<td>787,032</td>
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<td>35,863,876</td>
<td>7,687,500</td>
</tr>
<tr>
<td>Allowances sold for MELCC</td>
<td>1,914,996</td>
<td>7,659,984</td>
<td>9,574,980</td>
<td>1,350,500</td>
</tr>
<tr>
<td><strong>Total Allowances Sold at Auction</strong></td>
<td><strong>2,702,028</strong></td>
<td><strong>64,733,633</strong></td>
<td><strong>67,435,661</strong></td>
<td><strong>9,038,000</strong></td>
</tr>
</tbody>
</table>

**Table 2: Summary of 2013 to 2018 Vintage Allowances for November 2019 Joint Auction #21**

<table>
<thead>
<tr>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Allowances offered by CARB</td>
<td>80,026</td>
<td>416,086</td>
<td>212,730</td>
<td>5,382</td>
<td>23,348</td>
<td>49,460</td>
</tr>
<tr>
<td>Allowances offered by MELCC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1,736,736</td>
<td>178,260</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Allowances Offered for Sale</strong></td>
<td><strong>80,026</strong></td>
<td><strong>416,086</strong></td>
<td><strong>212,730</strong></td>
<td><strong>1,742,118</strong></td>
<td><strong>201,608</strong></td>
<td><strong>49,460</strong></td>
</tr>
<tr>
<td>Allowances sold for CARB</td>
<td>80,026</td>
<td>416,086</td>
<td>212,730</td>
<td>5,382</td>
<td>23,348</td>
<td>49,460</td>
</tr>
<tr>
<td>Allowances sold for MELCC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1,736,736</td>
<td>178,260</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total Allowances Sold at Auction</strong></td>
<td><strong>80,026</strong></td>
<td><strong>416,086</strong></td>
<td><strong>212,730</strong></td>
<td><strong>1,742,118</strong></td>
<td><strong>201,608</strong></td>
<td><strong>49,460</strong></td>
</tr>
</tbody>
</table>
Table 3: Auction Data for November 2019 Joint Auction #21

<table>
<thead>
<tr>
<th>Auction Data</th>
<th>Current Auction</th>
<th>Advance Auction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Qualified Bids Divided by Total Allowances Available for Sale</td>
<td>1.28</td>
<td>1.10</td>
</tr>
<tr>
<td>Proportion of Allowances Purchased by Compliance Entities</td>
<td>92.6%</td>
<td>79.5%</td>
</tr>
<tr>
<td>Herfindahl-Hirschman Index</td>
<td>815</td>
<td>1551</td>
</tr>
</tbody>
</table>

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. The Auction Exchange Rate for this auction was 1.3214 (USD to CAD).

Table 4: Qualified Bid Summary Statistics for November 2019 Joint Auction #21

<table>
<thead>
<tr>
<th>Auction Statistics</th>
<th>Current Auction USD</th>
<th>Current Auction CAD</th>
<th>Advance Auction USD</th>
<th>Advance Auction CAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auction Reserve Price</td>
<td>$15.62</td>
<td>$20.64</td>
<td>$15.62</td>
<td>$20.64</td>
</tr>
<tr>
<td>Settlement Price</td>
<td>$17.00</td>
<td>$22.46</td>
<td>$16.80</td>
<td>$22.20</td>
</tr>
<tr>
<td>Maximum Price</td>
<td>$34.22</td>
<td>$45.22</td>
<td>$20.15</td>
<td>$26.63</td>
</tr>
<tr>
<td>Minimum Price</td>
<td>$15.62</td>
<td>$20.64</td>
<td>$15.62</td>
<td>$20.64</td>
</tr>
<tr>
<td>Mean Price</td>
<td>$17.66</td>
<td>$23.34</td>
<td>$17.25</td>
<td>$22.79</td>
</tr>
<tr>
<td>Median Price</td>
<td>$17.05</td>
<td>$22.53</td>
<td>$16.91</td>
<td>$22.34</td>
</tr>
<tr>
<td>Median Allowance Price</td>
<td>$17.20</td>
<td>$22.73</td>
<td>$17.16</td>
<td>$22.68</td>
</tr>
</tbody>
</table>
List of qualified bidders for the November 2019 Joint Auction #21

A qualified bidder is an entity that completed an auction application, submitted a bid guarantee\(^2\) that was accepted by the Financial Services Administrator, and was approved by CARB or MELCC to participate in the auction. Qualified bidders may or may not have participated in the auction.

<table>
<thead>
<tr>
<th>CITSS Entity ID</th>
<th>Entity Legal Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>QC2594</td>
<td>A&amp;L Pinard Inc</td>
</tr>
<tr>
<td>CA1185</td>
<td>Aera Energy, LLC</td>
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<tr>
<td>CA1561</td>
<td>AltaGas Power Holdings (U.S.), Inc.</td>
</tr>
<tr>
<td>QC1724</td>
<td>Bell-Gaz Itée</td>
</tr>
<tr>
<td>CA2759</td>
<td>Bellus Ventures II, LP</td>
</tr>
<tr>
<td>CA1913</td>
<td>BP Products North America, Inc.</td>
</tr>
<tr>
<td>CA2971</td>
<td>Brian Anast</td>
</tr>
<tr>
<td>CA1119</td>
<td>Calpine Energy Services, LP</td>
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<tr>
<td>QC2580</td>
<td>Chauffage Benwell Fuels Ltd.</td>
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<tr>
<td>CA1075</td>
<td>Chevron U.S.A., Inc.</td>
</tr>
<tr>
<td>CA1288</td>
<td>City of Cerritos</td>
</tr>
<tr>
<td>CA1732</td>
<td>City of Long Beach, Gas and Oil Department</td>
</tr>
<tr>
<td>CA1038</td>
<td>City of Palo Alto</td>
</tr>
<tr>
<td>CA1166</td>
<td>City of Vernon, Vernon Public Utilities</td>
</tr>
<tr>
<td>QC1901</td>
<td>Coopérative de solidarité Carbone</td>
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<tr>
<td>CA2050</td>
<td>CP Energy Marketing (US), Inc.</td>
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<tr>
<td>QC1578</td>
<td>DIAGEO CANADA INC.</td>
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<tr>
<td>CA1091</td>
<td>DTE Energy Trading, Inc.</td>
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<tr>
<td>CA2809</td>
<td>ECP Opportunity Fund II, LLC</td>
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<tr>
<td>QC2448</td>
<td>Elbow River Marketing Ltd.</td>
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<tr>
<td>QC2159</td>
<td>Énergie LGP Inc.</td>
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<tr>
<td>QC1384</td>
<td>Énergie Valero Inc.</td>
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<tr>
<td>CA2085</td>
<td>Escondido Energy Center, LLC</td>
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<tr>
<td>CA1110</td>
<td>Exelon Generation Company, LLC</td>
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<tr>
<td>QC1489</td>
<td>Fibrek s.e.n.c.</td>
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<tr>
<td>CA1260</td>
<td>Flyers Energy, LLC</td>
</tr>
<tr>
<td>QC2711</td>
<td>Formica Canada Inc</td>
</tr>
<tr>
<td>QC1750</td>
<td>Gazifère Inc.</td>
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</table>

\(^2\) The term “bid guarantee” refers to “bid guarantee” as described in the California Regulation and “financial guarantee” as defined in the Québec Regulation.
<table>
<thead>
<tr>
<th>CITSS Entity ID</th>
<th>Entity Legal Name</th>
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<tbody>
<tr>
<td>QC1764</td>
<td>Gestion Énergie Québec Inc.</td>
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<tr>
<td>CA2916</td>
<td>Green Trading Capital, LP</td>
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<tr>
<td>CA1918</td>
<td>Greenleaf Energy Unit 2, LLC</td>
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<tr>
<td>QC2118</td>
<td>Hamel Propane Inc.</td>
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<tr>
<td>CA2902</td>
<td>Harspring Environmental, LP</td>
</tr>
<tr>
<td>QC1359</td>
<td>Hydro-Québec</td>
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<tr>
<td>CA1807</td>
<td>Idemitsu Apollo</td>
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<tr>
<td>QC2789</td>
<td>Ifastgroupe 2004 L.P.</td>
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<tr>
<td>CA1727</td>
<td>Jaco Oil Company</td>
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<tr>
<td>CA2932</td>
<td>Kcarbon Holdings, LLC</td>
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<tr>
<td>CA1141</td>
<td>Kern Oil &amp; Refining Co,</td>
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<tr>
<td>CA2944</td>
<td>Kiva Energy, Inc.</td>
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<tr>
<td>QC1431</td>
<td>Lantic Inc.</td>
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<tr>
<td>QC1730</td>
<td>Les Produits Pétroliers Norcan S.E.N.C</td>
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<tr>
<td>CA1233</td>
<td>Liberty Utilities (CalPeco Electric), LLC</td>
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<tr>
<td>CA2553</td>
<td>Luminus EC, LP</td>
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<tr>
<td>CA1830</td>
<td>Luminus Energy Partners, LLC</td>
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<tr>
<td>QC2095</td>
<td>MacEwen Petroleum Inc</td>
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<td>CA1104</td>
<td>Macquarie Energy, LLC</td>
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<td>CA2645</td>
<td>Mercuria Energy America, Inc.</td>
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<td>CA1107</td>
<td>Midway Sunset Cogeneration Company</td>
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<tr>
<td>CA1239</td>
<td>Morgan Stanley Capital Group, Inc.</td>
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<td>CA1302</td>
<td>Naftex Operating Company</td>
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<td>QC2107</td>
<td>NGL Supply Co. Ltd.</td>
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<tr>
<td>CA1191</td>
<td>Northern California Power Agency</td>
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<tr>
<td>CA1138</td>
<td>NRG Power Marketing, LLC</td>
</tr>
<tr>
<td>CA2905</td>
<td>PA Carbon I, LLC</td>
</tr>
<tr>
<td>CA1046</td>
<td>Pacific Gas and Electric Company</td>
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<td>CA2046</td>
<td>Pacific Gas and Electric Company</td>
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<tr>
<td>CA1034</td>
<td>PacifiCorp</td>
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<tr>
<td>CA1534</td>
<td>Panoche Energy Center, LLC</td>
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<tr>
<td>CA2106</td>
<td>PBF Energy Western Region, LLC</td>
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<tr>
<td>CA1410</td>
<td>Petro Diamond, Inc.</td>
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<tr>
<td>QC2673</td>
<td>Petro-Francis Inc</td>
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<tr>
<td>CA1279</td>
<td>Phillips 66 Company</td>
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<tr>
<td>CA1595</td>
<td>Pixley Cogen Partners, LLC</td>
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<tr>
<td>CA1003</td>
<td>Plumas-Sierra Rural Electric Cooperative</td>
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<td>CA1505</td>
<td>Powerex Corporation</td>
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<td>CITSS Entity ID</td>
<td>Entity Legal Name</td>
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<tr>
<td>QC1474</td>
<td>Produits Suncor Énergie S.E.N.C.</td>
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<tr>
<td>QC1960</td>
<td>Révolution VSC LP</td>
</tr>
<tr>
<td>CA1834</td>
<td>River City Petroleum</td>
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<tr>
<td>CA1774</td>
<td>Robinson Oil Supply &amp; Transport, Inc.</td>
</tr>
<tr>
<td>CA1102</td>
<td>Royal Bank of Canada</td>
</tr>
<tr>
<td>CA1163</td>
<td>Sacramento Municipal Utility District (SMUD)</td>
</tr>
<tr>
<td>CA1760</td>
<td>San Diego Gas and Electric Company</td>
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<tr>
<td>CA2175</td>
<td>Sempra Gas &amp; Power Marketing, LLC</td>
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<td>CA1366</td>
<td>Seneca Resources Corporation</td>
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<td>CA1251</td>
<td>Shell Energy North America (US), L.P.</td>
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<tr>
<td>CA1757</td>
<td>Shiralian Enterprises</td>
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<td>CA1031</td>
<td>Silicon Valley Power (SVP), City of Santa Clara</td>
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<td>QC2781</td>
<td>Sivaco Wire Group 2004, LP</td>
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<td>CA1029</td>
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<td>Southern California Gas Company</td>
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<td>QC1873</td>
<td>Superior Gas Liquids Partnership</td>
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<td>CA1165</td>
<td>Tesoro Refining &amp; Marketing Company, LLC</td>
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<td>CA1662</td>
<td>The Metropolitan Water District of Southern California</td>
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<td>CA1195</td>
<td>TransAlta Energy Marketing (U.S.), Inc.</td>
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<td>CA1216</td>
<td>Turlock Irrigation District</td>
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<tr>
<td>CA1635</td>
<td>Valero Marketing and Supply Company</td>
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<tr>
<td>CA1135</td>
<td>Vitol, Inc.</td>
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<tr>
<td>QC2174</td>
<td>W.O. Stinson &amp; Son Ltd</td>
</tr>
<tr>
<td>CA2056</td>
<td>Wild Goose Storage, LLC</td>
</tr>
</tbody>
</table>
### Explanatory Notes: Qualified Bid Summary Statistics

<table>
<thead>
<tr>
<th>General Term</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Allowances Available for Sale:</td>
<td>Total allowances available, by vintage, for purchase in the Current Auction, including allowances consigned by consigning entities and allowances offered for sale by the State of California and the Province of Québec.</td>
</tr>
<tr>
<td>Total Allowances Sold at Auction:</td>
<td>Total allowances purchased, by vintage, in the Current Auction in metric tons.</td>
</tr>
<tr>
<td>Total Qualified Bids Divided by Total Allowances</td>
<td>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.</td>
</tr>
<tr>
<td>Purchased by Compliance Entities:</td>
<td>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 California's Cap-and-Trade Regulation or an Emitter as defined in Québec's Cap-and-Trade Regulation.</td>
</tr>
</tbody>
</table>
### General Term

<table>
<thead>
<tr>
<th>Term</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Herfindahl–Hirschman Index (HHI):</td>
<td>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., 100x100=10,000).</td>
</tr>
<tr>
<td>Qualified Bid Price Summary Statistics:</td>
<td>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.</td>
</tr>
<tr>
<td>Qualified Bids:</td>
<td>The bids that remain after a qualified bidder's submitted bids have been evaluated and reduced to meet all bidding limitations.</td>
</tr>
<tr>
<td>Auction Reserve Price:</td>
<td>The minimum acceptable auction bid price for Current Auction allowances shown in both USD and CAD per metric ton.</td>
</tr>
<tr>
<td>Settlement Price:</td>
<td>The Current Auction allowance price that resulted from the auction, in USD and CAD per metric ton.</td>
</tr>
<tr>
<td>Maximum Price:</td>
<td>Highest qualified bid price.</td>
</tr>
<tr>
<td>General Term</td>
<td>Explanation</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Minimum Price:</td>
<td>Lowest qualified bid price.</td>
</tr>
<tr>
<td>Mean Price:</td>
<td>Average qualified bid price calculated as the sum of the qualified bid prices times the bid allowances at each qualified bid price divided by the sum of all qualified bid allowances.</td>
</tr>
<tr>
<td>Median Price:</td>
<td>The price per metric ton calculated so that 50% of the qualified bid prices fall above and 50% fall below the median bid price.</td>
</tr>
<tr>
<td>Median Allowance Price:</td>
<td>The price per metric ton calculated so that 50% of the qualified bid allowances fall above and 50% fall below the median allowance price.</td>
</tr>
<tr>
<td>Auction Exchange Rate (USD to CAD FX Rate):</td>
<td>The exchange rate in effect for the joint auction that is set the business day prior to the joint auction as the most recently available daily average exchange rate for USD and CAD as published by the Bank of Canada the day before the joint auction.</td>
</tr>
</tbody>
</table>

**Advance Auction**

The statistics presented in the report for the Advance Auction are computed in the same manner as the statistics computed for the Current Auction. No allowances are consigned by consigning entities to the Advance Auction.