

# Auctions by the *Common Auction Platform*

## October, November, December 2019

---

**Auction platform:** European Energy Exchange (EEX)

**Member States:** This report has been prepared on behalf of the following Member States participating in the joint action: Austria, Belgium, Bulgaria, Republic of Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden (participating Member States), and Poland.

**Auction dates/reporting period:**

*General Allowances:*

1, 3, 7, 8, 9(PL)<sup>1</sup>, 10, 14, 15, 17, 21, 22, 23(PL), 24, 28, 29, 31 October 2019;

4, 5, 6(PL), 7, 11, 12, 14, 18, 19, 20(PL), 21, 25, 26, 28 November 2019;

2, 3, 4(PL), 5, 9, 10, 12, 16 December 2019;

*Aviation Allowances:*

6 November 2019;

---

Auctioning is the default method of allocating allowances within the EU emissions trading system (EU ETS). Since the start of the *Third trading period* in 2013, over 5 billion allowances allocated under the EU ETS have been auctioned. Auctioning of emission allowances at that scale is unprecedented and delivers valuable experience for auction design in other carbon markets and for other environmental assets.

Auctioning is the most transparent and efficient method of allocating allowances and puts into practice the principle that the polluter should pay.

The auctions are conducted pursuant to the modalities stipulated in the *Auctioning Regulation*. Two auction platforms are in place. The European Energy Exchange (EEX) in Leipzig is the common platform for the large majority of countries participating in the EU ETS. EEX also acts as Germany's auction platform. The second auction platform is ICE Futures Europe (ICE) in London, which acts as the United Kingdom's platform. Poland may appoint an opt-out auction platform but is using for the time being the common auction platform.

The numbers of *General Allowances* to be auctioned by each State on behalf of which they are auctioned are determined on the basis of their historical share of emissions from installations covered by the EU ETS, taking into account the free allocation volumes. Up to 2020 ten per cent are allocated to the least wealthy EU Member States and the remaining two per cent is given as a 'Kyoto bonus' to nine EU Member States, which by 2005 had reduced their greenhouse gas emissions by at least 20% of levels in their Kyoto Protocol base year or period.

---

<sup>1</sup> Auctions conducted by EEX for Poland.

At least half of auctioning revenues, or the equivalent in financial value, and all of the revenues from auctioning allowances to the aviation sector, should be used by the Member States to combat climate change in Europe or other countries.

For further information: [http://ec.europa.eu/clima/policies/ets/cap/auctioning/index\\_en.htm](http://ec.europa.eu/clima/policies/ets/cap/auctioning/index_en.htm)

---

**Editor's note:**

This report has been prepared by the Commission on behalf of the participating Member States and Poland assembling for publication the information provided by the common auction platform on a monthly basis for those Member States, in accordance with Article 10(4) of the ETS Directive.

**Methodology:** For reasons of confidentiality and proper enforcement of the applicable rules, the report refers to reporting on the auctions held based on information provided by EEX. EEX is consulted before each publication. Any data not directly related to the auctions is based only on public reports.

The report is in accordance with the template agreed with the participating Member States.

**Disclaimer:** The authors have made every effort to ensure that the information provided is complete, correct and precise for the reporting period. Nevertheless, the report is based on limited information available to the authors in a market context where much information has to remain confidential. The authors did not actively verify the information and EEX's compliance with the specific rules and provisions applicable under European or national law. Therefore, the authors and the Member States on whose behalf this report was drafted deny any responsibility or liability whatsoever for its contents, regardless of the nature of such contents. Any reliance by any person or entity on the information provided in this report is solely at that person's or entity's own risk. Monthly averages provided are weighted by each auction's auction volume, unless otherwise indicated.

**Glossary:** terms and expressions written in *italics* are included in the glossary.

---



## Introduction

The reports include data on the auctions performed by the *common auction platforms* on behalf of the *participating Member States* and Poland.

The auctions for the *participating Member States* were conducted by EEX in its capacity as *Common Auction Platform* appointed pursuant to Article 26(2) of the Auctioning Regulation (also referred to as transitional common auction platform or TCAP) until 18 August 2016 and since then by EEX appointed as *Common Auction Platform* pursuant to Article 26(1) of the Auctioning Regulation (also referred to as second common auction platform or CAP2).

In accordance with the second subparagraph of Article 30(7) of the *Auctioning Regulation*, pending the procurement, appointment and listing of its opt-out auction platform, Poland contracted EEX to auction its share of allowances to be auctioned. These auctions were held on the Transitional Common Auction Platform between 16 September 2013 and 18 August 2016<sup>2</sup>. Auctioning by CAP2 for Poland started as from 19 March 2017 following the conclusion of a bilateral agreement between EEX and Poland.

The States member of the European Free Trade Association (EFTA) that are Party to the European Economic Area (EEA)<sup>3</sup> have started on 3 June 2019 making use of the *Common Auction Platform* by aggregating their volumes to those auctioned on behalf of the *participating Member States*.

---

<sup>2</sup> Due to the back-loading, no auctions were held for Poland from May to December 2014, the auctions restarted in January 2015. Due to transition between common auction platforms, no auctions were held for Poland between September 2016 and mid-March 2017.

<sup>3</sup> Iceland, Liechtenstein and Norway.

## Executive summary

In the reporting period, EEX, in its capacity as the *Common Auction Platform (CAP2)*, conducted auctions of *general allowances* and *aviation allowances* for the *third trading period* on behalf of the *participating Member States*. During this period, EEX held auctions for *general allowances* and *aviation allowances* on behalf of Poland.

All auctions were held successfully, in line with the Auctioning Regulation. No irregularities or deviations from the requirements were observed. The table below contains a summary of the information concerning the conducted auctions.

### **The October, November, December 2019 auctions at a glance:**

	<b>General Allowances</b>			<b>Aviation Allowances</b>		
	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
<b>General</b>						
Number of auctions	16	14	8	-	1	-
Total volume auctioned	47 850 500	42 357 000	24 194 500	-	884 500	-
Amount raised from the auctions (€)	1 166 555 660	1 037 136 940	591 458 800	-	22 271 710	-
Average Auction Clearing Price (€/allowance)	24.38	24.49	24.45	-	25.18	-
Total bid volume	86 964 500	72 818 000	45 831 000	-	3 202 500	-
Average Cover ratio	1.8	1.7	1.9	-	3.6	-
Monthly HHI	1 283	1 215	1 634	-	2 559	-
<b>Participation</b>						
Number of eligible bidders	85	86	86	-	86	-
Number of participating bidders <sup>(1)</sup>	37	35	33	-	10	-
Number of successful bidders <sup>(1)</sup>	36	31	31	-	5	-
Average number of bidders per auction	23.2	22.1	21.4	-	10	-
Average number of successful bidders per auction	15.6	16.7	14.4	-	5	-
<b>Auction data</b>						
Average total volume bid per bidder per auction	244 505	247 825	289 107	-	320 250	-
Average bid size (volume per bid)	62 856	59 514	64 230	-	42 700	-
Average volume won per bidder per auction	207 552	197 454	256 429	-	176 900	-
Average range of bids (€)	8.45	7.95	5.38	-	1.35	-

(1): Number of unique individual bidders or unique successful bidders present in a whole month.

## 1. Results of the auctions

The total revenues from the auctions of *general allowances* accrued to the *participating Member States* and Poland from the start of the *Third trading period* auctions (November 2012) to December 2019 are EUR 35 360 644 300, and of *aviation allowances* EUR 360 879 155. Further data is provided in Annex 1.

Information on *general allowances'* auctions is provided in section 1.1, and on *aviation allowances* in section 1.2 hereafter. Detailed information per auction covered by the present report is available in the EEX website<sup>4</sup>.

---

<sup>4</sup> <https://www.eex.com/en/products/environmental-markets/emissions-auctions/overview>

## 1.1. General allowances auctions

### 1.1.1. Clearing prices and participation - general allowances

An overview of the auction results for the *participating Member States* and Poland is provided in Table 1.

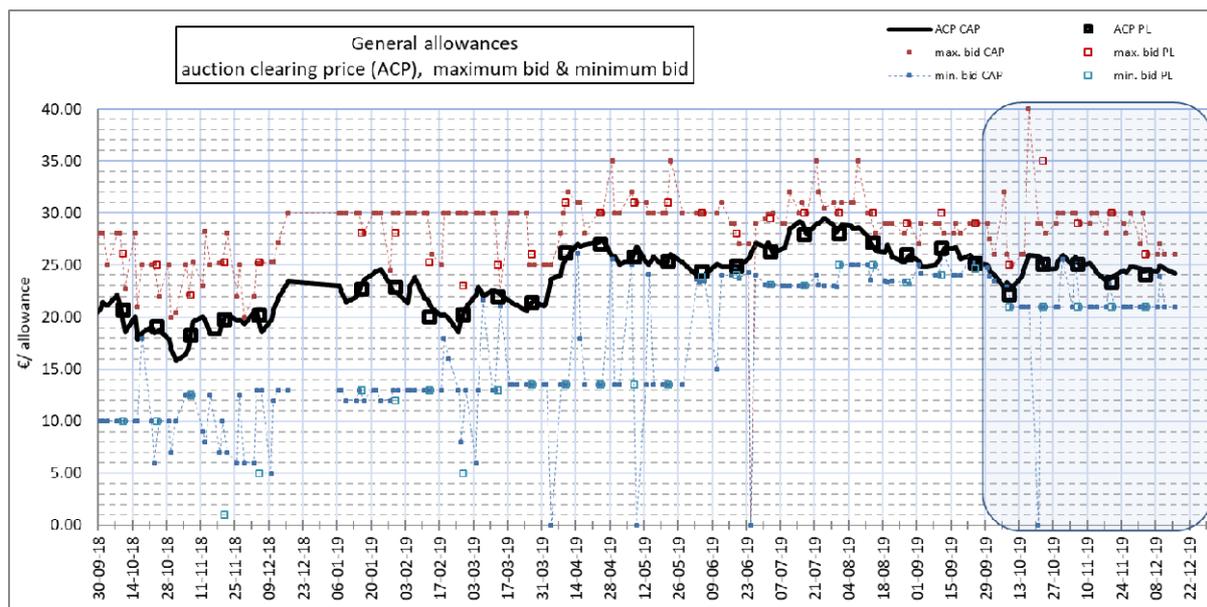
**Table 1:** General allowances - main statistics on the results of the auctions per month

Month	Total auction volume	Total bid volume	Total revenue (€)	Average Cover ratio <sup>5</sup>	Average number of bidders	Average number of successful bidders	Average auction clearing price (€)
December 2019	24 194 500	45 831 000	591 458 800	1.9	21.4	14.4	24.45
November 2019	42 357 000	72 818 000	1 037 136 940	1.7	22.1	16.7	24.49
October 2019	47 850 500	86 964 500	1 166 555 660	1.8	23.2	15.6	24.38
September 2019	42 363 000	74 616 500	1 089 560 710	1.8	22.7	15.9	25.72
August 2019	21 197 000	53 781 500	573 418 415	2.5	24.4	16.6	27.05
July 2019	54 221 000	109 326 500	1 509 916 775	2.0	24.7	18.1	27.85
June 2019	37 305 500	66 210 500	929 466 145	1.8	24.5	17.4	24.91
May 2019	33 807 000	67 074 000	862 703 470	2.0	24.9	18.5	25.52
April 2019	41 292 000	80 075 000	1 054 762 705	1.9	21.6	14.7	25.54
March 2019	38 797 000	72 123 000	845 041 090	1.9	23.4	17.2	21.78
February 2019	38 797 000	89 736 000	806 922 870	2.3	26.4	19.9	20.80
January 2019	38 797 000	87 990 000	890 293 255	2.3	29.7	20.8	22.95
December 2018	32 969 000	76 976 500	681 979 150	2.3	28.0	19.7	20.69
November 2018	61 863 000	124 963 500	1 163 035 100	2.0	26.2	17.8	18.80
October 2018	66 076 000	194 879 000	1 290 645 520	2.9	26.2	19.2	19.53
<b>2019 total</b>	<b>460 978 500</b>	<b>906 546 500</b>	<b>11 357 236 835</b>	<b>2.0</b>	<b>24.1</b>	<b>17.2</b>	<b>24.64</b>
<b>2018 total</b>	<b>642 477 000</b>	<b>1 662 693 000</b>	<b>9 917 590 730</b>	<b>2.6</b>	<b>25.6</b>	<b>18.0</b>	<b>15.44</b>
<b>2017 total</b>	<b>648 415 500</b>	<b>1 761 212 000</b>	<b>3 744 838 845</b>	<b>2.7</b>	<b>21.2</b>	<b>14.6</b>	<b>5.78</b>
<b>2016 total</b>	<b>474 261 000</b>	<b>1 092 400 000</b>	<b>2 496 870 295</b>	<b>2.3</b>	<b>19.0</b>	<b>13.4</b>	<b>5.26</b>
<b>2015 total</b>	<b>413 874 000</b>	<b>1 337 010 500</b>	<b>3 154 940 925</b>	<b>3.2</b>	<b>18.3</b>	<b>13.3</b>	<b>7.62</b>
<b>2014 total</b>	<b>335 052 000</b>	<b>1 796 711 000</b>	<b>1 977 712 120</b>	<b>5.4</b>	<b>17.6</b>	<b>11.9</b>	<b>5.90</b>
<b>2013 total</b>	<b>530 488 000</b>	<b>1 761 639 500</b>	<b>2 349 853 340</b>	<b>3.3</b>	<b>18.4</b>	<b>13.2</b>	<b>4.43</b>

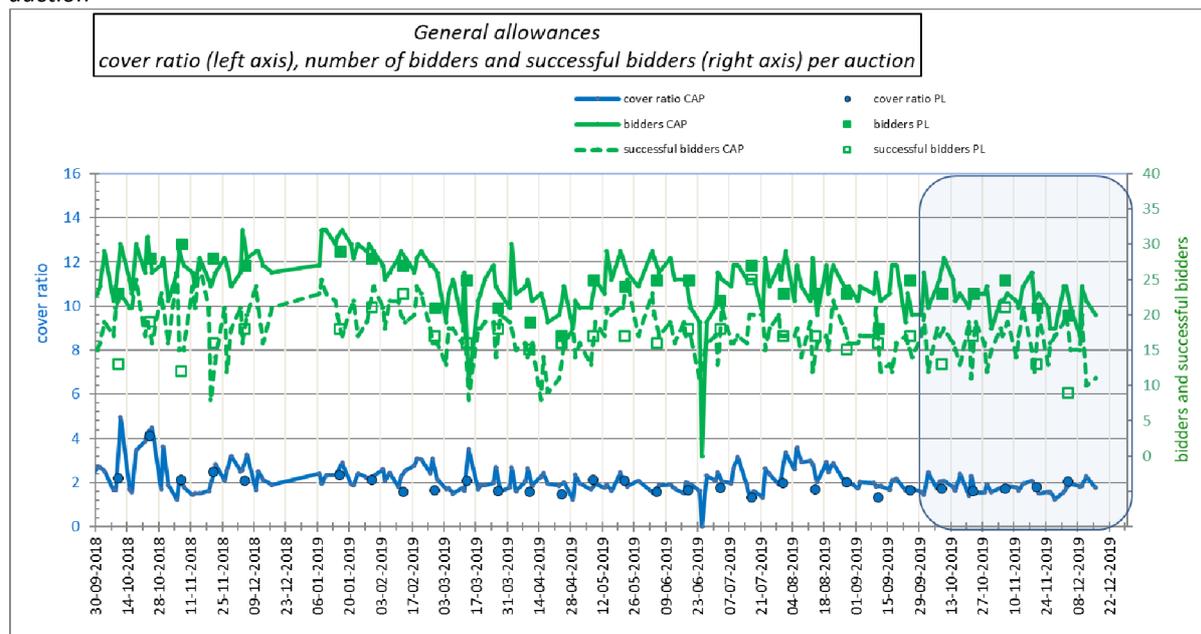
During October, November, December 2019, the difference between the Auction Clearing Prices and the mean of the *best-ask* and *best-bid* prices on the EEX *spot secondary market* for *general allowances* at the closure of the auction *bidding window* was on average EUR 0.01, - 0.02, 0.00 respectively, and this difference had a standard deviation of EUR 0.09, 0.08, 0.08 respectively.

<sup>5</sup> Cover ratio is the ratio between the total bid volume and the auction volume.

**Graph 1:** General allowances - auction clearing price (ACP), maximum bid & minimum bid<sup>6</sup>



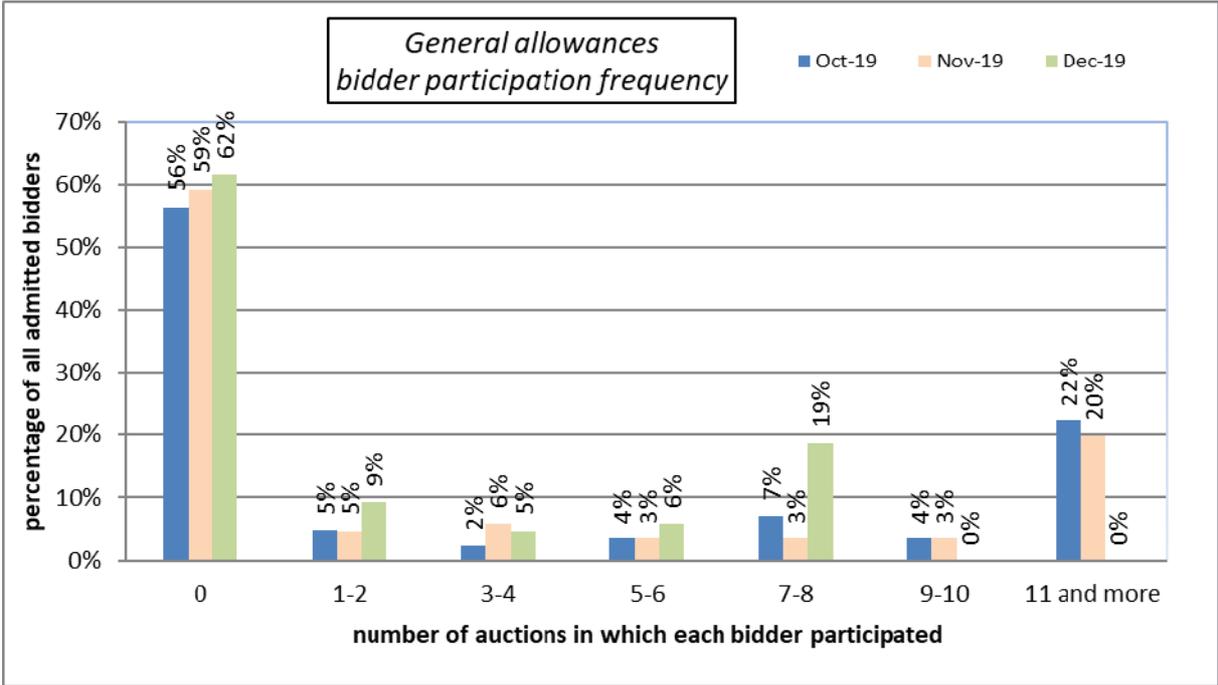
**Graph 2:** General allowances - cover ratio (left axis), number of bidders and successful bidders (right axis) per auction



The number of eligible bidders is provided in Section 2. Out of these 37, 35 and 33 different bidders participated in the auctions in respectively in October, November, December 2019. Graph 3 indicates the participation frequency over these months.

<sup>6</sup> Auctions on behalf of Poland were held on the following days: 10/10/2018, 24/10/2018, 7/11/2018, 21/11/2018, 5/12/2018, 16/1/2019, 30/1/2019, 13/2/2019, 27/2/2019, 13/3/2019, 27/3/2019, 10/4/2019, 24/4/2019, 8/5/2019, 22/5/2019, 5/6/2019, 19/6/2019, 3/7/2019, 17/7/2019, 31/7/2019, 14/8/2019, 28/8/2019, 11/9/2019, 25/9/2019, 9/10/2019, 23/10/2019, 6/11/2019, 20/11/2019, 4/12/2019.

**Graph 3: General allowances -bidder participation frequency**



### 1.1.2. Bidding behaviour - general allowances

Table 2 provides monthly data on the bids submitted over 15 months. See also Graph 4.

**Table 2: General Allowances - monthly statistics on the submitted bids**

Month	Nr of auctions	Nr of bidders <sup>(1)</sup>	Total volume of bids	Average total volume bid per bidder per auction <sup>7</sup>	Average total volume bid per bidder per auction over the month <sup>8</sup>	standard deviation of total volume bid per bidder per auction over the month <sup>9</sup>	Total monthly nr of bids	Average nr. of bids per bidder per auction <sup>10</sup>	Average bid size <sup>11</sup>
December 2019	8	33	45 831 000	289 107	266 459	443 330	744	4.3	64 230
November 2019	14	35	72 818 000	247 825	236 422	347 222	1 254	4.1	59 514
October 2019	16	37	86 964 500	244 505	233 776	367 655	1 419	3.8	62 856
September 2019	14	39	74 616 500	244 214	233 908	350 009	1 152	3.6	66 033
August 2019	14	37	53 781 500	158 458	156 797	236 796	1 150	3.4	47 633
July 2019	17	38	109 326 500	268 249	259 683	489 432	1 446	3.4	75 903
June 2019	12	39	66 210 500	239 687	224 442	362 906	939	3.2	73 349
May 2019	12	36	67 074 000	242 995	223 580	331 705	1 064	3.6	65 957
April 2019	15	37	80 075 000	258 784	243 389	312 826	1 156	3.5	71 640
March 2019	14	37	72 123 000	234 559	219 887	289 754	1 108	3.4	68 596
February 2019	14	38	89 736 000	247 655	239 936	323 066	1 202	3.2	78 220
January 2019	14	37	87 990 000	225 521	211 007	256 123	1 306	3.1	70 316
December 2018	8	38	76 976 500	345 385	343 645	604 296	723	3.2	106 364
November 2018	15	38	124 963 500	320 463	317 166	492 124	1 268	3.2	97 811
October 2018	16	34	194 879 000	457 738	465 105	1 156 241	1 441	3.4	133 295

(1): Number of unique individual bidders or unique successful bidders present in a whole month.

<sup>7</sup> Monthly weighted average of the average bid volume per bidder in each auction (total bid volume in each auction divided by number of bidders participating in that auction), weighted by volume auctioned in each auction.

<sup>8</sup> Average over the whole month of the volume bid by bidders each time they are present in an auction (computed as total volume bid for the month / sum over whole month of number of bidders present in each auction).

<sup>9</sup> Standard deviation of total volume bid per bidder in each auction over the month.

<sup>10</sup> Monthly simple average of the average number of bids per bidder in each auction (total number of bids in each auction divided by number of bidders participating in that auction).

<sup>11</sup> Monthly weighted average of the average bid size per bidder in each auction (total bid volume in each auction divided by number of bids in that auction), weighted by volume auctioned in each auction.

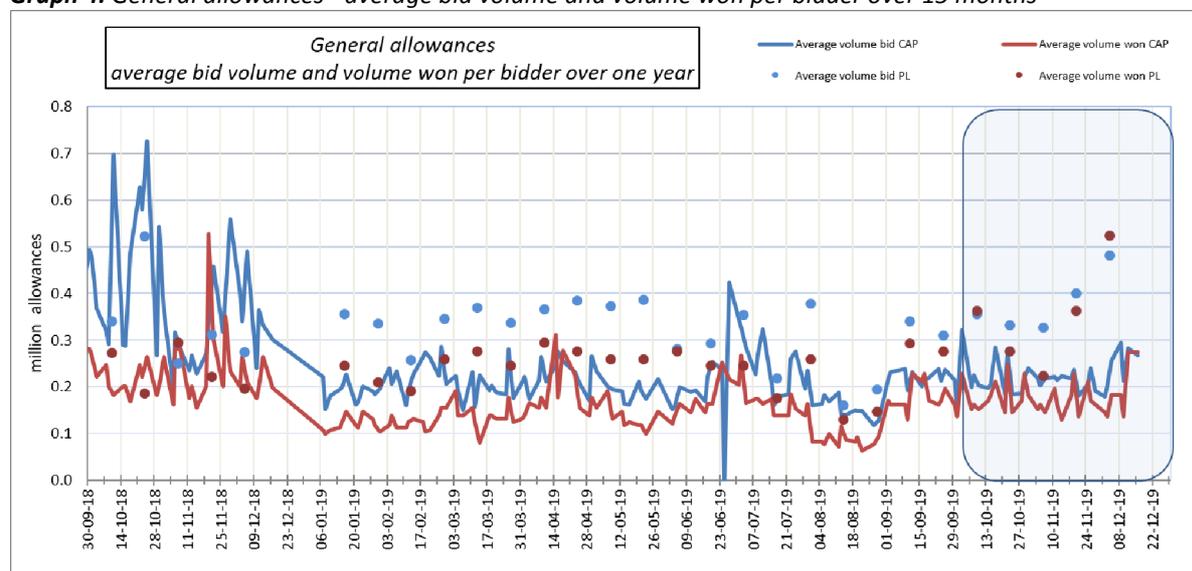
Table 3 provides monthly data on successful bids over 15 months. See also Graph 4.

**Table 3: General Allowances - monthly statistics on successful bids**

Month	Nr of auctions	Nr of successful bidders <sup>(1)</sup>	Total auction volume	Average volume won per bidder per auction <sup>12</sup>	Average volume won per bidder per auction over the month <sup>13</sup>	Standard deviation of volume won per bidder per auction over the month <sup>14</sup>	Total monthly nr of successful bids
December 2019	8	31	24 194 500	256 429	203 315	292 584	238
November 2019	14	31	42 357 000	197 454	181 790	248 526	452
October 2019	16	36	47 850 500	207 552	190 639	271 944	446
September 2019	14	33	42 363 000	203 307	191 688	285 320	390
August 2019	14	33	21 197 000	96 530	90 974	125 087	326
July 2019	17	35	54 221 000	185 658	177 193	273 721	608
June 2019	12	34	37 305 500	191 381	178 495	268 648	353
May 2019	12	34	33 807 000	168 151	150 924	206 238	402
April 2019	15	34	41 292 000	205 955	188 548	244 195	431
March 2019	14	33	38 797 000	173 559	160 983	196 771	453
February 2019	14	36	38 797 000	149 976	139 057	177 125	455
January 2019	14	34	38 797 000	144 421	132 413	165 756	493
December 2018	8	32	32 969 000	213 923	209 994	336 420	286
November 2018	15	36	61 863 000	256 657	232 568	396 305	537
October 2018	16	31	66 076 000	221 301	215 935	398 880	614

(1): Number of unique individual bidders or unique successful bidders present in a whole month.

**Graph 4: General allowances - average bid volume and volume won per bidder over 15 months<sup>15</sup>**



<sup>12</sup> Monthly weighted average of the average volume won per bidder in each auction (total volume won in each auction divided by the number of successful bidders in that auction), weighted by volume auctioned in each auction.

<sup>13</sup> Average over the whole month of the volume won per bidder each time they are successful in an auction (computed as total volume auctioned for the month / sum over whole month of number of bidders successful in each auction).

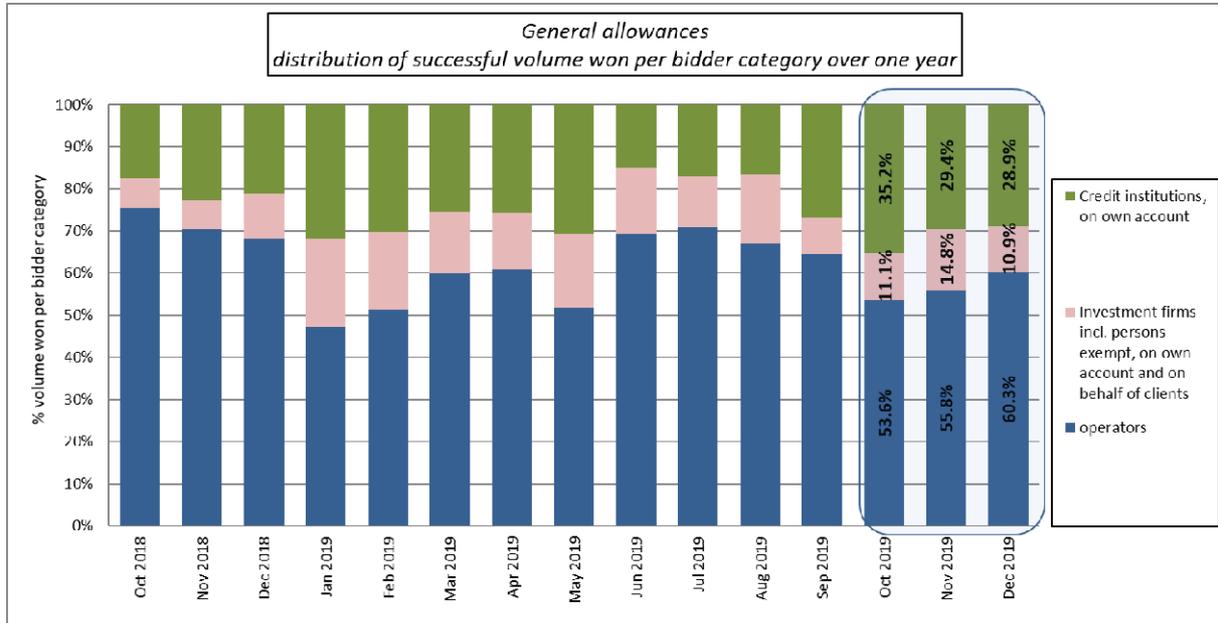
<sup>14</sup> Standard deviation of volume won per bidder in each auction over the month.

<sup>15</sup> Auctions on behalf of Poland were held on the following days: 10/10/2018, 24/10/2018, 7/11/2018, 21/11/2018, 5/12/2018, 16/1/2019, 30/1/2019, 13/2/2019, 27/2/2019, 13/3/2019, 27/3/2019, 10/4/2019, 24/4/2019, 8/5/2019, 22/5/2019, 5/6/2019, 19/6/2019, 3/7/2019, 17/7/2019, 31/7/2019, 14/8/2019, 28/8/2019, 11/9/2019, 25/9/2019, 9/10/2019, 23/10/2019, 6/11/2019, 20/11/2019, 4/12/2019.

### 1.1.3. Type of bidders - general allowances

The volume submitted by intermediaries on behalf of a client<sup>16</sup> in October, November and December 2019 was respectively 0%, 0% and 0%, the remaining volume bid was done on own account. The shares in the total successful bid volume per bidder category are indicated in Graph 5 and in Table 4.

**Graph 5:** General allowances - distribution of successful won volume per bidder category over 15 months



**Table 4:** General allowances – distribution of volume won per bidder category and their standard deviations

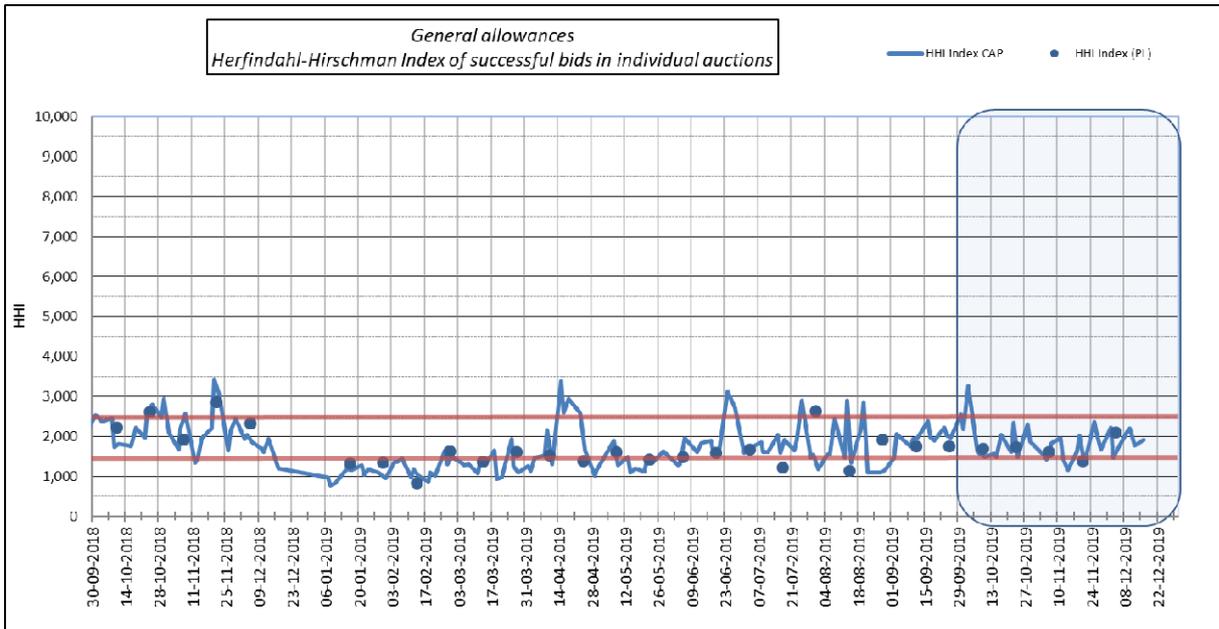
Month	% volume won coming from bidding on behalf of a client	Bidder category	% volume won	Standard deviation of % of volume won
October 2019	0%	Operators (including Business groupings)	53.6%	14.3% points
		Investment firms (including persons exempt)	11.1%	6.9% points
		Credit institutions	35.2%	16.2% points
November 2019	0%	Operators (including Business groupings)	55.8%	7.3% points
		Investment firms (including persons exempt)	14.8%	6.0% points
		Credit institutions	29.4%	6.8% points
December 2019	0%	Operators (including Business groupings)	60.3%	9.6% points
		Investment firms (including persons exempt)	10.9%	7.2% points
		Credit institutions	28.9%	11.4% points

<sup>16</sup> The data related to bidding on behalf of clients reflects the self-assessment of the respective trader.

### 1.1.4. Concentration - general allowances

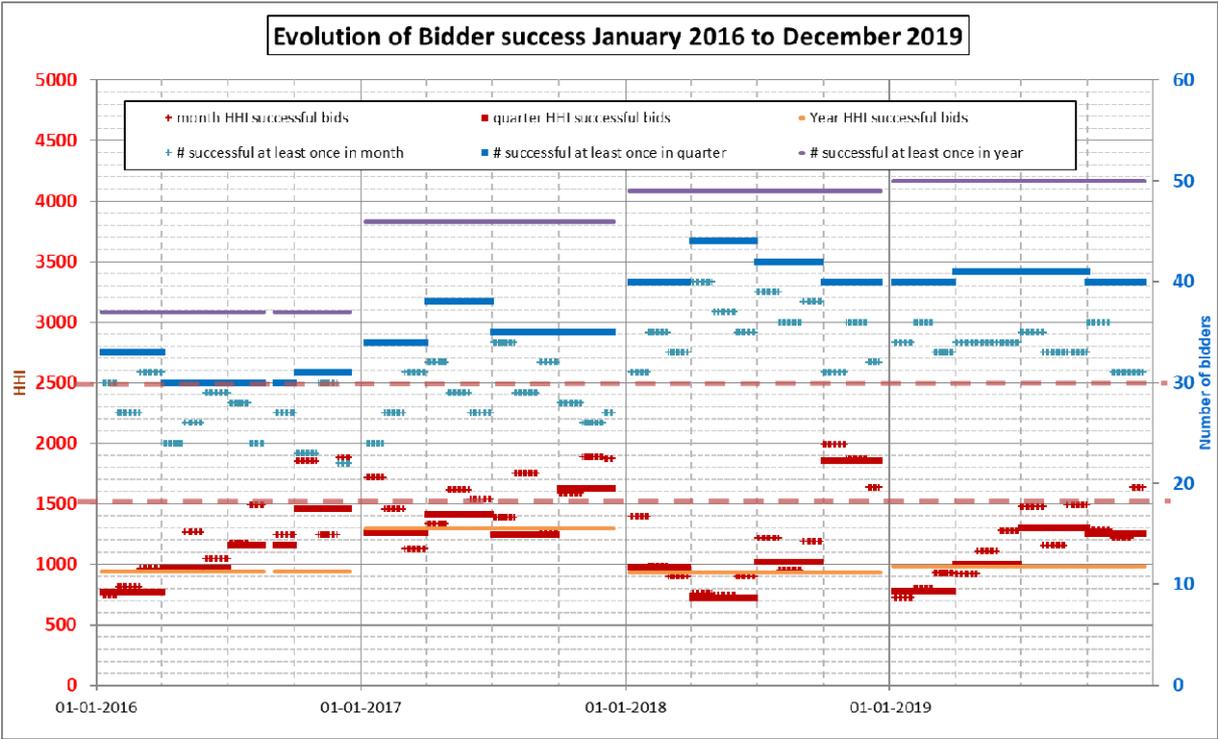
The Herfindahl-Hirschman Index (HHI) of successful bids is used to measure market concentration<sup>17</sup>. The HHI ranges from a value of 0 (perfect competition) to 10 000 (a single buyer). A common interpretation of the HHI is that a score below 1 500 is 'not-concentrated,' between 1 500 and 2 500 is 'moderately concentrated,' and above 2 500 is 'highly concentrated' – these thresholds are indicated in Graphs 6 and 7. Graph 6 indicates the HHI of the individual auctions. Graph 7 indicates the monthly and quarterly HHI and successful bidder participation (number of bidders successful at least once in the period of interest) so as to show the variation over different periods, due to the turnover of participants in the auctions.

**Graph 6:** General allowances - Herfindahl-Hirschman Index of successful bids in individual auctions over 15 months



<sup>17</sup> The HHI is calculated as the sum of the squares of all successful bidders' shares (in percentage points) of the total auctioned volume over the period of interest.

**Graph 7: General allowances - Herfindahl-Hirschman Index of successful bids and successful bidder participation at monthly, quarterly and yearly level**



## 1.2 Aviation allowances auctions

The auctioning of *aviation allowances* restarted as of November 2014<sup>18</sup>. Pursuant to the published *auction calendar*, only *aviation allowances* for the calendar year 2012 were auctioned in 2014<sup>19</sup>; the *aviation allowances* for the calendar years 2013-2015 were auctioned in 2015, in accordance with the published 2015 *auction calendar*. Poland decided to aggregate the *aviation allowances* for the calendar years 2012 to 2015 in a single auction held in May 2015.

### 1.2.1 Clearing prices and participation – aviation allowances

An overview of the auction results is provided in Table 5.

**Table 5:** Aviation allowances – main statistics on the results of the auctions per month

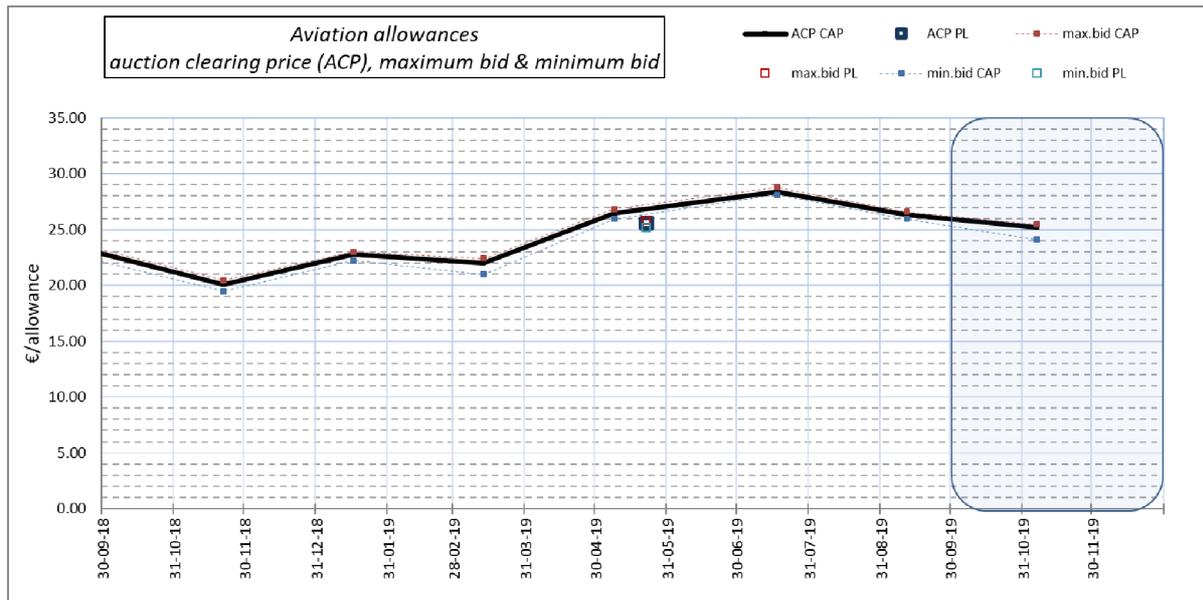
Month	Total auction volume	Total bid volume	Total revenue (€)	Average Cover ratio <sup>20</sup>	Average number of bidders	Average number of successful bidders	Average auction clearing price (€)
December 2019	-	-	-	-	-	-	-
November 2019	884 500	3 202 500	22 271 710	3.6	10	5	25.18
October 2019	-	-	-	-	-	-	-
September 2019	892 000	1 320 000	23 495 280	1.5	8	7	26.34
August 2019	-	-	-	-	-	-	-
July 2019	892 000	1 512 000	25 306 040	1.7	7	6	28.37
June 2019	-	-	-	-	-	-	-
May 2019	884 500	3 202 500	22 271 710	3.6	8	4.5	25.18
April 2019	-	-	-	-	-	-	-
March 2019	640 000	2 253 000	14 067 200	3.5	10	8	21.98
February 2019	-	-	-	-	-	-	-
January 2019	640 000	2 259 000	14 598 400	3.5	8	3	22.81
December 2018	-	-	-	-	-	-	-
November 2018	955 000	3 580 000	19 195 500	3.7	10	7	20.10
October 2018	-	-	-	-	-	-	-
<b>2019 total</b>	<b>4 701 000</b>	<b>13 172 500</b>	<b>119 584 255</b>	<b>2.8</b>	<b>8.7</b>	<b>5.9</b>	<b>25.44</b>
<b>2018 total</b>	<b>3 941 000</b>	<b>10 830 000</b>	<b>73 956 020</b>	<b>2.7</b>	<b>8.8</b>	<b>6.1</b>	<b>18.77</b>
<b>2017 total</b>	<b>3 329 500</b>	<b>10 300 000</b>	<b>23 771 460</b>	<b>3.1</b>	<b>7.5</b>	<b>6.5</b>	<b>7.14</b>
<b>2016 total</b>	<b>4 219 000</b>	<b>17 973 500</b>	<b>22 266 205</b>	<b>4.3</b>	<b>10.4</b>	<b>4.6</b>	<b>5.28</b>
<b>2015 total</b>	<b>11 641 000</b>	<b>39 026 000</b>	<b>81 846 705</b>	<b>3.4</b>	<b>11.0</b>	<b>7.5</b>	<b>7.03</b>
<b>2014 total</b>	<b>6 570 500</b>	<b>28 201 500</b>	<b>39 454 510</b>	<b>4.3</b>	<b>13.0</b>	<b>8.0</b>	<b>6.00</b>

<sup>18</sup> The auctions were suspended end 2012, see the Regulatory update published by the Commission on 16 November 2012 [http://ec.europa.eu/clima/news/articles/news\\_2012111601\\_en.htm](http://ec.europa.eu/clima/news/articles/news_2012111601_en.htm).

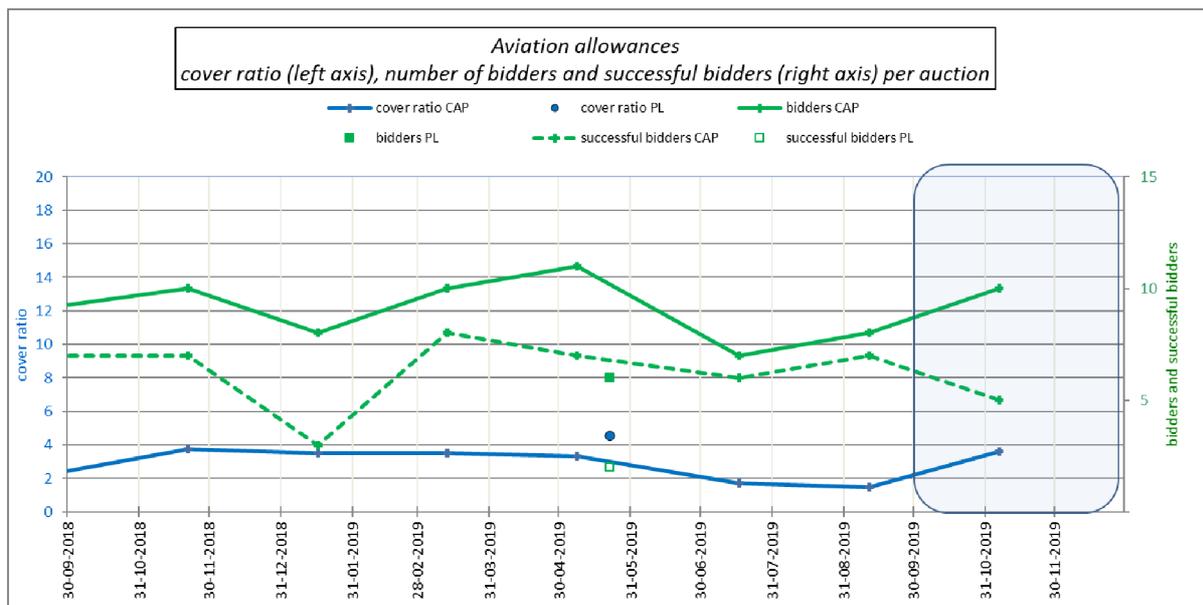
<sup>19</sup> See also the regulatory update published by the Commission on 29 July 2014: [http://ec.europa.eu/clima/news/articles/news\\_2014072901\\_en.htm](http://ec.europa.eu/clima/news/articles/news_2014072901_en.htm).

<sup>20</sup> The cover ratio is the ratio between the total bid volume and the auction volume.

**Graph 8:** Aviation allowances - auction clearing price (ACP) & maximum prices bid & minimum prices bid<sup>21</sup>



**Graph 9:** Aviation allowances - cover ratio (left axis), number of bidders and successful bidders (right axis) per auction



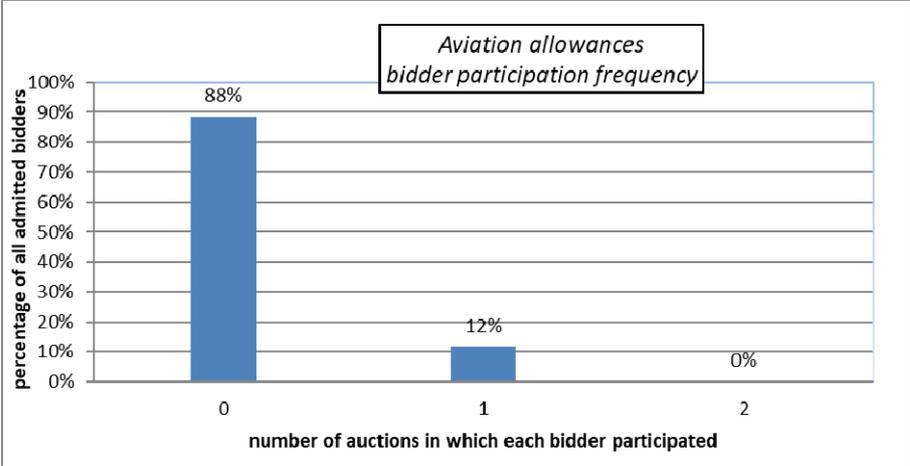
<sup>21</sup> Auctions on behalf of Poland were held on the following days: 22/5/2019.

**Graph 10:** Aviation allowances – bidder participation frequency

October

No aviation allowances have been auctioned in October 2019.

November



December

No aviation allowances have been auctioned in December 2019.

### 1.2.2 Bidding behaviour – aviation allowances

Table 6 provides monthly data on the bids submitted over 15 months. See also Graph 11.

**Table 6:** Aviation allowances – monthly statistics on the submitted bids

Month	Nr of auctions	Nr of bidders <sup>(1)</sup>	Total volume of bids	Average total volume bid per bidder per auction <sup>22</sup>	Average total volume bid per bidder per auction over the month <sup>23</sup>	standard deviation of total volume bid per bidder per auction over the month <sup>24</sup>	Total monthly nr of bids	Average nr. of bids per bidder per auction <sup>25</sup>	Average bid size <sup>26</sup>
December 2019	-	-	-	-	-	-	-	-	-
November 2019	1	10	3 202 500	320 250	320 250	290 402	75	7.5	42 700
October 2019	-	-	-	-	-	-	-	-	-
September 2019	1	8	1 320 000	165 000	165 000	163 917	36	4.5	36 667
August 2019	-	-	-	-	-	-	-	-	-
July 2019	1	7	1 512 000	216 000	216 000	141 690	24	3.4	63 000
June 2019	-	-	-	-	-	-	-	-	-
May 2019	2	11	2 626 000	192 523	164 125	138 496	75	4.7	41 719
April 2019	-	-	-	-	-	-	-	-	-
March 2019	1	10	2 253 000	225 300	225 300	165 369	45	4.5	50 067
February 2019	-	-	-	-	-	-	-	-	-
January 2019	1	8	2 259 000	282 375	282 375	237 360	56	7.0	40 339
December 2018	-	-	-	-	-	-	-	-	-
November 2018	1	10	3 580 000	358 000	358 000	302 491	56	5.6	63 929
October 2018	-	-	-	-	-	-	-	-	-

(1): Number of unique individual bidders or unique successful bidders present in a whole month.

<sup>22</sup> Monthly weighted average of the average bid volume per bidder in each auction (total bid volume in each auction divided by number of bidders participating in that auction), weighted by volume auctioned in each auction.

<sup>23</sup> Average over the whole month of the volume bid by bidders each time they are present in an auction (computed as total volume bid for the month / sum over the whole month of number of bidders present in each auction).

<sup>24</sup> Standard deviation of total volume bid per bidder in each auction over the month.

<sup>25</sup> Monthly simple average of the average number of bids per bidder in each auction (total number of bids in each auction divided by number of bidders participating in that auction).

<sup>26</sup> Monthly weighted average of the average bid size per bidder in each auction (total bid volume in each auction divided by number of bids in that auction), weighted by volume auctioned in each auction.

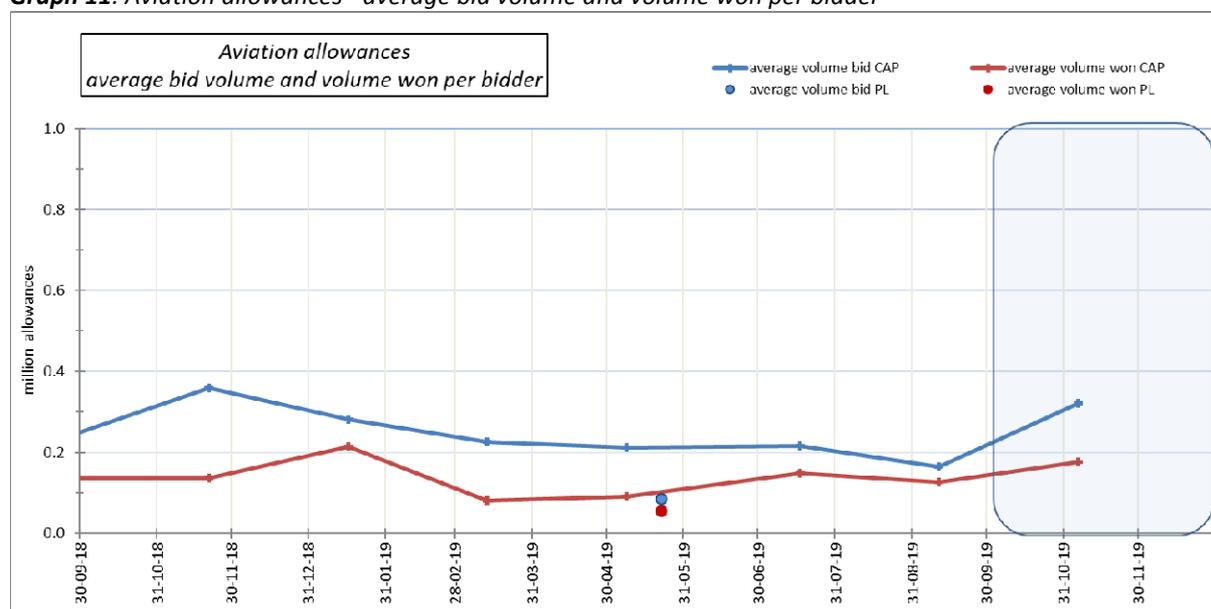
Table 7 provides monthly data on successful bids over 15 months. See also Graph 11.

**Table 7: Aviation Allowances – Monthly statistics on successful bids**

Month	Nr of auctions	Nr of successful bidders <sup>(1)</sup>	Total auction volume	Average volume won per bidder per auction <sup>27</sup>	Average volume won per bidder per auction over the month <sup>28</sup>	Standard deviation of volume won per bidder per auction over the month <sup>29</sup>	Total monthly nr of successful bids
December 2019	-	-	-	-	-	-	-
November 2019	1	5	884 500	176 900	176 900	93 504	10
October 2019	-	-	-	-	-	-	-
September 2019	1	7	892 000	127 429	127 429	138 949	24
August 2019	-	-	-	-	-	-	-
July 2019	1	6	892 000	148 667	148 667	78 754	14
June 2019	-	-	-	-	-	-	-
May 2019	2	7	752 500	86 169	83 611	77 997	18
April 2019	-	-	-	-	-	-	-
March 2019	1	8	640 000	80 000	80 000	69 588	13
February 2019	-	-	-	-	-	-	-
January 2019	1	3	640 000	213 333	213 333	89 567	5
December 2018	-	-	-	-	-	-	-
November 2018	1	7	955 000	136 429	136 429	135 677	12
October 2018	-	-	-	-	-	-	-

(1): Number of unique individual bidders or unique successful bidders present in a whole month.

**Graph 11: Aviation allowances - average bid volume and volume won per bidder**



<sup>27</sup> Monthly weighted average of the average volume won per bidder in each auction (total volume won in each auction divided by the number of successful bidders in that auction), weighted by volume auctioned in each auction.

<sup>28</sup> Average over the whole month of the volume won per bidder each time they are successful in an auction (computed as total volume auctioned for the month / sum over the whole month of number of bidders present in each auction).

<sup>29</sup> Standard deviation of volume won per bidder in each auction over the month.

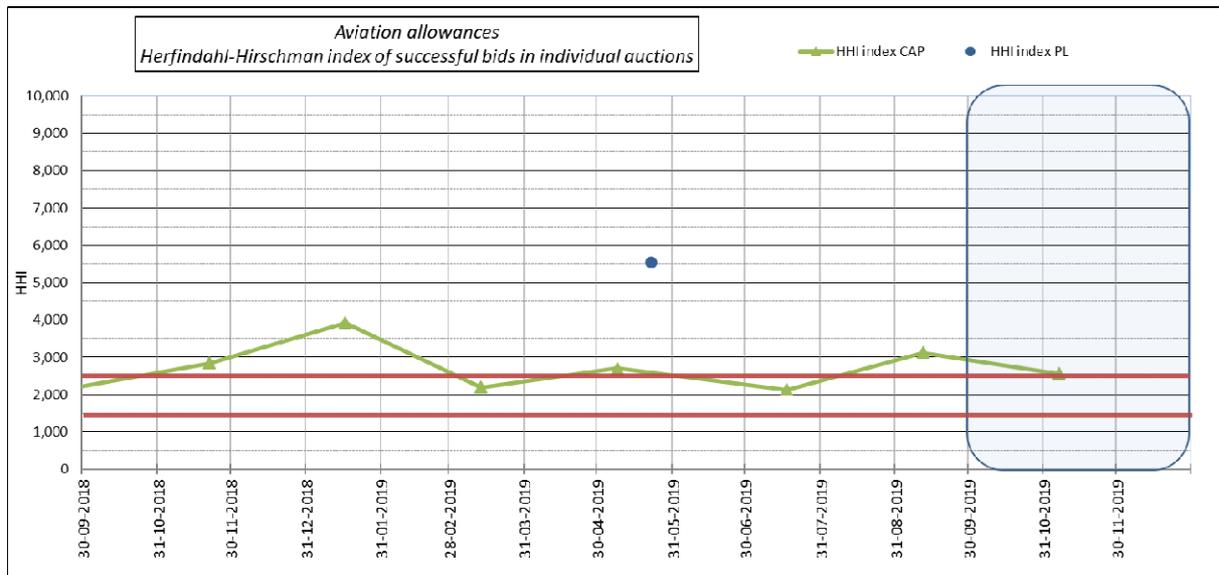
### 1.2.3 Type of bidders – aviation allowances

In October, November, December all volume bid was done on own account.

### 1.2.4 Concentration – aviation allowances

The HHI of successful bids is used to measure market concentration<sup>30</sup>. The HHI ranges from a value of 0 (perfect competition) to 10 000 (a single buyer). A common interpretation of the HHI is that a score below 1 500 is ‘not-concentrated’, between 1 500 and 2 500 is ‘moderately concentrated,’ and above 2 500 is ‘highly concentrated’. Graph 12 indicates the HHI of the individual auctions.

**Graph 12:** Aviation allowances - Herfindahl-Hirschman index of successful bids in individual auctions



<sup>30</sup> The HHI is calculated as the sum of the squares of all successful bidders' shares (in percentage points) of the total auctioned volume over the period of interest.

## 2. Implementation of and compliance with the applicable rules

### Fair and open access

EEX verified that each auction participant belonged to one of the categories of eligible bidders set out in Article 18 of the *Auctioning Regulation*. Table 9 presents the number of eligible bidders under each category in the reporting months.

Most of the active participants in the secondary carbon market are assumed to also have been admitted to bid in the auctions<sup>31</sup>.

**Table 8:** Eligible participants to the auctions by category

Number of participants		Operator		Investment firm	Credit Institution	Business grouping	Person exempt from MiFID requirements	Total
		Stationary	Aircraft					
Participants admitted to EEX's emissions spot secondary market	Oct 2019							133
	Nov 2019							135
	Dec 2019							
Participants eligible to bid in the auctions	Oct 2019						8	85
	Nov 2019	59	1	12	5	-	9	86
	Dec 2019							
(Of which:) Participants eligible to bid in the auctions on behalf of clients	Oct 2019							
	Nov 2019	-	-	3	2	-	3	8
	Dec 2019							
(Of which:) Auction-only access	Oct 2019							
	Nov 2019	1	-	-	-	-	1	2
	Dec 2019							

No irregularities or deviations from the admission and access requirements were found.

### Transparency

Information on the auctions was published by EEX in accordance with Chapter XVI of the *Auctioning Regulation*.

No infringements of the confidentiality requirements were identified.

### Technical and operational aspects

With regard to the operational performance of the auctions, no irregularities or deviations from the requirements were found.

EEX's Market Surveillance department surveyed all auctions with a view to detecting any *market abuse*, money laundering, terrorist financing or other criminal activities. No such wrongdoing was publicly reported.

### Other aspects

No other problems or issues were identified.

<sup>31</sup> This assessment is based on the auction participants' activity in EEX's secondary market and general market knowledge of EEX.

### 3. Overview of, and any updates on breaches of provisions or ongoing proceedings

No breaches or problems of non-conformity were reported. There were no proceedings on such breaches or problems of non-conformity dating from before the reporting period.

#### **Comments of the auction platform on the draft of this report**

EEX reviewed the auction data presented in the report.

**Date of publication:** DD/MM/2020

## Glossary

Auction calendar	Document setting out the <i>bidding windows</i> , individual volumes and auction dates of the auctions in a given calendar year. See Articles 11, 13 and 32 of the <i>Auctioning Regulation</i> .
Auction Clearing Price	Price determined upon closure of the <i>bidding window</i> .
Auction-only access	Access to the auctions without becoming a member of or participant in other markets organised by the auction platform.
Auctioning Regulation	Commission Regulation (EU) No 1031/2010 — Timing, administration and other aspects of auctioning of greenhouse gas emission allowances pursuant to Directive 2003/87/EC of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowances trading within the Community, Official Journal L 302, 18.11.2010, p. 1, as subsequently amended. See: <a href="http://ec.europa.eu/clima/policies/ets/cap/auctioning/documentation_en.htm">http://ec.europa.eu/clima/policies/ets/cap/auctioning/documentation_en.htm</a> .
Auctioneer	Entity appointed by a Member State that offers the allowances to be auctioned to the auction platform and receives the auction proceeds due to the appointing Member State. See Articles 22 and 23 of the <i>Auctioning Regulation</i> .
Best-bid and best-ask prices	The best-bid price is the highest price any buyer is willing to pay and the best-ask price is the lowest price any seller is willing to accept.
Business groupings	Groupings of operators or aircraft operators. See Article 18(1)(d) of the <i>Auctioning Regulation</i> .
Bidding window	Time during which bidders can submit bids. See Article 8(1) of the <i>Auctioning Regulation</i> .
Clearing	Processes preceding the opening of the <i>Bidding window</i> , during the <i>Bidding window</i> and following the closure of the <i>Bidding window</i> until <i>Settlement</i> , involving the management of any risks arising during that interval including margining, netting or novation or any other services carried out possibly by a <i>Clearing</i> or <i>Settlement</i> system. See Article 3(31) of the <i>Auctioning Regulation</i> .
Cover ratio	Total bid volume divided by the available volume in the auction.
Credit institution	Credit institution as defined in EU legislation on credit institutions (Article 4(1) of Directive 2006/48/EC).
ETS Directive	Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, OJ L 275, 25.10.2003, p. 32, as subsequently amended. See: <a href="http://ec.europa.eu/clima/policies/ets/documentation_en.htm">http://ec.europa.eu/clima/policies/ets/documentation_en.htm</a> .

General Allowance	Allowance to emit one tonne of CO <sub>2</sub> -equivalent, see Article 3(a) of the <i>ETS Directive</i> , also referred to as <i>EUA</i> .
Aviation Allowance	Allowance to emit one tonne of CO <sub>2</sub> -equivalent that can be used by aircraft operators, also referred to as <i>EUA</i> . See Article 12(2a) and (3) of the <i>ETS Directive</i> .
Investment firms	Investment firms as defined in EU financial markets legislation (point (1) of Article 4(1) of Directive 2004/39/EC).
Market abuse	Insider dealing and market manipulation. See Article 36 of the <i>Auctioning Regulation</i> and Article 1 of Directive 2003/6/EC ('Market Abuse Directive').
Participating Member States	All EU Member States except Germany, Poland and the UK, which decided to opt out from the joint procurement of a common auction platform pursuant to Article 30 of the <i>Auctioning Regulation</i> .
Persons exempt from MiFID	Natural or legal persons exempt from the authorisation requirements in EU financial law because their trading and investment services activities are only ancillary to their main business (Article 2(1)(i) of Directive 2004/39/EC) and that have been authorised under national legislation implementing the rules laid down in the <i>Auctioning Regulation</i> to bid for allowances in the auctions. See Article 18(2) of the <i>Auctioning Regulation</i> .
Secondary market	Market in which persons buy or sell allowances either before or after they are allocated, either free of charge or through auctioning. To be distinguished from the 'primary market', consisting of the auctions of allowances.
Settlement	Payment on delivery of the allowances. See Article 3(34) of the <i>Auctioning Regulation</i> .
Spot secondary market	<i>Secondary market</i> for allowances with delivery within 5 days from the transaction.
Third trading period	The period 2013-2020, including the allowances referred to in Article 10(1) of the <i>Auctioning Regulation</i> auctioned in 2012. Allowances are valid during a given period without distinction as regards the year within that period. See Article 13 of the <i>ETS Directive</i> .
Common auction platform	Auction platform appointed pursuant to Article 26(1) or (2) of the <i>Auctioning Regulation</i> . The common auction platform appointed pursuant to Article 26(2) of the <i>Auctioning Regulation</i> (also referred to as transitional common auction platform or TCAP) conducted auctions until 18 August 2016. The <i>common auction platform</i> referred to as CAP2 the second common auction platform or CAP2 was appointed, pursuant to Article 26(1) of the <i>Auctioning Regulation</i> , on 13 July 2016 until July 2021.

## Annex 1 Auction revenues per Member State from 12 November 2012 until December 2019 (reported in euros)

(The data used in this annex can also be obtained directly from the EEX website.)

	General allowances	Aviation allowances	General and aviation allowances
<b>Austria</b>	721,901,530	9,923,760	731,825,290
<b>Belgium</b>	1,332,103,735	12,037,455	1,344,141,190
<b>Bulgaria</b>	1,253,631,535	3,590,790	1,257,222,325
<b>Croatia</b>	276,393,215	2,122,875	278,516,090
<b>Cyprus</b>	57,571,765	5,565,660	63,137,425
<b>Czech Republic</b>	1,775,547,150	4,898,170	1,780,445,320
<b>Denmark</b>	646,646,840	11,209,970	657,856,810
<b>Estonia</b>	392,020,940	623,745	392,644,685
<b>Finland</b>	867,035,645	8,698,180	875,733,825
<b>France</b>	2,839,157,980	55,183,365	2,894,341,345
<b>Greece</b>	1,848,158,985	19,607,795	1,867,766,780
<b>Hungary</b>	776,721,475	3,958,070	780,679,545
<b>Iceland</b>	23,905,270	1,864,825	25,770,095
<b>Ireland</b>	482,313,285	8,822,610	491,135,895
<b>Italy</b>	5,015,852,120	58,688,320	5,074,540,440
<b>Latvia</b>	146,479,395	2,118,080	148,597,475
<b>Lichtenstein</b>	521,200	0	521,200
<b>Lithuania</b>	284,660,075	1,113,920	285,773,995
<b>Luxemburg</b>	63,607,640	1,460,480	65,068,120
<b>Malta</b>	54,651,595	2,217,140	56,868,735
<b>The Netherlands</b>	1,736,752,165	19,109,035	1,755,861,200
<b>Norway</b>	476,775,610	18,242,275	495,017,885
<b>Poland</b>	4,848,664,210	8,723,425	4,857,387,635
<b>Portugal</b>	935,918,945	11,975,330	947,894,275
<b>Romania</b>	2,372,992,730	6,230,630	2,379,223,360
<b>Slovak Republic</b>	842,015,305	773,220	842,788,525
<b>Slovenia</b>	237,204,780	551,565	237,756,345
<b>Spain</b>	4,581,426,675	67,079,225	4,648,505,900
<b>Sweden</b>	470,012,505	14,489,240	484,501,745
<b>TOTAL</b>	<b>35,360,644,300</b>	<b>360,879,155</b>	<b>35,721,523,455</b>

## Annex 2 Results of individual auctions on behalf of participating Member States and Poland in October – December 2019

(The data used in the highlighted subsection of the tables presented in this annex can also be obtained directly from the EEX website.)

General Allowances – October 2019																			
Date	Auction Clearing Price	Minimum Bid price	Maximum Bid price	Mean Bid price	Median Bid price	Total Auction Volume	Total Bid Volume	Cover ratio	Nr of Bidders	Nr of Successful Bidders	Total Revenue	Nr of Bids	Nr of Successful Bids	Avg nr of bids per bidder	Average bid size	Avg total volume bid per bidder	standard deviation of total volume bid per bidder	Average volume won per bidder	Standard deviation of volume won per bidder
01.10.2019	24.40	23.99	27.50	24.52	24.42	2,744,500	3,986,000	1.45	26	20	66,965,800	90	50	3.46	44 289	153 308	243 364	137 225	251 782
03.10.2019	24.03	23.46	26.00	23.95	23.81	2,744,500	6,749,500	2.46	21	12	65,950,335	71	18	3.38	95 063	321 405	681 110	228 708	391 416
07.10.2019	22.77	22.32	32.00	22.99	22.75	2,744,500	4,780,000	1.74	24	18	62,492,265	94	37	3.92	50 851	199 167	262 237	152 472	212 537
08.10.2019	23.37	22.92	26.00	23.35	23.24	2,744,500	5,633,500	2.05	25	17	64,138,965	100	25	4.00	56 335	225 340	252 492	161 441	208 232
09.10.2019	22.16	21.00	25.00	22.09	22.00	4,714,500	8,219,000	1.74	23	13	104,473,320	99	23	4.30	83 020	357 348	504 935	362 654	398 066
10.10.2019	22.83	21.00	25.00	22.80	22.71	2,744,500	5,672,000	2.07	28	18	62,656,935	104	24	3.71	54 538	202 571	284 464	152 472	198 401
14.10.2019	23.82	21.00	26.00	23.78	23.75	2,744,500	4,946,500	1.80	25	16	65,373,990	83	24	3.32	59 596	197 860	320 049	171 531	210 865
15.10.2019	24.48	21.00	26.00	24.44	24.45	2,744,500	4,501,000	1.64	22	15	67,185,360	78	28	3.55	57 705	204 591	246 047	182 967	202 825
17.10.2019	25.96	21.00	40.00	26.01	25.75	2,744,500	6,533,000	2.38	23	13	71,247,220	84	17	3.65	77 774	284 043	405 719	211 115	271 262
21.10.2019	25.90	0.01	29.00	25.53	25.92	2,744,500	3,878,500	1.41	21	19	71,082,550	71	40	3.38	54 627	184 690	260 453	144 447	207 902
22.10.2019	25.70	21.00	29.00	25.55	25.57	2,744,500	6,301,500	2.30	23	11	70,533,650	92	13	4.00	68 495	273 978	395 013	249 500	314 618
23.10.2019	25.09	21.00	35.00	25.15	25.01	4,714,500	7,667,000	1.63	23	17	118,286,805	116	34	5.04	66 095	333 348	536 107	277 324	387 581
24.10.2019	24.61	21.00	28.00	24.59	24.55	2,744,500	4,239,500	1.54	23	19	67,542,145	87	35	3.78	48 730	184 326	226 056	144 447	194 613
28.10.2019	24.68	21.00	29.00	24.78	24.61	2,744,000	4,270,500	1.56	23	16	67,721,920	94	31	4.09	45 431	185 674	286 559	171 500	281 456
29.10.2019	25.40	21.00	30.00	25.37	25.21	2,744,000	5,253,500	1.91	24	12	69,697,600	95	16	3.96	55 300	218 896	292 925	228 667	254 794
31.10.2019	25.95	25.60	30.00	26.20	25.95	2,744,000	4,333,500	1.58	18	15	71,206,800	61	31	3.39	71 041	240 750	326 802	182 933	232 824

Note: volume variables reported in tCO<sub>2</sub>, monetary variables reported in €

(1): Number of unique individual bidders or unique successful bidders present in a whole month. (2): Average number of bids submitted over the whole month by each bidder in each auction. Computed as total number of bids for the month / sum over whole month of number of bidders present in each auction. (3): Average size of all bids submitted in all auctions over the month. Computed as total bid volume for the month / number of bids for the month. (4): Average over the whole month of the volume bid by bidders each time they are present in an auction. Computed as total volume bid for the month / sum over whole month of number of bidders present in each auction. (5): Standard deviation of the total volume bid, by each bidder in each auction, over the whole month. (6): Average over the whole month of the volume won by bidders each time they are successful in an auction. Computed as total auction volume for the month / sum over whole month of number of bidders successful in each auction. (7): Standard deviation of the total volume won by each bidder in each auction, over the whole month. (8): HHI Monthly value is computed considering successful bidder's market share over whole month.

General Allowances – November 2019

Date	Auction Clearing Price	Minimum Bid price	Maximum Bid price	Mean Bid price	Median Bid price	Total Auction Volume	Total Bid Volume	Cover ratio	Nr of Bidders	Nr of Successful Bidders	Total Revenue	Nr of Bids	Nr of Successful Bids	Avg nr of bids per bidder	Average bid size	Avg total volume bid per bidder	standard deviation of total volume bid per bidder	Average volume won per bidder	Standard deviation of volume won per bidder
04.11.2019	24.93	21.00	30.00	24.99	24.91	2,744,000	4,806,500	1.75	22	18	68,407,920	68	30	3.09	70 684	218 477	314 265	152 444	201 695
05.11.2019	25.80	25.50	30.00	25.88	25.75	2,744,000	4,482,500	1.63	22	17	70,795,200	75	25	3.41	59 767	203 750	238 236	161 412	193 036
06.11.2019	25.10	21.00	29.00	25.08	25.07	4,714,500	8,190,500	1.74	25	21	118,333,950	114	41	4.56	71 846	327 620	451 769	224 500	347 953
07.11.2019	24.86	21.00	29.00	24.92	24.84	2,744,000	5,027,500	1.83	23	19	68,215,840	95	40	4.13	52 921	218 587	346 633	144 421	228 020
11.11.2019	25.21	21.00	29.00	25.37	25.17	2,744,000	4,884,500	1.78	22	14	69,176,240	88	28	4.00	55 506	222 023	351 515	196 000	259 584
12.11.2019	24.95	21.00	30.00	25.02	24.90	2,744,000	4,525,000	1.65	21	17	68,462,800	93	33	4.43	48 656	215 476	258 397	161 412	195 897
14.11.2019	24.28	21.00	30.00	24.45	24.22	2,744,000	5,342,500	1.95	24	21	66,624,320	97	33	4.04	55 077	222 604	348 420	130 667	156 295
18.11.2019	23.41	21.00	28.00	23.39	23.32	2,744,000	5,689,000	2.07	26	15	64,237,040	107	29	4.12	53 168	218 808	336 040	182 933	219 753
19.11.2019	23.62	23.21	30.00	23.67	23.45	2,744,000	5,216,000	1.90	22	12	64,813,280	96	15	4.36	54 333	237 091	308 603	228 667	274 099
20.11.2019	23.34	21.00	30.00	23.32	23.22	4,714,500	8,406,000	1.78	21	13	110,036,430	106	25	5.05	79 302	400 286	475 960	362 654	325 295
21.11.2019	23.96	21.00	30.00	23.99	23.95	2,744,000	4,156,500	1.51	23	20	65,746,240	93	41	4.04	44 694	180 717	226 243	137 200	175 491
25.11.2019	24.52	21.00	29.00	24.72	24.49	2,744,000	4,337,500	1.58	21	13	67,282,880	86	32	4.10	50 436	206 548	364 494	211 077	304 430
26.11.2019	24.29	21.00	28.00	24.44	24.28	2,744,000	4,322,000	1.58	18	16	66,651,760	70	33	3.89	61 743	240 111	394 392	171 500	260 578
28.11.2019	24.91	21.00	30.00	24.96	24.95	2,744,000	3,432,000	1.25	18	17	68,353,040	66	47	3.67	52 000	190 667	267 948	161 412	218 847

Note: volume variables reported in tCO2, monetary variables reported in €

(1): Number of unique individual bidders or unique successful bidders present in a whole month. (2): Average number of bids submitted over the whole month by each bidder in each auction. Computed as total number of bids for the month / sum over whole month of number of bidders present in each auction. (3): Average size of all bids submitted in all auctions over the month. Computed as total bid volume for the month / number of bids for the month. (4): Average over the whole month of the volume bid by bidders each time they are present in an auction. Computed as total volume bid for the month / sum over whole month of number of bidders present in each auction. (5): Standard deviation of the total volume bid, by each bidder in each auction, over the whole month. (6): Average over the whole month of the volume won by bidders each time they are successful in an auction. Computed as total auction volume for the month / sum over whole month of number of bidders successful in each auction. (7): Standard deviation of the total volume won by each bidder in each auction, over the whole month, (8): HHI Monthly value is computed considering successful bidder's market share over whole month.

*General Allowances – December 2019*

Date	Auction Clearing Price	Minimum Bid price	Maximum Bid price	Mean Bid price	Median Bid price	Total Auction Volume	Total Bid Volume	Cover ratio	Nr of Bidders	Nr of Successful Bidders	Total Revenue	Nr of Bids	Nr of Successful Bids	Avg nr of bids per bidder	Average bid size	Avg total volume bid per bidder	standard deviation of total volume bid per bidder	Average volume won per bidder	Standard deviation of volume won per bidder
02.12.2019	24.62	21.00	27.00	24.63	24.62	2,744,000	4,298,500	1.57	24	19	67,557,280	95	43	3.96	45 247	179 104	301 607	144 421	259 953
03.12.2019	24.41	21.00	30.01	24.50	24.37	2,744,000	4,858,000	1.77	24	20	66,981,040	92	32	3.83	52 804	202 417	295 921	137 200	191 560
04.12.2019	24.10	21.00	26.00	23.98	23.93	4,717,500	9,654,000	2.05	20	9	113,691,750	102	23	5.10	94 647	482 700	711 585	524 167	495 642
05.12.2019	24.50	21.00	26.00	24.47	24.43	2,744,000	5,354,000	1.95	21	15	67,228,000	92	29	4.38	58 196	254 952	396 446	182 933	230 405
09.12.2019	24.40	21.00	26.00	24.30	24.37	2,744,000	5,004,000	1.82	17	15	66,953,600	72	31	4.24	69 500	294 353	489 700	182 933	270 365
10.12.2019	24.98	23.99	27.00	25.08	24.96	2,744,000	5,103,000	1.86	24	20	68,545,120	102	43	4.25	50 029	212 625	401 348	137 200	253 407
12.12.2019	24.62	21.00	26.00	24.48	24.42	2,744,000	6,226,500	2.27	22	10	67,557,280	97	18	4.41	64 191	283 023	413 993	274 400	240 189
16.12.2019	24.21	21.00	26.00	24.09	24.05	3,013,000	5,333,000	1.77	20	11	72,944,730	92	19	4.60	57 967	266 650	391 858	273 909	289 081

Note: volume variables reported in tCO<sub>2</sub>, monetary variables reported in €

(1): Number of unique individual bidders or unique successful bidders present in a whole month. (2): Average number of bids submitted over the whole month by each bidder in each auction. Computed as total number of bids for the month / sum over whole month of number of bidders present in each auction. (3): Average size of all bids submitted in all auctions over the month. Computed as total bid volume for the month / number of bids for the month. (4): Average over the whole month of the volume bid by bidders each time they are present in an auction. Computed as total volume bid for the month / sum over whole month of number of bidders present in each auction. (5): Standard deviation of the total volume bid, by each bidder in each auction, over the whole month. (6): Average over the whole month of the volume won by bidders each time they are successful in an auction. Computed as total auction volume for the month / sum over whole month of number of bidders successful in each auction. (7): Standard deviation of the total volume won by each bidder in each auction, over the whole month, (8): HHI Monthly value is computed considering successful bidder's market share over whole month.

Aviation Allowances – October 2019																			
Date	Auction Clearing Price	Minimum Bid price	Maximum Bid price	Mean Bid price	Median Bid price	Total Auction Volume	Total Bid Volume	Cover ratio	Nr of Bidders	Nr of Successful Bidders	Total Revenue	Nr of Bids	Nr of Successful Bids	Avg nr of bids per bidder	Average bid size	Avg total volume bid per bidder	standard deviation of total volume bid per bidder	Average volume won per bidder	Standard deviation of volume won per bidder
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: volume variables reported in tCO2, monetary variables reported in €

(1): Number of unique individual bidders or unique successful bidders present in a whole month. (2): Average number of bids submitted over the whole month by each bidder in each auction. Computed as total number of bids for the month / sum over whole month of number of bidders present in each auction. (3): Average size of all bids submitted in all auctions over the month. Computed as total bid volume for the month / number of bids for the month. (4): Average over the whole month of the volume bid by bidders each time they are present in an auction. Computed as total volume bid for the month / sum over whole month of number of bidders present in each auction. (5): Standard deviation of the total volume bid, by each bidder in each auction, over the whole month. (6): Average over the whole month of the volume won by bidders each time they are successful in an auction. Computed as total auction volume for the month / sum over whole month of number of bidders successful in each auction. (7): Standard deviation of the total volume won by each bidder in each auction, over the whole month, (8): HHI Monthly value is computed considering successful bidder's market share over whole month.

**Aviation Allowances – November 2019**

Date	Auction Clearing Price	Minimum Bid price	Maximum Bid price	Mean Bid price	Median Bid price	Total Auction Volume	Total Bid Volume	Cover ratio	Nr of Bidders	Nr of Successful Bidders	Total Revenue	Nr of Bids	Nr of Successful Bids	Avg nr of bids per bidder	Average bid size	Avg total volume bid per bidder	standard deviation of total volume bid per bidder	Average volume won per bidder	Standard deviation of volume won per bidder
06.11.2019	25.18	24.10	25.45	24.86	25.00	884,500	3,202,500	3.62	10	5	22,271,710	75	10	7.50	42 700	320 250	290 402	176 900	93 504

Note: volume variables reported in tCO<sub>2</sub>, monetary variables reported in €

(1): Number of unique individual bidders or unique successful bidders present in a whole month. (2): Average number of bids submitted over the whole month by each bidder in each auction. Computed as total number of bids for the month / sum over whole month of number of bidders present in each auction. (3): Average size of all bids submitted in all auctions over the month. Computed as total bid volume for the month / number of bids for the month. (4): Average over the whole month of the volume bid by bidders each time they are present in an auction. Computed as total volume bid for the month / sum over whole month of number of bidders present in each auction. (5): Standard deviation of the total volume bid, by each bidder in each auction, over the whole month. (6): Average over the whole month of the volume won by bidders each time they are successful in an auction. Computed as total auction volume for the month / sum over whole month of number of bidders successful in each auction. (7): Standard deviation of the total volume won by each bidder in each auction, over the whole month, (8): HHI Monthly value is computed considering successful bidder's market share over whole month.

Aviation Allowances – December 2019																			
Date	Auction Clearing Price	Minimum Bid price	Maximum Bid price	Mean Bid price	Median Bid price	Total Auction Volume	Total Bid Volume	Cover ratio	Nr of Bidders	Nr of Successful Bidders	Total Revenue	Nr of Bids	Nr of Successful Bids	Avg nr of bids per bidder	Average bid size	Avg total volume bid per bidder	standard deviation of total volume bid per bidder	Average volume won per bidder	Standard deviation of volume won per bidder
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note: volume variables reported in tCO<sub>2</sub>, monetary variables reported in €

(1): Number of unique individual bidders or unique successful bidders present in a whole month. (2): Average number of bids submitted over the whole month by each bidder in each auction. Computed as total number of bids for the month / sum over whole month of number of bidders present in each auction. (3): Average size of all bids submitted in all auctions over the month. Computed as total bid volume for the month / number of bids for the month. (4): Average over the whole month of the volume bid by bidders each time they are present in an auction. Computed as total volume bid for the month / sum over whole month of number of bidders present in each auction. (5): Standard deviation of the total volume bid, by each bidder in each auction, over the whole month. (6): Average over the whole month of the volume won by bidders each time they are successful in an auction. Computed as total auction volume for the month / sum over whole month of number of bidders successful in each auction. (7): Standard deviation of the total volume won by each bidder in each auction, over the whole month, (8): HHI Monthly value is computed considering successful bidder's market share over whole month.

The data for previous auctions can be downloaded from EEX's website: <https://www.eex.com/en/products/environmental-markets/emissions-auctions/overview>