

Auctions by the *Common Auction Platform*

January, February, March 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:

7, 8, 10, 14, 15, 16(PL)¹, 17, 21, 22, 24, 28, 29, 30(PL) and 31 January 2019;

4, 5, 7, 11, 12, 13(PL), 14, 18, 19, 21, 25, 26, 27(PL) and 28 February 2019;

4, 5, 7, 11, 12, 13(PL), 14, 18, 19, 21, 25, 26, 27(PL) and 28 March 2019;

Aviation Allowances:

16 January 2019;

13 March 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 4.5 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.

¹ 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

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 2016². Auctioning by CAP2 for Poland started as from 19 March 2017 following the conclusion of a bilateral agreement between EEX and Poland.

The Member States of the European Free Trade Association (EFTA) that are Party to the European Economic Area (EEA)³ have also stated their intention to make use of the *Common Auction Platform* by aggregating their volumes to those auctioned on behalf of the *participating Member States*. The preparations for this are ongoing.

² 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.

³ 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 January, February, March 2019 auctions at a glance:

	General Allowances			Aviation Allowances		
	Jan	Feb	Mar	Jan	Feb	Mar
General						
Number of auctions	14	14	14	1	-	1
Total volume auctioned	38 797 000	38 797 000	38 797 000	640 000	-	640 000
Amount raised from the auctions (€)	890 293 255	806 922 870	845 041 090	14 598 400	-	14 067 200
Average Auction Clearing Price (€/allowance)	22.95	20.80	21.78	22.81	-	21.98
Total bid volume	87 990 000	89 736 000	72 123 000	2 259 000	-	2 253 000
Average <i>Cover ratio</i>	2.3	2.3	1.9	3.5	-	3.5
Monthly HHI	725	799	928	3 921	-	2 196
Participation						
Number of eligible bidders	80	80	80	80	-	80
Number of participating bidders ⁽¹⁾	37	38	37	8	-	10
Number of successful bidders ⁽¹⁾	34	36	33	3	-	8
Average number of bidders per auction	29.7	26.4	23.4	8	-	10
Average number of successful bidders per auction	20.8	19.9	17.2	3	-	8
Auction data						
Average total volume bid per bidder per auction	225 521	247 655	234 559	282 375	-	225 300
Average bid size (volume per bid)	70 316	78 220	68 596	40 339	-	50 067
Average volume won per bidder per auction	144 421	149 976	173 559	128 000	-	80 000
Average range of bids (€)	16.63	15.88	14.88	0.75	-	1.39

(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 March 2019 are EUR 26 545 664 680 , and of *aviation allowances* EUR 269 960 500. Further data are 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 website⁴.

Please note that in all parts of this report monthly averages provided are weighted by each auction's auction volume, unless otherwise indicated.

⁴ <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.

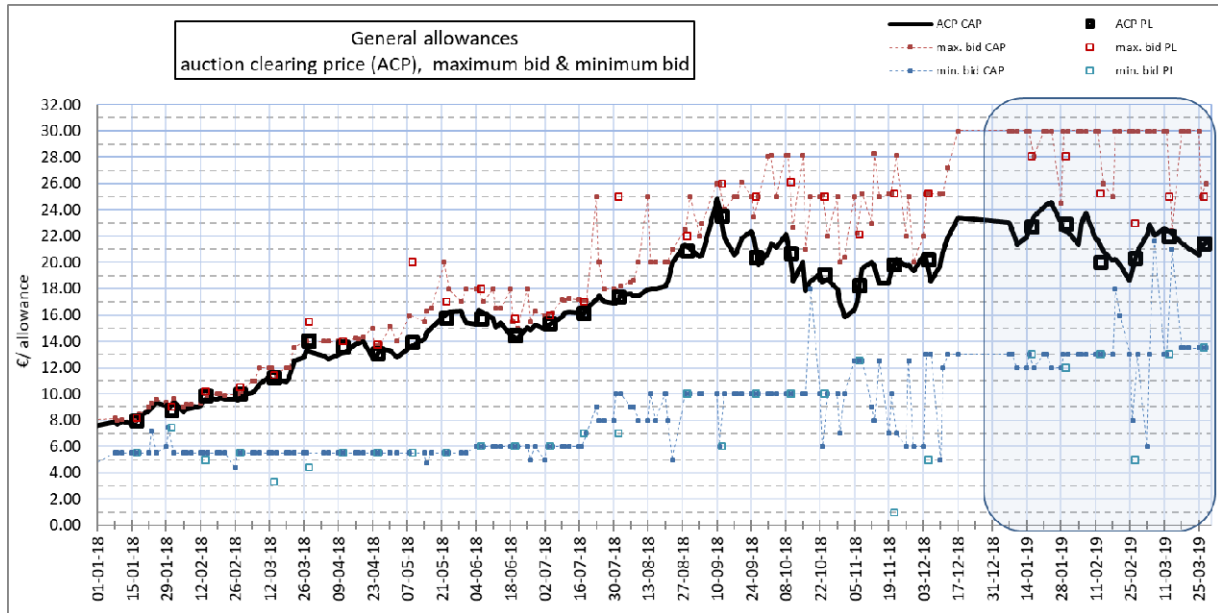
Table 1: General allowances - main statistics on the results of the auctions per month

Month	Total auction volume	Total bid volume	Total revenue (€)	Average Cover ratio ⁵	Average number of bidders	Average number of successful bidders	Average auction clearing price (€)
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
September 2018	53 437 000	137 998 000	1 163 471 730	2.6	25.9	19.6	21.77
August 2018	28 795 000	118 920 000	537 691 740	4.1	24.7	16.6	18.67
July 2018	66 076 000	217 971 000	1 070 680 240	3.3	26.4	18.2	16.20
June 2018	57 650 000	131 660 500	874 353 320	2.3	25.9	17.6	15.17
May 2018	45 011 000	105 676 000	669 952 180	2.3	26.3	20.6	14.88
April 2018	61 863 000	117 729 000	817 157 360	1.9	25.9	19.5	13.21
March 2018	57 650 000	150 726 000	659 294 570	2.6	27.4	16.4	11.44
February 2018	57 650 000	152 580 500	542 292 760	2.6	23.6	15.7	9.41
January 2018	53 437 000	132 613 000	447 037 060	2.5	21.3	14.9	8.37
2018 total	642 477 000	1 662,693 000	9 917 590 730	2.6	25.6	18.0	15.44
2017 total	648 415 500	1 761 212 000	3 744 838 845	2.7	21.2	14.6	5.78
2016 total	474 261 000	1 092 400 000	2 496 870 295	2.3	19.0	13.4	5.26
2015 total	413 874 000	1 337 010 500	3 154 940 925	3.2	18.3	13.3	7.62
2014 total	335 052 000	1 796 711 000	1 977 712 120	5.4	17.6	11.9	5.90
2013 total	530 488 000	1 761 639 500	2 349 853 340	3.3	18.4	13.2	4.43

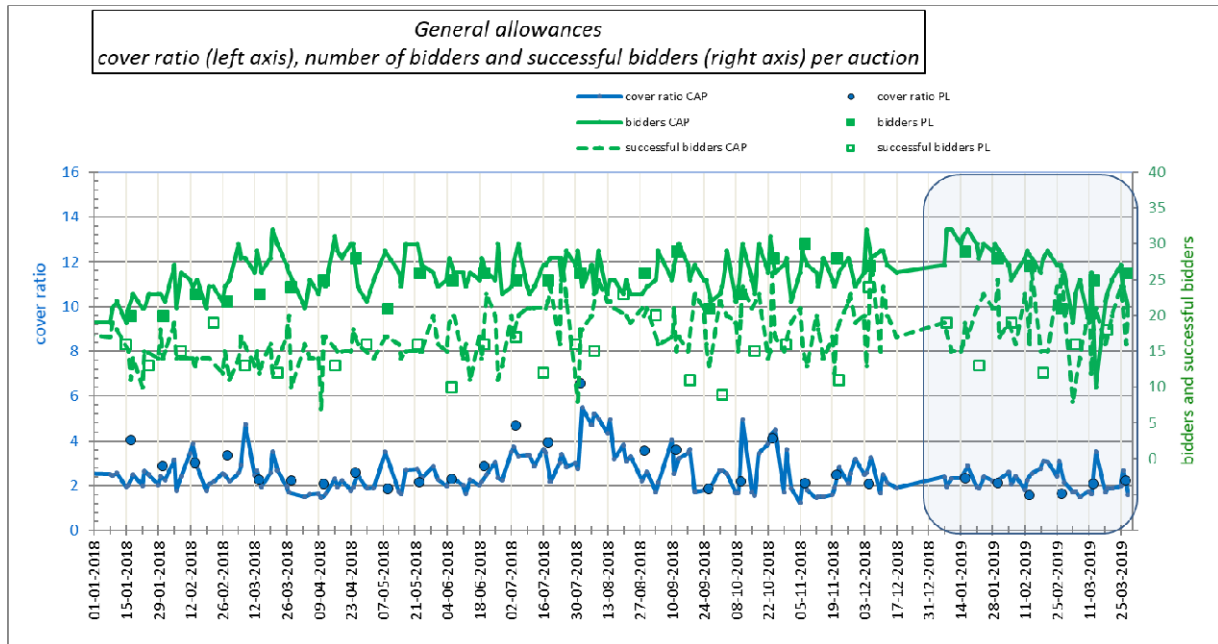
During January, February, March 2019, the difference between the Auction Clearing Prices and the mean of the *best-ask* and *best-bid* prices on the EEX *spot secondary market* for *general allowances* at the closure of the auction *bidding window* was on average EUR - 0.13, - 0.08, - 0.06 respectively, and this difference had a standard deviation of EUR 0.26, 0.20, 0.07 respectively.

⁵ 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 bid⁶



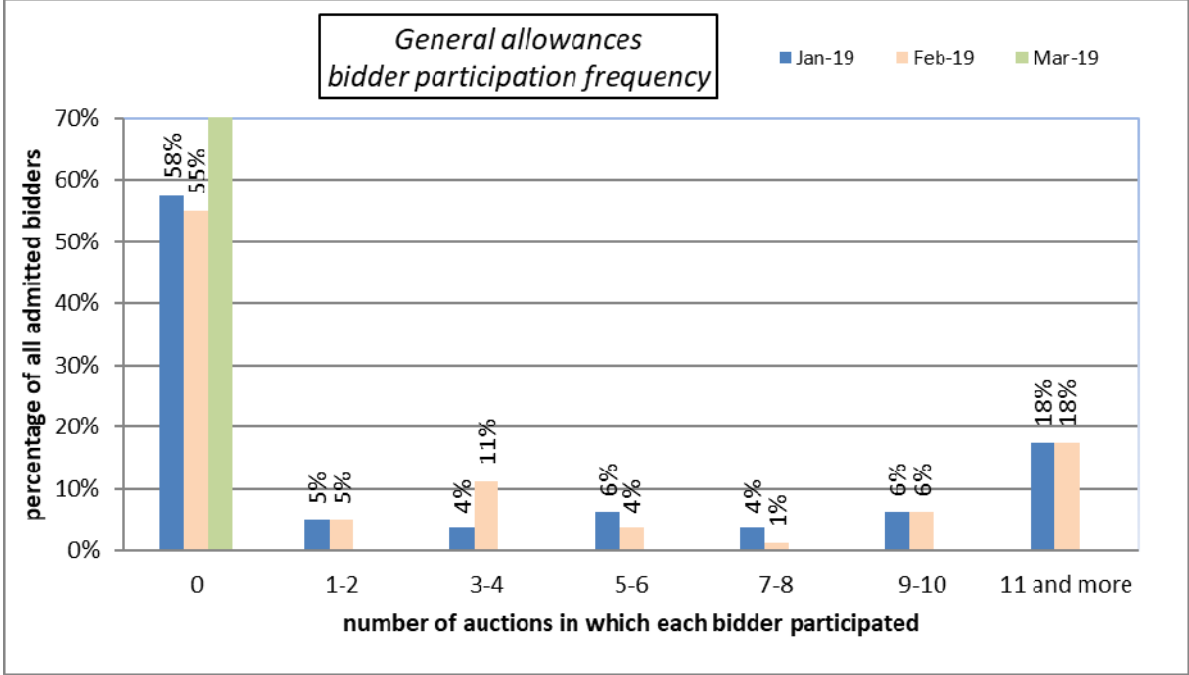
Graph 2: General allowances - cover ratio (left axis), number of bidders and successful bidders (right axis) per auction



The number of eligible bidders is provided in Section 2. Out of these, 37, 38 and 37 different bidders participated in the auctions in respectively in January, February, March 2019. Graph 3 indicates the participation frequency over these months.

⁶ Auctions on behalf of Poland were held on the following days: 17/1/2018, 31/1/2018, 14/2/2018, 28/2/2018, 14/3/2018, 28/3/2018, 11/4/2018, 25/4/2018, 9/5/2018, 23/5/2018, 6/6/2018, 20/6/2018, 4/7/2018, 18/7/2018, 1/8/2018, 29/8/2018, 12/9/2018, 26/9/2018, 11/10/2018, 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.

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 ⁽¹⁾	Total volume of bids	Average total volume bid per bidder per auction ⁷	Average total volume bid per bidder per auction over the month ⁸	standard deviation of total volume bid per bidder per auction over the month ⁹	Total monthly nr of bids	Average nr. of bids per bidder per auction ¹⁰	Average bid size ¹¹
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
September 2018	13	38	137 998 000	409 090	409 490	1 019 008	1 095	3.2	126 527
August 2018	14	37	118 920 000	343 427	343 699	604 447	1 169	3.4	100 930
July 2018	16	40	217 971 000	519 872	516 519	979 991	1 760	4.2	123 820
June 2018	14	40	131 660 500	363 573	362 701	492 632	1 449	4.0	92 844
May 2018	11	38	105 676 000	365 298	366 931	568 540	1 171	4.1	89 889
April 2018	14	40	117 729 000	328 154	322 545	453 292	1 441	4.0	83 345
March 2018	14	38	150 726 000	392 674	394 571	761433	1468	3.8	101 809
February 2018	14	36	152 580 500	459 684	462 365	765 564	1297	3.9	118 027
January 2018	13	33	132 613 000	479 767	480 482	699 468	1034	3.8	127 675

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

⁷ 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.

⁸ 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).

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

¹⁰ 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).

¹¹ 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.

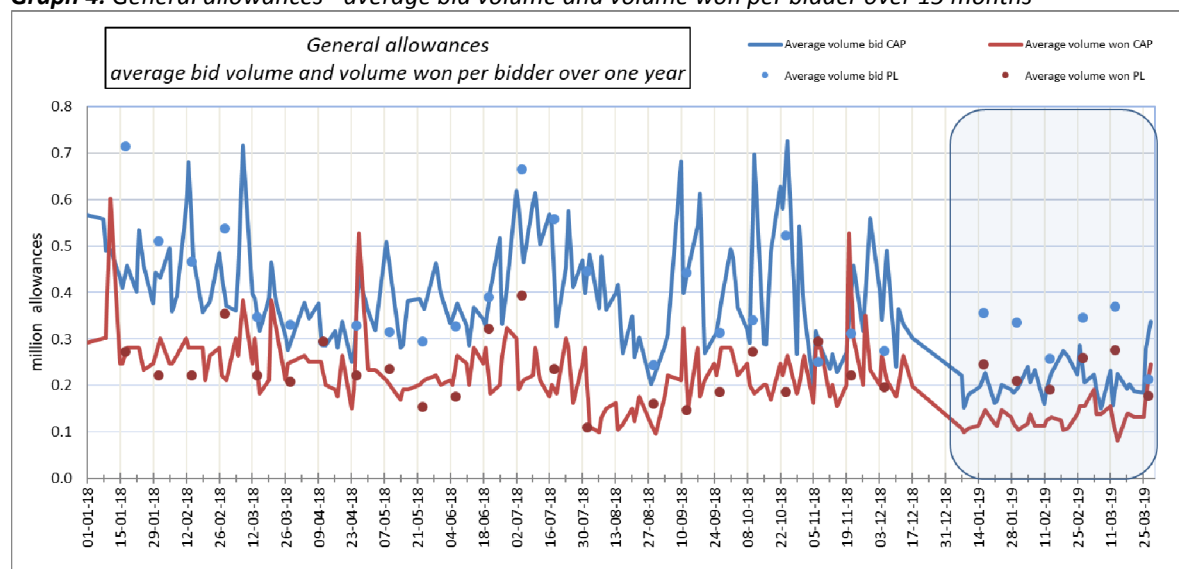
Table 3 provides monthly data on successful bids over 15 months. See also Graph 4.

Table 3: General Allowances - monthly statistics on successful bids

Month	Nr of auctions	Nr of successful bidders ⁽¹⁾	Total auction volume	Average volume won per bidder per auction ¹²	Average volume won per bidder per auction over the month ¹³	Standard deviation of volume won per bidder per auction over the month ¹⁴	Total monthly nr of successful bids
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
September 2018	13	38	53 437 000	219 901	208 738	329 342	513
August 2018	14	36	28 795 000	129 177	124 654	152 306	347
July 2018	16	39	66 076 000	240 954	228 637	329 842	568
June 2018	14	35	57 650 000	242 955	234 350	266 266	531
May 2018	11	37	45 011 000	202 060	199 164	208 690	492
April 2018	14	40	61 863 000	247 803	229 122	290 603	620
March 2018	14	33	57 650 000	265 154	251 747	302 989	400
February 2018	14	35	57 650 000	267 853	263 242	315 411	445
January 2018	13	31	53 437 000	291 987	275 448	376 892	384

(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 months¹⁵



¹² 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.

¹³ 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).

¹⁴ Standard deviation of volume won per bidder in each auction over the month.

¹⁵ Auctions on behalf of Poland were held on the following days: 17/1/2018, 31/1/2018, 14/2/2018, 28/2/2018, 14/3/2018, 28/3/2018, 11/4/2018, 25/4/2018, 9/5/2018, 23/5/2018, 6/6/2018, 20/6/2018, 4/7/2018, 18/7/2018, 1/8/2018, 29/8/2018, 12/9/2018, 26/9/2018, 11/10/2018, 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.

1.1.3. Type of bidders - general allowances

The volume submitted by intermediaries on behalf of a client¹⁶ in January, February and March 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

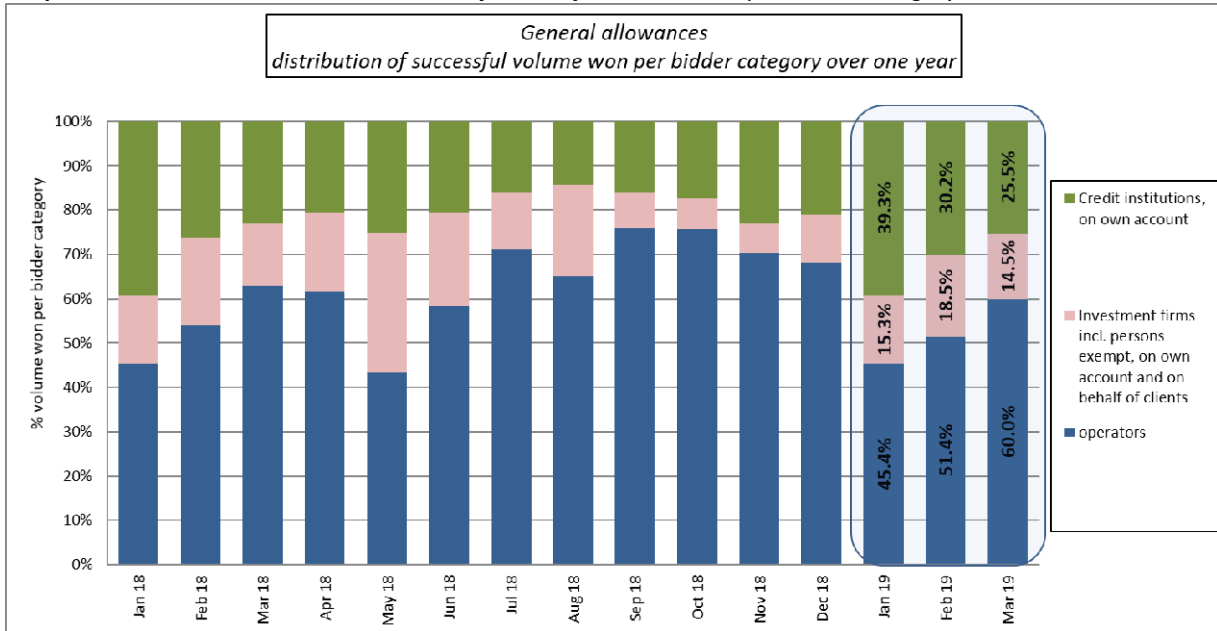


Table 4: General allowances – distribution of volume won per bidder category and their standard deviations

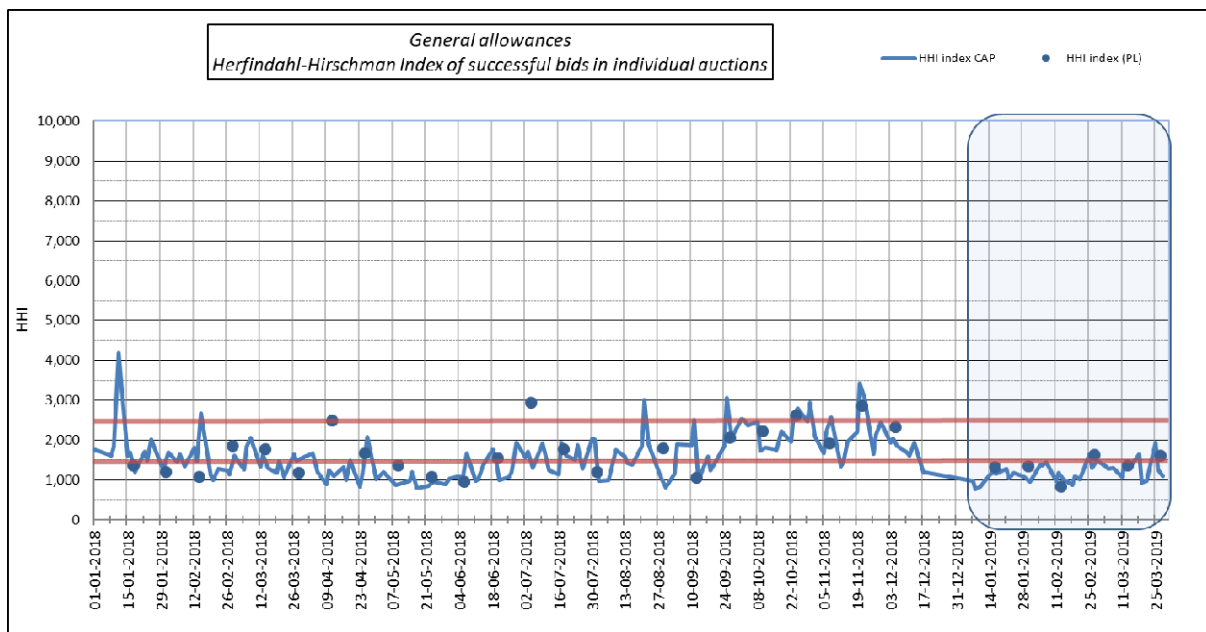
Month	% volume won coming from bidding on behalf of a client	Bidder category	% volume won	Standard deviation of % of volume won
January 2019	0%	Operators (including Business groupings)	47.3%	12.1% points
		Investment firms (including persons exempt)	20.8%	8.5% points
		Credit institutions	31.9%	6.3% points
February 2019	0%	Operators (including Business groupings)	51.4%	8.7% points
		Investment firms (including persons exempt)	18.5%	5.2% points
		Credit institutions	30.2%	10.2% points
March 2019	0%	Operators (including Business groupings)	60.0%	7.5% points
		Investment firms (including persons exempt)	14.5%	7.1% points
		Credit institutions	25.5%	8.8% points

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

1.1.4. Concentration - general allowances

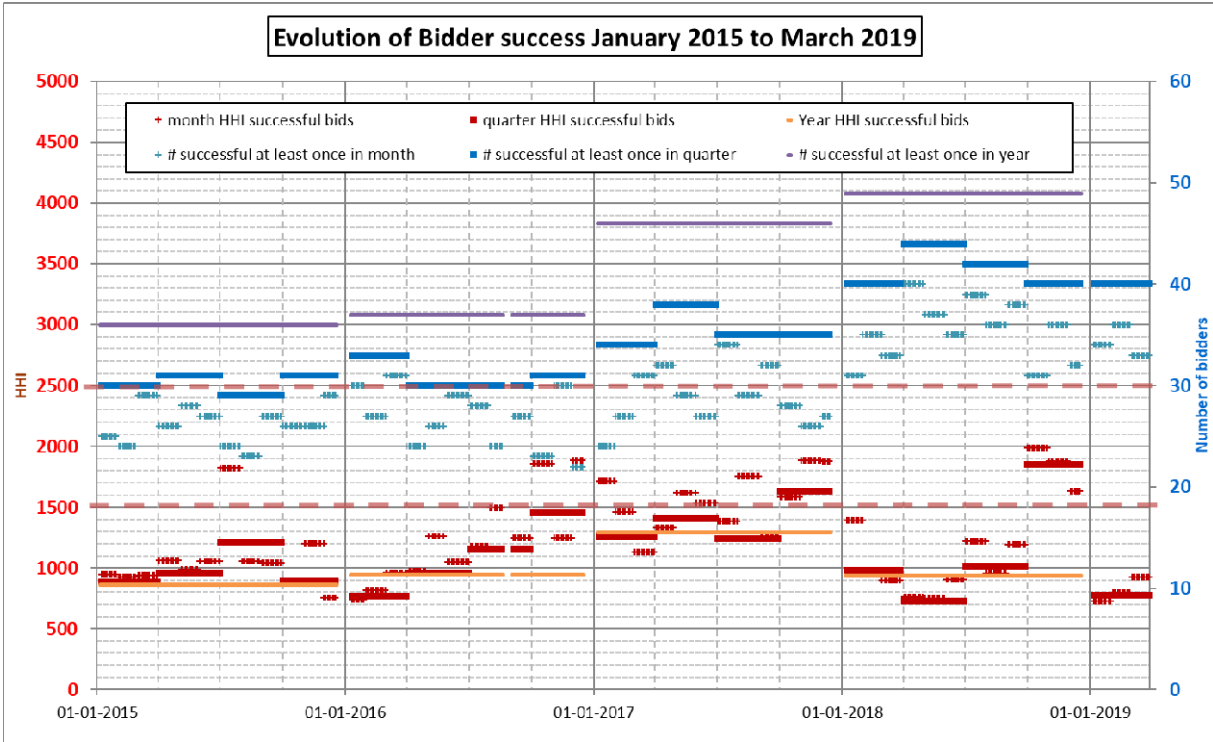
The Herfindahl-Hirschman Index (HHI) of successful bids is used to measure market concentration¹⁷. The HHI ranges from a value of 0 (perfect competition) to 10 000 (a single buyer). A common interpretation of the HHI is that a score below 1 500 is 'not-concentrated,' between 1 500 and 2 500 is 'moderately 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



¹⁷ 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 2014¹⁸. Pursuant to the published *auction calendar*, only *aviation allowances* for the calendar year 2012 were auctioned in 2014¹⁹; 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

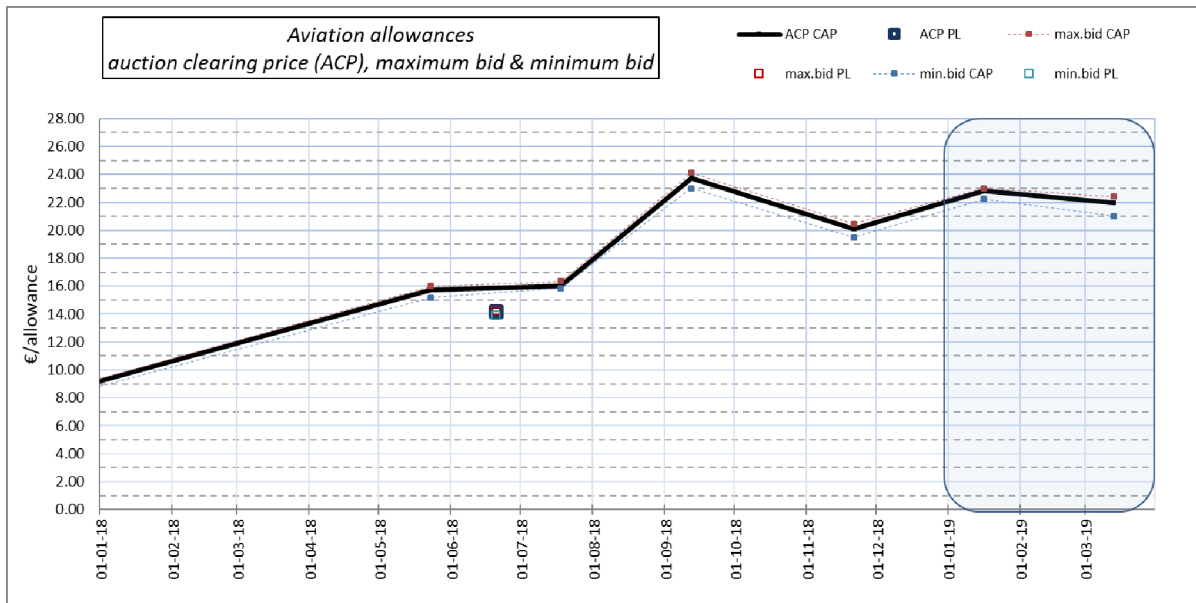
Month	Total auction volume	Total bid volume	Total revenue (€)	Average Cover ratio ²⁰	Average number of bidders	Average number of successful bidders	Average auction clearing price (€)
March 2019	640 000	2 253 000	14 067 200	3.5	10	8	21.98
February 2019	-	-	-	-	-	-	-
January 2019	640 000	2 259 000	14 598 400	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	-	-	-	-	-	-	-
September 2018	958 000	1 906 000	22 752 500	2.0	9	7	23.75
August 2018	-	-	-	-	-	-	-
July 2018	958 000	1 236 000	15 337 580	1.3	6	6	16.01
June 2018	112 000	170 000	1 591 520	1.5	2	2	14.21
May 2018	958 000	3 938 000	15 078 920	4.1	11	5	15.74
April 2018	-	-	-	-	-	-	-
March 2018	-	-	-	-	-	-	-
February 2018	-	-	-	-	-	-	-
January 2018	-	-	-	-	-	-	-
2018 total	3 941 000	10 830 000	73 956 020	2.5	8.8	6.1	18.77
2017 total	3 329 500	10 300 000	23 771 460	3.1	7.5	6.5	7.14
2016 total	4 219 000	17 973 500	22 266 205	4.3	10.4	4.6	5.28
2015 total	11 641 000	39 026 000	81 846 705	3.4	11.0	7.5	7.03
2014 total	6 570 500	28 201 500	39 454 510	4.3	13.0	8.0	6.00

¹⁸ 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.

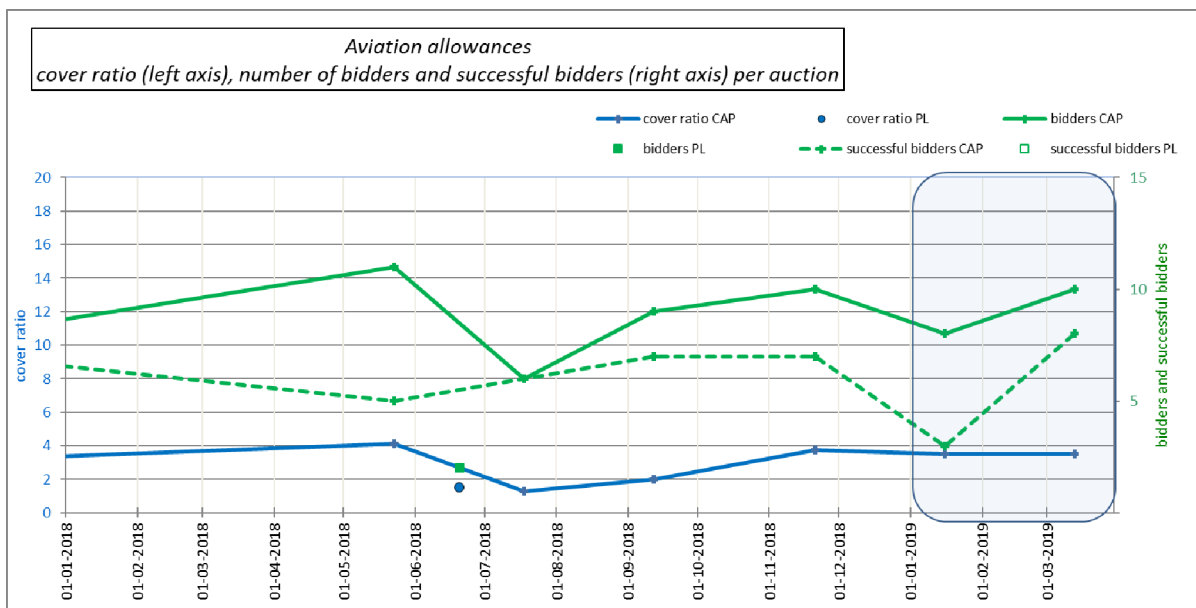
¹⁹ See also the regulatory update published by the Commission on 29 July 2014: http://ec.europa.eu/clima/news/articles/news_2014072901_en.htm.

²⁰ 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 bid²¹



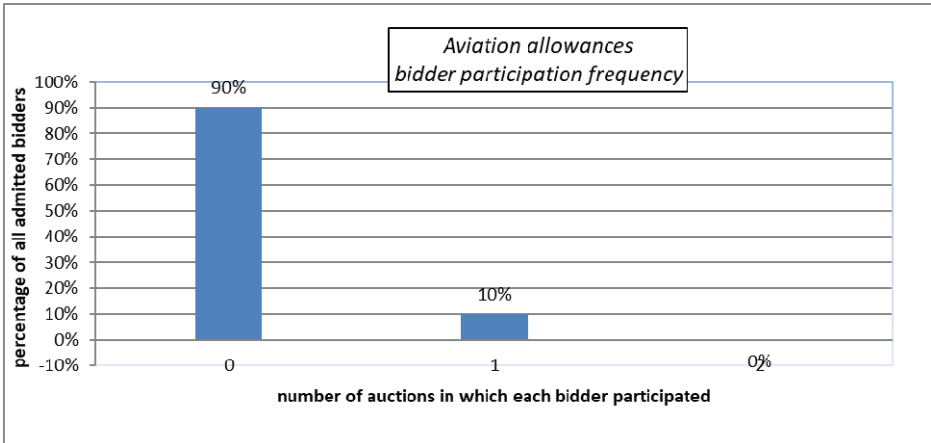
Graph 9: Aviation allowances - cover ratio (left axis), number of bidders and successful bidders (right axis) per auction



²¹ An auction on behalf of Poland was held on the following day: 20/6/2018.

Graph 10: Aviation allowances – bidder participation frequency

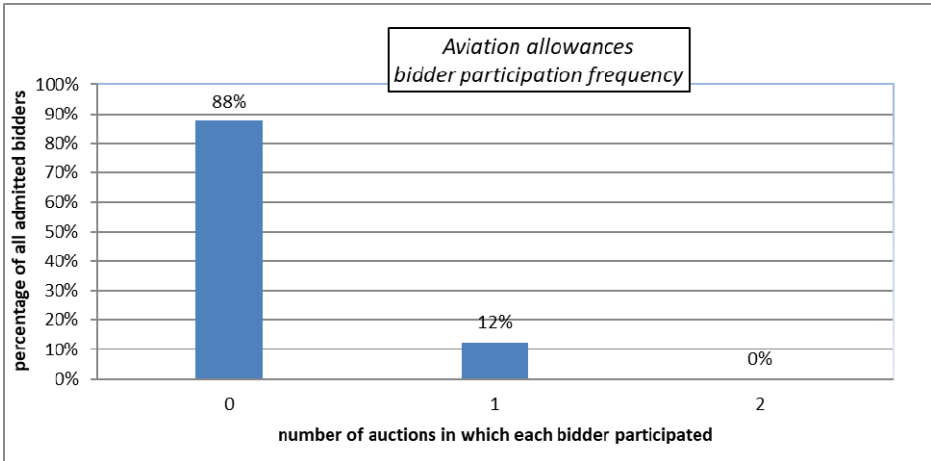
January



February

No aviation allowances have been auctioned in February 2019.

March



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 ⁽¹⁾	Total volume of bids	Average total volume bid per bidder per auction ²²	Average total volume bid per bidder per auction over the month ²³	standard deviation of total volume bid per bidder per auction over the month ²⁴	Total monthly nr of bids	Average nr. of bids per bidder per auction ²⁵	Average bid size ²⁶
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	-	-	-	-	-	-	-	-	-
September 2018	1	9	1 906 000	211 778	211 778	168 779	51	5.7	37 373
August 2018	-	-	-	-	-	-	-	-	-
July 2018	1	6	1 236 000	206 000	206 000	114 588	27	4.5	45 778
June 2018	1	2	170 000	85 000	85 000	27 000	9	4.5	18 889
May 2018	1	11	3 938 000	358 000	358 000	280 602	52	4.7	75 731
April 2018	-	-	-	-	-	-	-	-	-
March 2018	-	-	-	-	-	-	-	-	-
February 2018	-	-	-	-	-	-	-	-	-
January 2018	-	-	-	-	-	-	-	-	-

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

²² 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.

²³ 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).

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

²⁵ 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).

²⁶ 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.

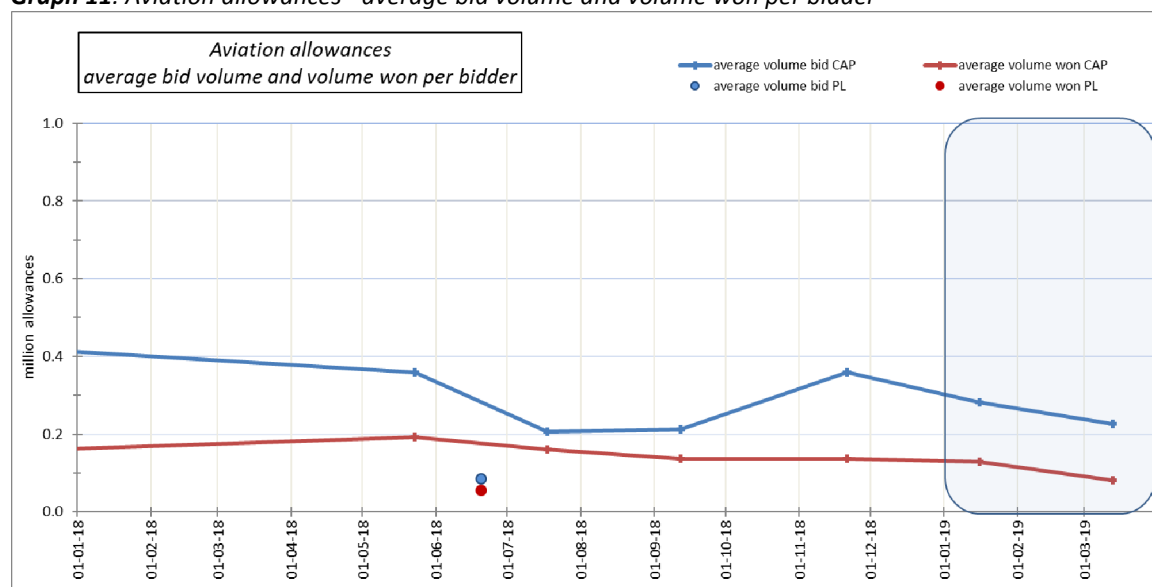
Table 7 provides monthly data on successful bids over 15 months. See also Graph 11.

Table 7: Aviation Allowances – Monthly statistics on successful bids

Month	Nr of auctions	Nr of successful bidders ⁽¹⁾	Total auction volume	Average volume won per bidder per auction ²⁷	Average volume won per bidder per auction over the month ²⁸	Standard deviation of volume won per bidder per auction over the month ²⁹	Total monthly nr of successful bids
March 2019	1	8	640 000	80 000	80 000	69 588	13
February 2019	-	-	-	-	-	-	-
January 2019	1	3	640 000	128 000	128 000	89 567	5
December 2018	-	-	-	-	-	-	-
November 2018	1	7	955 000	136 429	136 429	135 677	12
October 2018	-	-	-	-	-	-	-
September 2018	1	7	958 000	136 857	136 857	88 006	20
August 2018	-	-	-	-	-	-	-
July 2018	1	6	958 000	159 667	159 667	59 779	21
June 2018	1	2	112 000	56 000	56 000	27 000	3
May 2018	1	5	958 000	191 600	112 000	76 107	11
April 2018	-	-	-	-	-	-	-
March 2018	-	-	-	-	-	-	-
February 2018	-	-	-	-	-	-	-
January 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



²⁷ 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.

²⁸ 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).

²⁹ Standard deviation of volume won per bidder in each auction over the month.

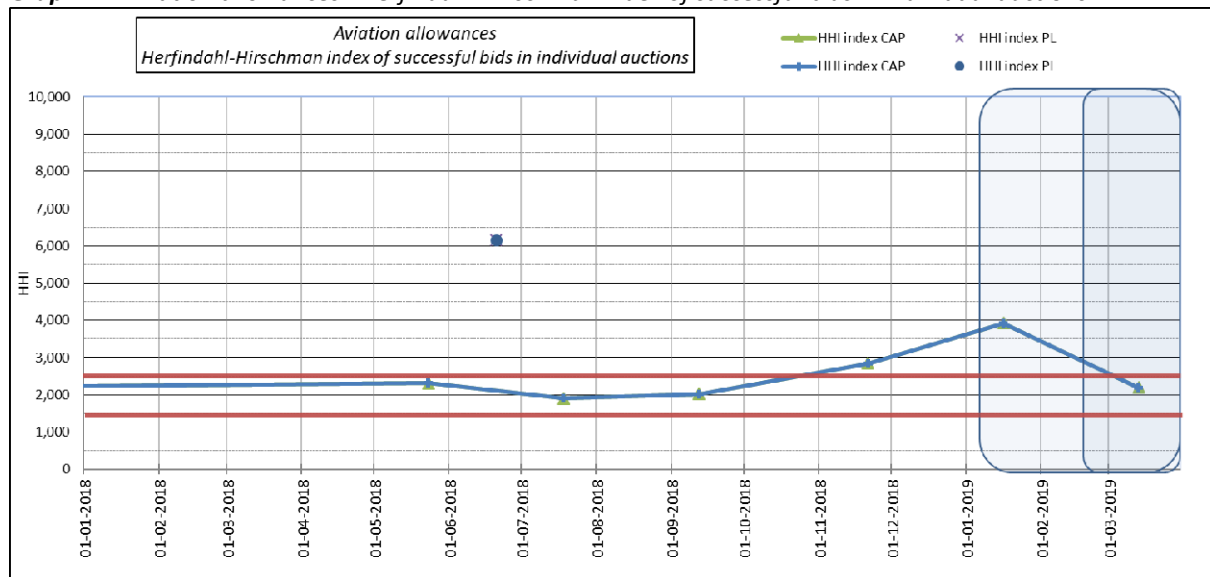
1.2.3 Type of bidders – aviation allowances

In January and March all volume bid was done on own account.

1.2.4 Concentration – aviation allowances

The HHI of successful bids is used to measure market concentration³⁰. 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



³⁰ 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 auctions³¹.

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	Jan 2019							121
	Feb 2019							122
	Mar 2019							123
Participants eligible to bid in the auctions	Jan 2019							80
	Feb 2019	57	1	11	5	0	6	
	Mar 2019							
(Of which:) Participants eligible to bid in the auctions on behalf of clients	Jan 2019							5
	Feb 2019	-	-	1	2	-	2	
	Mar 2019							
(Of which:) Auction-only access	Jan 2019							2
	Feb 2019	1	0	0	0	0	1	
	Mar 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.

³¹ 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/2019

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: http://ec.europa.eu/clima/policies/ets/cap/auctioning/documentation_en.htm .
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: http://ec.europa.eu/clima/policies/ets/documentation_en.htm .

General Allowance	Allowance to emit one tonne of CO ₂ -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 ₂ -equivalent that can be used by aircraft operators, also referred to as <i>EUAA</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 March 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
Austria	583,580,665	7,889,760	591,470,425
Belgium	1,062,300,575	9,722,055	1,072,022,630
Bulgaria	918,625,325	2,818,045	921,443,370
Croatia	221,391,610	1,603,515	222,995,125
Cyprus	38,696,255	4,342,175	43,038,430
Czech Republic	1,295,783,675	3,862,285	1,299,645,960
Denmark	522,142,305	8,881,980	531,024,285
Estonia	282,917,405	489,340	283,406,745
Finland	700,984,740	6,864,370	707,849,110
France	2,296,428,525	44,703,950	2,341,132,475
Greece	1,464,394,800	15,311,590	1,479,706,390
Hungary	603,591,400	3,106,950	606,698,350
Ireland	389,486,290	6,985,965	396,472,255
Italy	4,046,006,945	46,268,705	4,092,275,650
Latvia	114,420,720	1,664,505	116,085,225
Lithuania	220,704,655	873,125	221,577,780
Luxemburg	50,767,925	1,272,880	52,040,805
Malta	42,997,850	1,713,205	44,711,055
The Netherlands	1,404,509,905	15,955,105	1,420,465,010
Poland	2,875,727,040	5,837,800	2,881,564,840
Portugal	742,319,240	9,500,345	751,819,585
Romania	1,802,708,915	4,860,150	1,807,569,065
Slovak Republic	655,553,235	601,045	656,154,280
Slovenia	187,455,235	432,585	187,887,820
Spain	3,647,052,540	53,023,155	3,700,075,695
Sweden	375,116,905	11,375,915	386,492,820
TOTAL	26,545,664,680	269,960,500	26,815,625,180

Annex 2 Results of individual auctions on behalf of participating Member States and Poland in January – March 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 – January 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
07.01.2019	23.01	13.00	30.00	22.76	23.10	2,495,000	6,006,000	2.41	27	23	57,409,950	98	62	3.63	61 286	222 444	277 007	108 478	121 828
08.01.2019	22.40	13.00	30.00	22.14	22.40	2,495,000	4,859,500	1.95	32	25	55,888,000	103	47	3.22	47 180	151 859	172 240	99 800	96 020
10.01.2019	21.40	12.00	30.00	21.05	21.19	2,495,000	5,808,500	2.33	32	23	53,393,000	98	34	3.06	59 270	181 516	197 401	108 478	102 746
14.01.2019	21.95	12.00	30.00	21.69	21.90	2,495,000	5,854,000	2.35	30	22	54,765,250	76	32	2.53	77 026	195 133	209 760	113 409	139 021
15.01.2019	22.55	13.00	30.00	22.23	22.40	2,495,000	6,176,000	2.48	31	20	56,262,250	111	34	3.58	55 640	199 226	220 411	124 750	145 477
16.01.2019	22.72	13.00	28.10	22.34	22.51	4,428,500	10,328,000	2.33	29	18	100,615,520	111	35	3.83	93 045	356 138	452 736	246 028	292 014
17.01.2019	23.55	12.00	28.10	23.11	23.40	2,495,000	7,229,000	2.90	32	17	58,757,250	112	34	3.50	64 545	225 906	245 607	146 765	145 701
21.01.2019	24.22	13.00	30.00	23.66	24.16	2,495,000	4,845,000	1.94	30	21	60,428,900	82	30	2.73	59 085	161 500	197 615	118 810	155 567
22.01.2019	24.42	13.00	30.00	23.94	24.40	2,495,000	4,668,000	1.87	28	22	60,927,900	85	37	3.04	54 918	166 714	171 311	113 409	128 652
24.01.2019	24.60	12.00	30.00	23.95	24.34	2,495,000	6,014,000	2.41	30	17	61,377,000	86	22	2.87	69 930	200 467	234 290	146 765	146 532
28.01.2019	23.01	12.00	24.50	22.37	22.88	2,495,000	5,533,000	2.22	29	19	57,409,950	82	30	2.83	67 476	190 793	190 479	131 316	135 970
29.01.2019	22.43	13.00	30.00	22.08	22.31	2,495,000	5,526,000	2.21	30	21	55,962,850	84	29	2.80	65 786	184 200	192 287	118 810	131 119
30.01.2019	22.91	12.00	28.10	22.40	22.86	4,428,500	9,436,000	2.13	28	21	101,456,935	94	34	3.36	100 383	337 000	370 428	210 881	288 193
31.01.2019	22.30	13.00	30.00	21.97	22.25	2,495,000	5,707,000	2.29	29	24	55,638,500	84	33	2.90	67 940	196 793	216 089	103 958	117 541

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 – February 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
04.02.2019	21.38	13.00	30.00	21.21	21.26	2,495,000	6,482,000	2.60	27	21	53,343,100	105	35	3.89	61 733	240 074	313 849	118 810	162 564
05.02.2019	22.93	13.00	30.00	22.49	22.76	2,495,000	5,152,000	2.06	25	18	57,210,350	86	25	3.44	59 907	206 080	243 799	138 611	167 390
07.02.2019	23.80	13.00	30.00	23.22	23.69	2,495,000	6,086,000	2.44	26	22	59,381,000	86	34	3.31	70 767	234 077	312 964	113 409	168 532
11.02.2019	21.80	13.00	30.00	21.61	21.77	2,495,000	4,508,000	1.81	28	22	54,391,000	89	39	3.18	50 652	161 000	174 260	113 409	122 419
12.02.2019	21.71	13.00	30.00	21.59	21.60	2,495,000	5,631,500	2.26	29	20	54,166,450	87	29	3.00	64 730	194 190	197 270	124 750	146 829
13.02.2019	20.01	13.00	25.25	19.89	20.06	4,428,500	6,954,500	1.57	27	23	88,614,285	99	60	3.67	70 247	257 574	262 060	192 543	189 258
14.02.2019	20.86	13.00	26.00	20.52	20.71	2,495,000	6,360,000	2.55	28	19	52,045,700	85	28	3.04	74 824	227 143	238 495	131 316	126 066
18.02.2019	20.14	13.00	25.00	19.78	20.00	2,495,000	6,886,000	2.76	26	20	50,249,300	85	27	3.27	81 012	264 846	285 867	124 750	107 935
19.02.2019	20.26	18.00	30.00	20.36	20.17	2,495,000	7,700,500	3.09	28	24	50,548,700	86	34	3.07	89 541	275 018	447 985	103 958	133 867
21.02.2019	19.85	16.00	30.00	19.97	19.81	2,495,000	7,611,500	3.05	29	23	49,525,750	102	40	3.52	74 623	262 466	479 847	108 478	125 571
25.02.2019	18.62	13.00	30.00	18.51	18.50	2,495,000	6,033,500	2.42	27	18	46,456,900	76	25	2.81	79 388	223 463	284 114	138 611	193 967
26.02.2019	19.60	8.00	30.00	19.15	19.39	2,495,000	7,708,500	3.09	27	16	48,902,000	80	20	2.96	96 356	285 500	446 698	155 938	163 601
27.02.2019	20.31	5.00	23.00	19.75	20.40	4,428,500	7,262,500	1.64	21	17	89,942,835	59	37	2.81	123 093	345 833	376 154	260 500	350 071
28.02.2019	20.90	13.00	30.00	20.52	20.71	2,495,000	5,359,500	2.15	26	16	52,145,500	77	22	2.96	69 604	206 135	222 391	155 938	184 407

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 – March 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
04.03.2019	22.12	6.00	30.00	22.05	22.01	2,495,000	4,256,500	1.71	19	13	55,189,400	57	21	3.00	74 675	224 026	208 023	191 923	165 054
05.03.2019	22.86	13.00	30.00	22.48	22.85	2,495,000	4,394,500	1.76	23	18	57,035,700	69	32	3.00	63 688	191 065	195 999	138 611	159 084
07.03.2019	22.03	21.65	30.00	22.24	22.02	2,495,000	3,750,500	1.50	25	18	54,964,850	64	31	2.56	58 602	150 020	180 872	138 611	161 129
11.03.2019	22.60	13.00	30.00	22.15	22.59	2,495,000	4,390,500	1.76	19	16	56,387,000	66	31	3.47	66 523	231 079	227 313	155 938	134 024
12.03.2019	22.48	13.00	30.00	22.13	22.51	2,495,000	4,066,000	1.63	26	20	56,087,600	70	40	2.69	58 086	156 385	198 407	124 750	168 450
13.03.2019	21.98	21.01	22.40	21.89	21.92	640,000	2,253,000	3.52	10	8	14,067,200	45	13	4.50	50 067	225 300	165 369	80 000	69 588
13.03.2019	21.99	13.00	25.00	21.41	21.91	4,428,500	9,259,000	2.09	25	16	97,382,715	77	28	3.08	120 247	370 360	494 600	276 781	304 066
14.03.2019	22.23	13.50	30.00	21.94	22.22	2,495,000	4,243,500	1.70	22	18	55,463,850	65	31	2.95	65 285	192 886	206 305	138 611	160 095
18.03.2019	21.50	13.50	30.00	21.21	21.42	2,495,000	4,667,000	1.87	23	18	53,642,500	73	29	3.17	63 932	202 913	219 143	138 611	195 649
19.03.2019	21.35	13.50	30.00	21.11	21.26	2,495,000	4,678,000	1.87	25	19	53,268,250	80	35	3.20	58 475	187 120	165 413	131 316	115 443
21.03.2019	21.10	13.50	30.00	20.95	21.03	2495000	4,971,000	1.99	27	19	52,644,500	96	33	3.56	51 781	184 111	174 660	131 316	121 114
25.03.2019	20.60	13.50	25.00	20.31	20.41	2495000	6,735,500	2.70	24	14	51,397,000	95	22	3.96	70 900	280 646	530 296	178 214	233 158
26.03.2019	21.17	13.50	25.00	20.84	20.95	2495000	5,568,500	2.23	26	14	52,819,150	103	24	3.96	54 063	214 173	237 356	178 214	156 027
27.03.2019	21.45	13.50	26.00	21.48	21.42	4,428,500	7,093,000	1.60	21	18	94,991,325	103	46	4.90	68 864	337 762	382 818	246 028	339 668
28.03.2019	21.55	13.50	25.00	21.36	21.56	2,495,000	4,049,500	1.62	23	20	53,767,250	90	50	3.91	44 994	176 065	178 040	124 750	136 235

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 – January 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
16.01.2019	22.81	22.25	23.00	22.57	22.59	640,000	2,259,000	3.53	8	3	14,598,400	56	5	7.00	40 339	282 375	237 360	128 000	89 567

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 – February 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 – March 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
13.03.2019	21.98	21.01	22.40	21.89	21.92	640,000	2,253,000	3.52	10	8	14,067,200	45	13	4.50	50 067	225 300	165 369	80 000	69 588

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.

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