

Auctions by the *Common Auction Platform*

April, May, June 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, 2, 4, 8, 9, 10(PL)¹, 11, 15, 16, 18, 23, 24(PL), 25, 29 and 30 April 2019;

2, 7, 8(PL), 9, 13, 14, 16, 20, 21, 22(PL), 23 and 28 May 2019;

3, 4, 5(PL), 6, 11, 13, 17, 18, 19(PL), 20, 24 and 27 June 2019;

Aviation Allowances:

8, 22(PL) May 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 States member of the European Free Trade Association (EFTA) that are Party to the European Economic Area (EEA)³ 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*.

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 April, May, June 2019 auctions at a glance:

	General Allowances			Aviation Allowances		
	Apr	May	Jun	Apr	May	Jun
General						
Number of auctions	15	12	12		2	
Total volume auctioned	41 292 000	33 807 000	37 305 500		752 500	
Amount raised from the auctions (€)	1 054 762 705	862 703 470	929 466 145		19 845 625	
Average Auction Clearing Price (€/allowance)	25.54	25.52	24.91		26.37	
Total bid volume	80 075 000	67 074 000	66 210 500		2 626 000	
Average Cover ratio	1.9	2.0	1.8		3.5	
Monthly HHI	920	1111	1276		2884	
Participation						
Number of eligible bidders	81	81	82		81	
Number of participating bidders ⁽¹⁾	37	36	39		11	
Number of successful bidders ⁽¹⁾	34	34	34		7	
Average number of bidders per auction	21.6	24.9	24.5		8	
Average number of successful bidders per auction	14.7	18.5	17.4		4.5	
Auction data						
Average total volume bid per bidder per auction	258 784	242 995	239 687		192 523	
Average bid size (volume per bid)	71 640	65 957	73 349		43085	
Average volume won per bidder per auction	205 955	168 151	191 381		86169	
Average range of bids (€)	14.85	16.70	6.00		0.75	

(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 June 2019 are EUR 29 392 597 000 , and of *aviation allowances* EUR 289 806 125. 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 website⁴.

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.

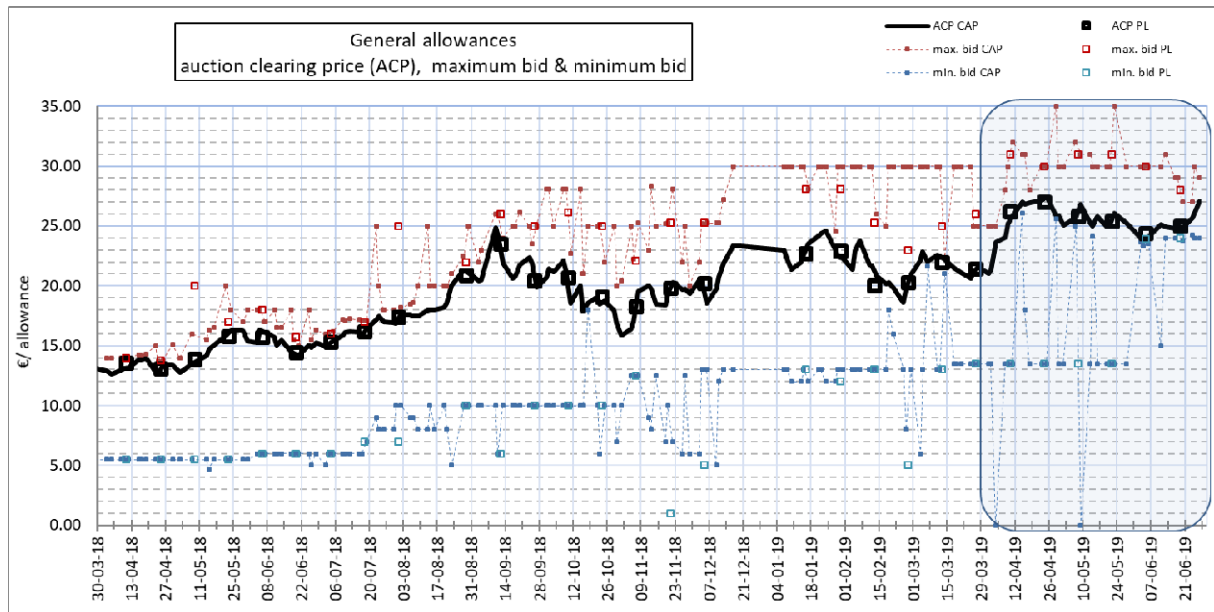
Table 1: General allowances - main statistics on the results of the auctions per month

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 (€)
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
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
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

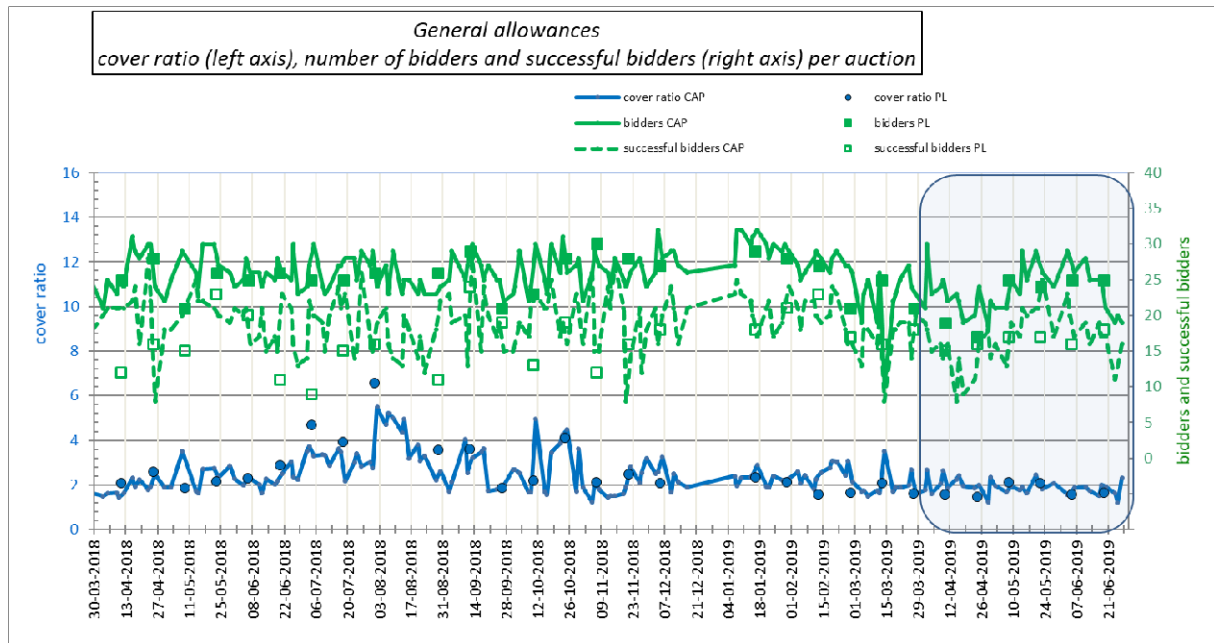
During April, May, June 2019, the difference between the Auction Clearing Prices and the mean of the *best-ask* and *best-bid* prices on the EEX *spot secondary market* for *general allowances* at the closure of the auction *bidding window* was on average EUR 0.00, - 0.03, 0.00 respectively, and this difference had a standard deviation of EUR 0.13, 0.06, 0.05 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



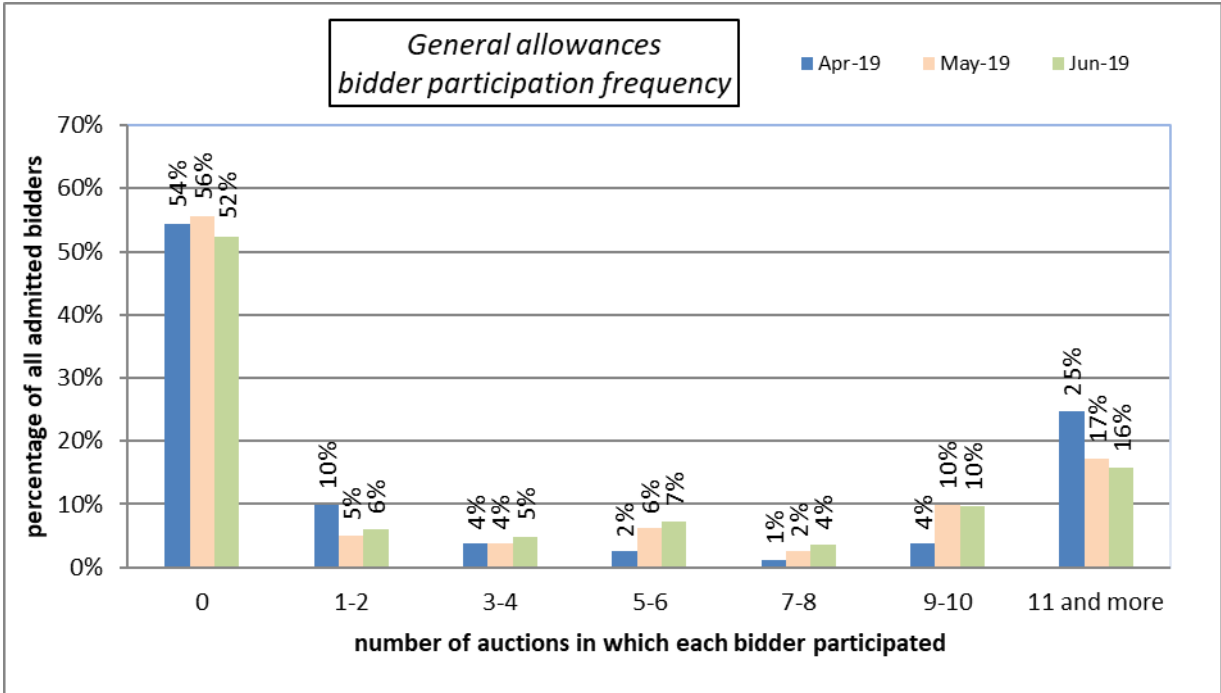
Graph 2: General allowances - cover ratio (left axis), number of bidders and successful bidders (right axis) per auction



The number of eligible bidders is provided in Section 2. Out of these 37, 36 and 39 different bidders participated in the auctions in respectively in April, May, June 2019. Graph 3 indicates the participation frequency over these months.

⁶ Auctions on behalf of Poland were held on the following days: 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, 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.

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
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
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

(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.

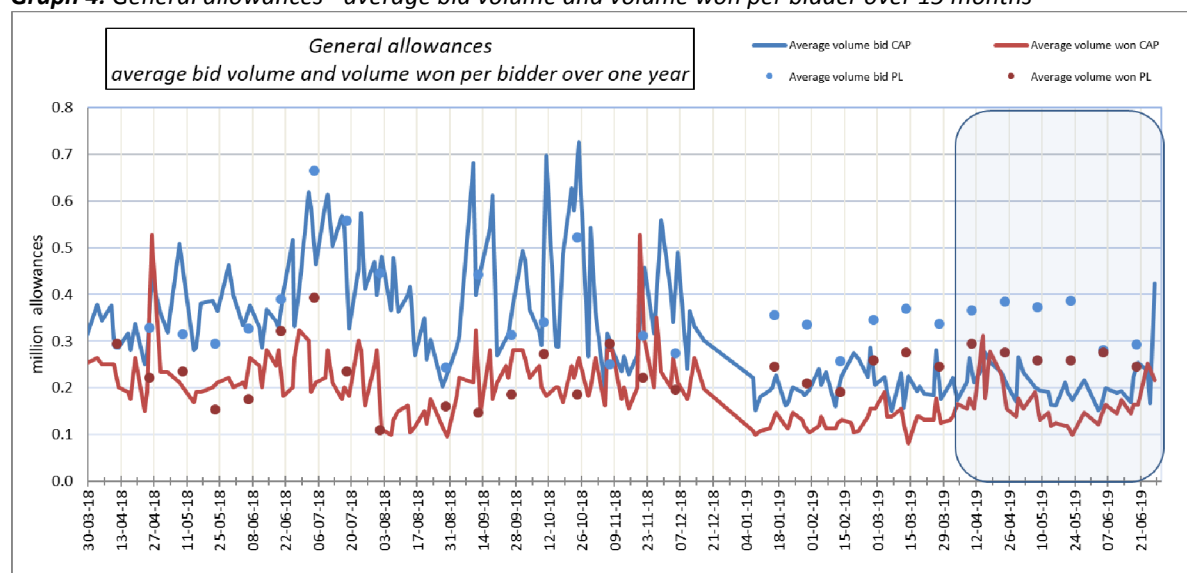
Table 3 provides monthly data on successful bids over 15 months. See also Graph 4.

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
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	2 811 986	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
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

(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: 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, 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.

1.1.3. Type of bidders - general allowances

The volume submitted by intermediaries on behalf of a client¹⁶ in April, May and June 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

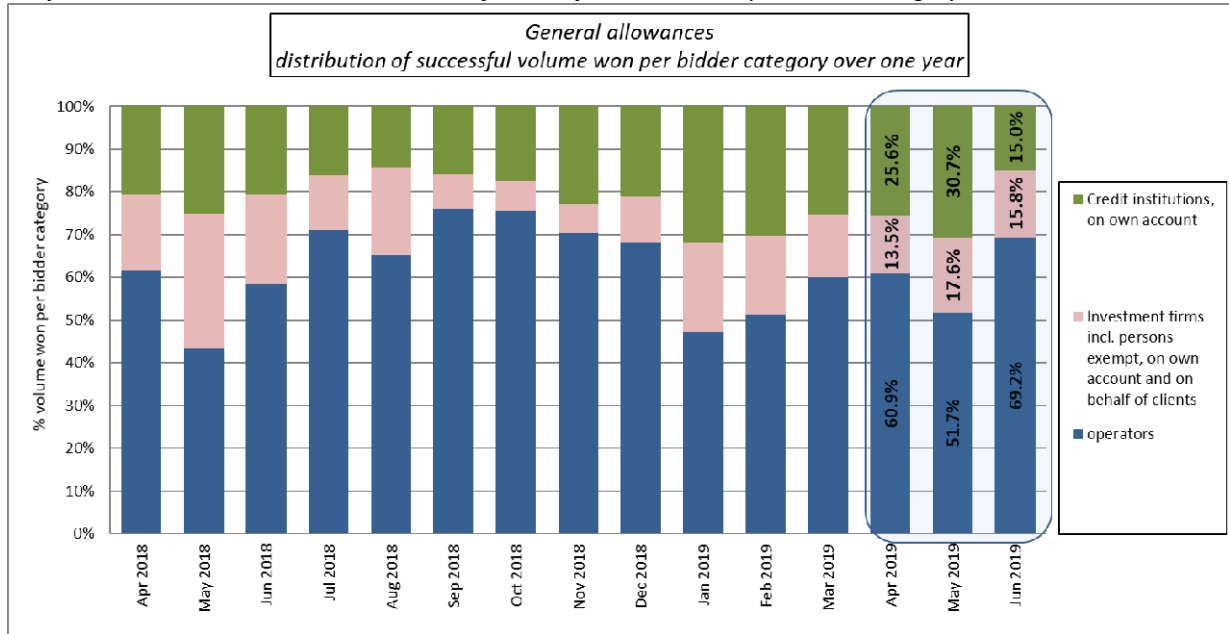


Table 4: General allowances – distribution of volume won per bidder category and their standard deviations

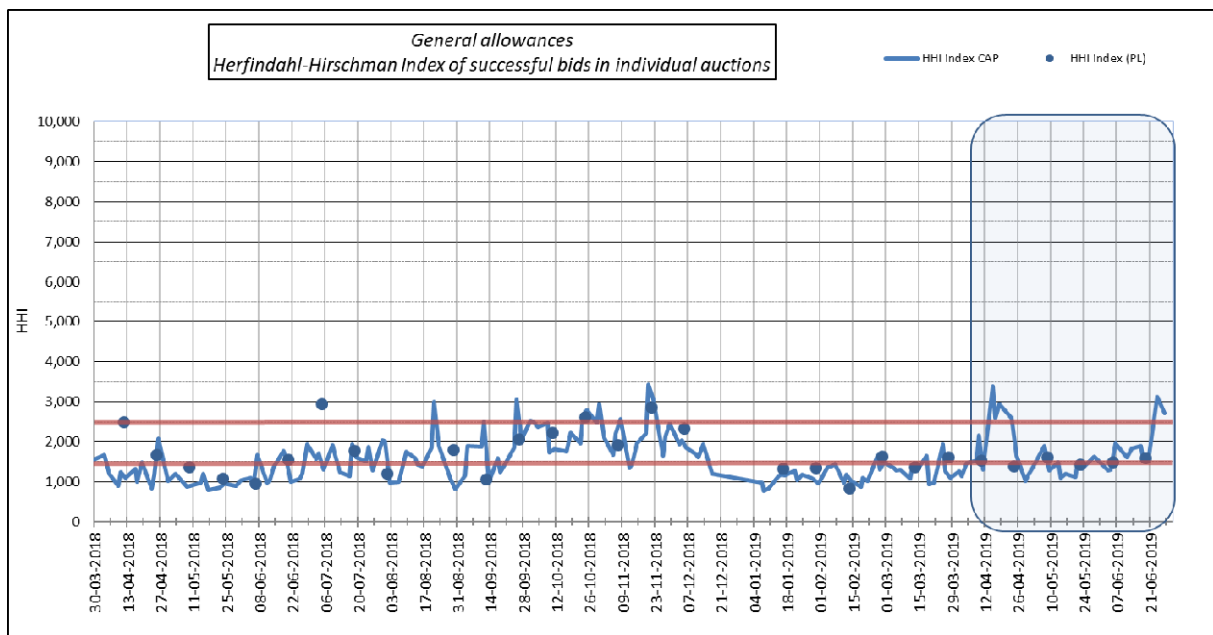
Month	% volume won coming from bidding on behalf of a client	Bidder category	% volume won	Standard deviation of % of volume won
April 2019	0%	Operators (including Business groupings)	60.9%	14.6% points
		Investment firms (including persons exempt)	13.5%	7.7% points
		Credit institutions	25.6%	15.4% points
May 2019	0%	Operators (including Business groupings)	51.7%	7.6% points
		Investment firms (including persons exempt)	17.6%	6.0% points
		Credit institutions	30.7%	8.0% points
June 2019	0%	Operators (including Business groupings)	69.2%	10.2% points
		Investment firms (including persons exempt)	15.8%	6.1% points
		Credit institutions	15.0%	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

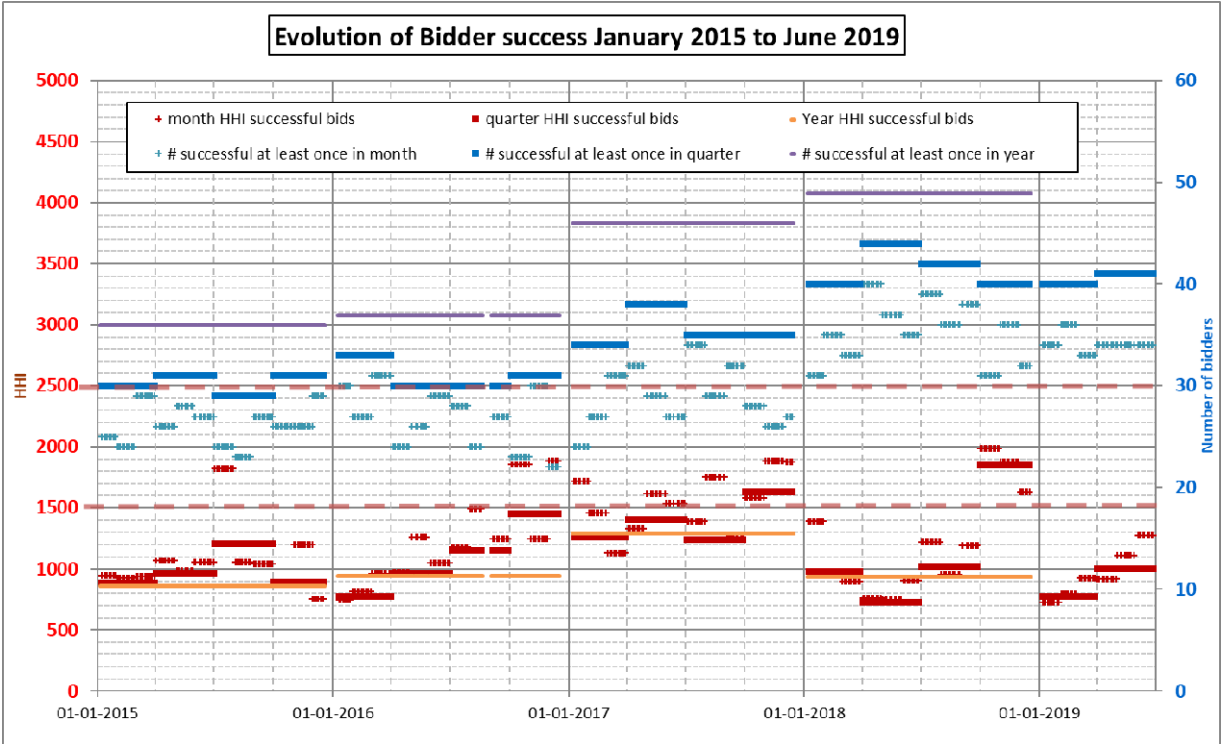
The Herfindahl-Hirschman Index (HHI) of successful bids is used to measure market concentration¹⁷. The HHI ranges from a value of 0 (perfect competition) to 10 000 (a single buyer). A common interpretation of the HHI is that a score below 1 500 is 'not-concentrated,' between 1 500 and 2 500 is 'moderately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

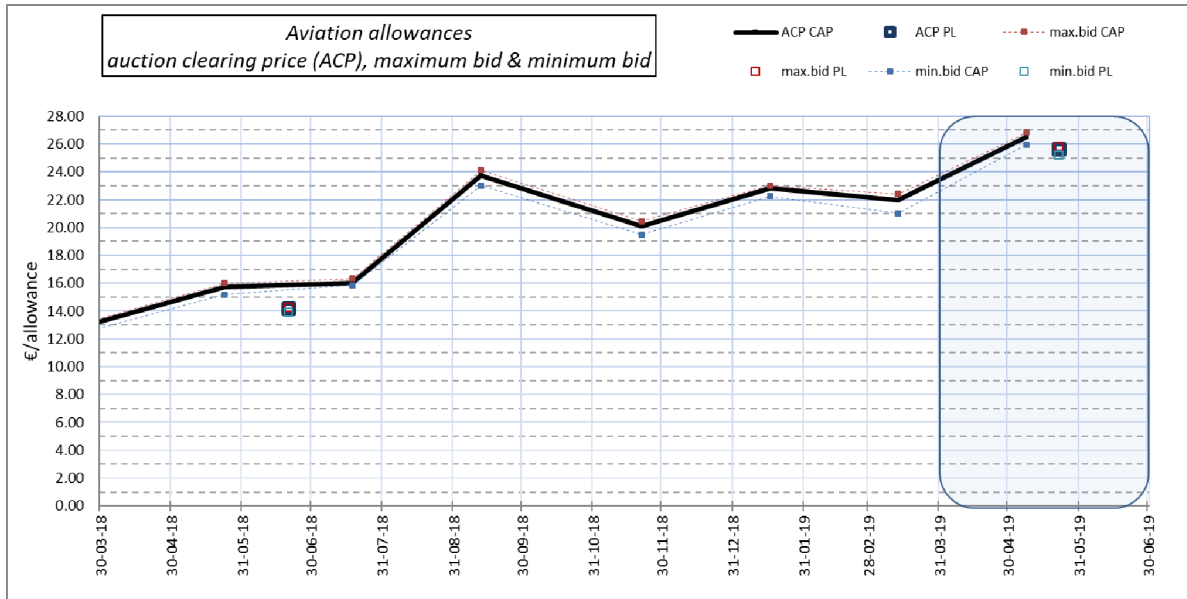
Month	Total auction volume	Total bid volume	Total revenue (€)	Average Cover ratio ²⁰	Average number of bidders	Average number of successful bidders	Average auction clearing price (€)
June 2019	-	-	-	-	-	-	-
May 2019	752 500	2 626 000	19 845 625	3.5	8	4.5	26.37
April 2019	-	-	-	-	-	-	-
March 2019	640 000	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	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-
2018 total	3 941 000	10 830 000	73 956 020	2.7	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.

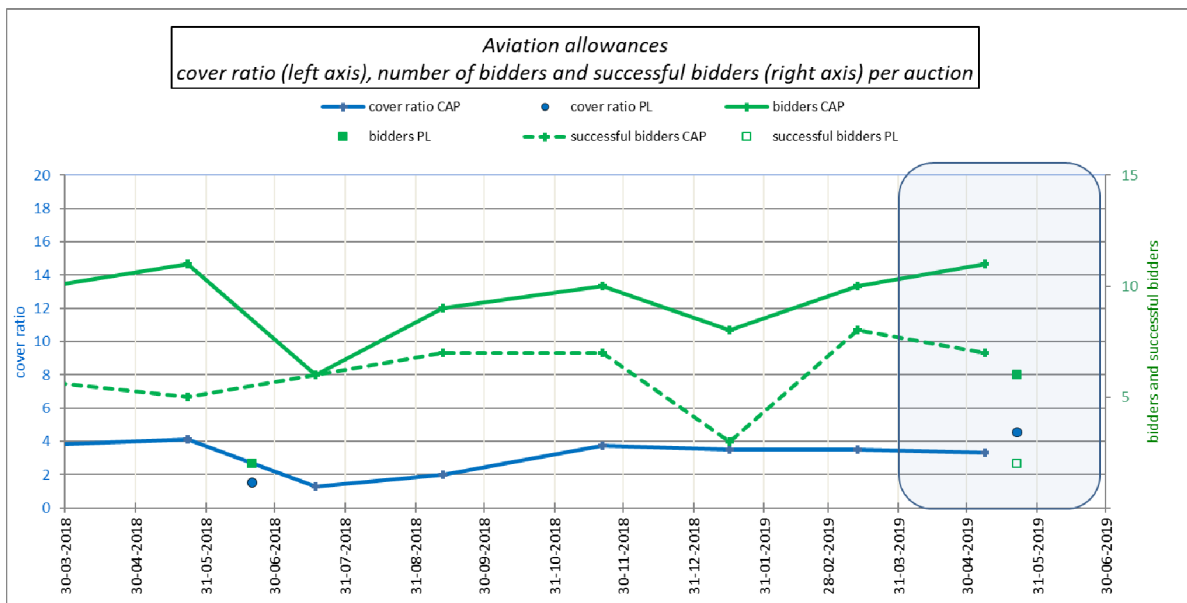
¹⁹ See also the regulatory update published by the Commission on 29 July 2014: http://ec.europa.eu/clima/news/articles/news_2014072901_en.htm.

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



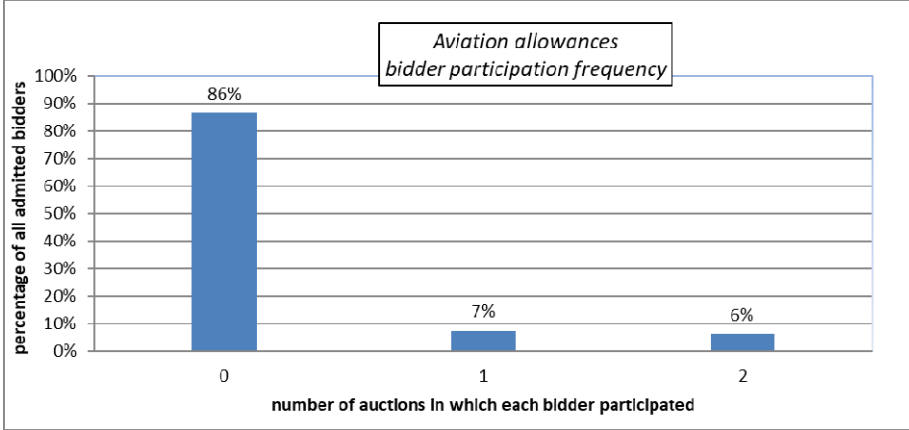
²¹ Auctions on behalf of Poland were held on the following days: 20/6/2018; 22/5/2019.

Graph 10: Aviation allowances – bidder participation frequency

April

No aviation allowances have been auctioned in April 2019.

May



June

No aviation allowances have been auctioned in June 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 ⁽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
June 2019	-	-	-	-	-	-	-	-	-
May 2019	2	11	2 626 000	192 523	164 125	138 496	75	4.7	43085
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	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-

(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.

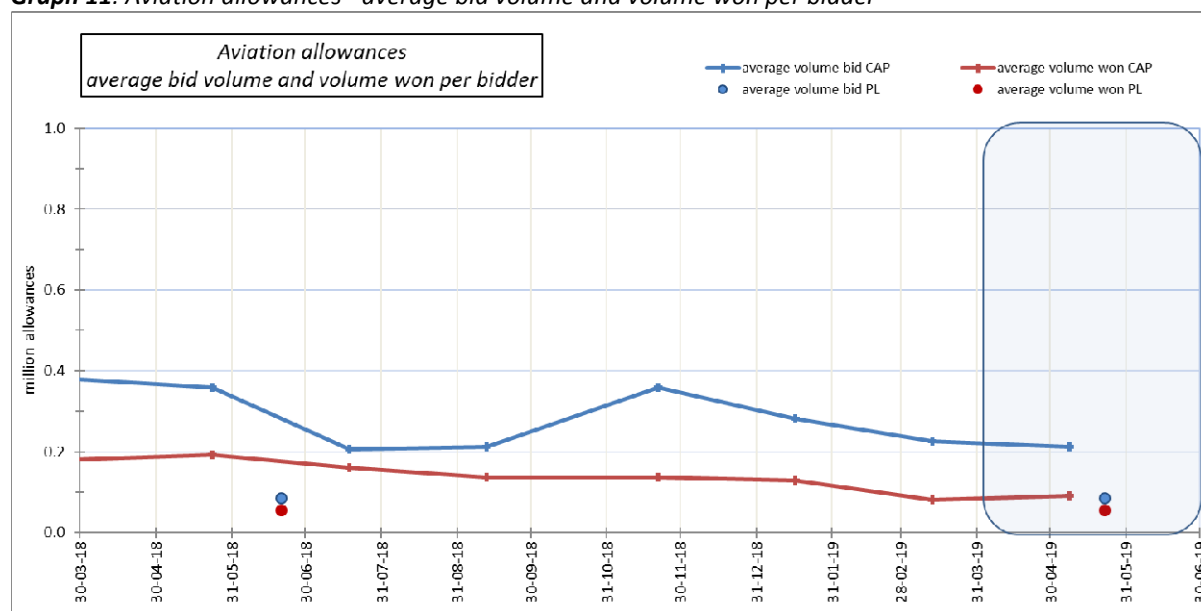
Table 7 provides monthly data on successful bids over 15 months. See also Graph 11.

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
June 2019	-	-	-	-	-	-	-
May 2019	2	9	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	-	-	-	-	-	-	-
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	191 600	76 107	11
April 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.

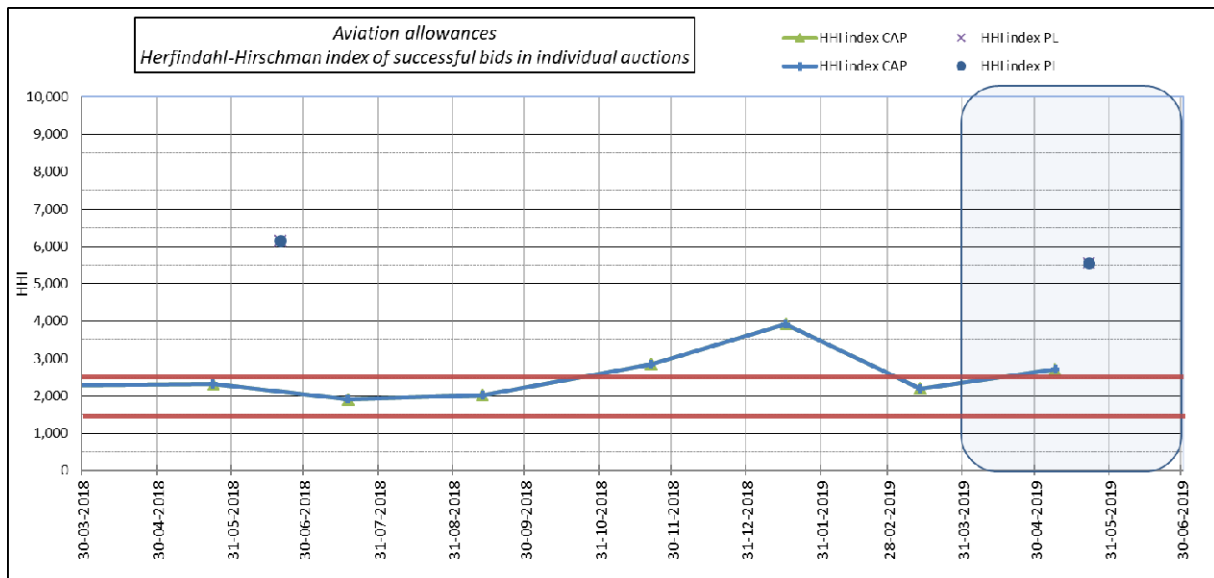
1.2.3 Type of bidders – aviation allowances

In April, May, June 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	Apr 2019							124
	May 2019							123
	Jun 2019							126
Participants eligible to bid in the auctions	Apr 2019						7	81
	May 2019	58	1	10	5	0	7	
	Jun 2019						8	
(Of which:) Participants eligible to bid in the auctions on behalf of clients	Apr 2019							6
	May 2019	-	-	1	2	-	3	
	Jun 2019							
(Of which:) Auction-only access	Apr 2019							2
	May 2019	1	0	0	0	0	1	
	Jun 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 June 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	628,897,195	8,393,260	637,290,455
Belgium	1,151,255,245	10,305,055	1,161,560,300
Bulgaria	1,029,399,065	3,016,795	1,032,415,860
Croatia	239,437,690	1,736,015	241,173,705
Cyprus	44,563,845	4,646,925	49,210,770
Czech Republic	1,454,398,305	4,114,035	1,458,512,340
Denmark	562,839,875	9,464,980	572,304,855
Estonia	318,579,805	529,090	319,108,895
Finland	755,525,640	7,314,870	762,840,510
France	2,476,016,255	47,314,200	2,523,330,455
Greece	1,591,536,230	16,384,840	1,607,921,070
Hungary	660,656,660	3,318,950	663,975,610
Iceland	3,335,620		3,335,620
Ireland	420,113,520	7,449,715	427,563,235
Italy	4,366,579,435	49,355,955	4,415,935,390
Latvia	124,907,270	1,783,755	126,691,025
Lichtenstein	124,645		124,645
Lithuania	241,677,755	939,375	242,617,130
Luxemburg	54,970,675	1,325,880	56,296,555
Malta	46,770,840	1,832,455	48,603,295
The Netherlands	1,514,437,675	16,750,105	1,531,187,780
Norway	68,376,130		68,376,130
Poland	3,557,051,765	8,723,425	3,565,775,190
Portugal	806,098,060	10,123,095	816,221,155
Romania	1,991,521,015	5,204,650	1,996,725,665
Slovak Republic	717,237,455	640,795	717,878,250
Slovenia	203,822,925	459,085	204,282,010
Spain	3,956,292,510	56,521,155	4,012,813,665
Sweden	406,173,895	12,157,665	418,331,560
TOTAL	29,392,597,000	289,806,125	29,682,403,125

Annex 2 Results of individual auctions on behalf of participating Member States and Poland in April – June 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 – April 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
01.04.2019	21.06	13.50	25.00	20.98	21.05	2,495,000	4,418,500	1.77	21	19	52,544,700	70	34	3.33	63 121	210 405	216 711	131 316	156 394
02.04.2019	21.40	13.50	25.00	21.15	21.27	2,495,000	6,655,000	2.67	30	18	53,393,000	104	27	3.47	63 990	221 833	269 376	138 611	142 251
04.04.2019	23.65	0.01	25.00	23.29	23.56	2,495,000	4,015,500	1.61	23	15	59,006,750	63	24	2.74	63 738	174 587	209 998	166 333	182 158
08.04.2019	24.07	13.50	28.00	23.67	23.90	2,495,000	5,133,500	2.06	24	16	60,054,650	85	25	3.54	60 394	213 896	267 007	155 938	187 051
09.04.2019	25.20	13.50	30.00	24.83	25.00	2,495,000	6,585,000	2.64	25	14	62,874,000	98	25	3.92	67 194	263 400	323 485	178 214	254 415
10.04.2019	26.21	13.50	31.00	25.72	26.28	4,428,500	6,978,000	1.58	19	15	116,070,985	76	51	4	91 816	367 263	520 929	295 233	336 373
11.04.2019	25.88	13.50	32.00	25.28	25.74	2,495,000	4,638,500	1.86	22	16	64,570,600	67	23	3.05	69 231	210 841	235 997	155 938	163 733
15.04.2019	27.00	26.10	31.00	26.95	26.56	2,495,000	5,638,000	2.26	23	8	67,365,000	91	16	3.96	61 956	245 130	338 817	311 875	407 791
16.04.2019	26.80	18.00	31.00	26.63	26.57	2,495,000	6,063,000	2.43	22	14	66,866,000	73	19	3.32	83 055	275 591	334 654	178 214	289 686
18.04.2019	26.92	13.50	28.00	25.81	26.73	2,495,000	4,867,000	1.95	19	9	67,165,400	56	14	2.95	86 911	256 158	299 386	277 222	355 360
23.04.2019	27.17	13.50	30.00	26.29	26.95	2,495,000	4,636,000	1.86	20	11	67,789,150	71	17	3.55	65 296	231 800	306 292	226 818	309 109
24.04.2019	27.02	13.50	30.00	26.44	27.15	4,428,500	6,547,000	1.48	17	16	119,658,070	74	57	4.35	88 473	385 118	471 435	276 781	307 611
25.04.2019	27.46	13.50	30.00	26.70	27.30	2,495,000	5,007,000	2.01	24	16	68,512,700	87	25	3.63	57 552	208 625	251 519	155 938	200 523
29.04.2019	25.81	25.60	35.00	26.16	25.90	2,495,000	3,061,500	1.23	18	18	64,395,950	62	49	3.44	49 379	170 083	158 703	138 611	126 900
30.04.2019	25.85	13.50	30.00	25.34	25.71	2,495,000	5,831,500	2.34	22	14	64,495,750	79	25	3.59	73 816	265 068	292 258	178 214	141 838

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 – May 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
02.05.2019	25.04	13.50	30.00	24.77	25.06	2,495,000	4,919,000	1.97	21	16	62,474,800	73	39	3.48	67 384	234 238	245 429	155 938	170 388
07.05.2019	25.65	25.00	32.00	25.92	25.53	2,495,000	4,227,000	1.69	21	13	63,996,750	75	26	3.57	56 360	201 286	240 134	191 923	232 714
08.05.2019	26.50	25.95	26.85	26.41	26.41	640,000	2,113,500	3.30	10	7	16,960,000	46	14	4.6	45 946	211 350	155 357	91 429	86 292
08.05.2019	25.82	13.50	31.00	25.44	25.74	4,428,500	9,347,000	2.11	25	17	114,343,870	96	34	3.84	97 365	373 880	612 754	260 500	346 824
09.05.2019	26.81	0.01	31.00	25.97	26.79	2,495,000	4,863,500	1.95	25	19	66,890,950	83	38	3.32	58 596	194 540	231 918	131 316	157 905
13.05.2019	25.25	13.50	31.00	24.97	25.19	2,495,000	4,412,500	1.77	23	17	62,998,750	86	36	3.74	51 308	191 848	232 370	146 765	182 599
14.05.2019	25.03	24.10	30.00	25.11	24.89	2,495,000	4,750,500	1.90	29	21	62,449,850	92	28	3.17	51 636	163 810	205 894	118 810	136 618
16.05.2019	25.81	13.50	30.00	25.39	25.81	2,495,000	4,058,500	1.63	25	20	64,395,950	82	39	3.28	49 494	162 340	203 680	124 750	147 356
20.05.2019	24.91	13.50	30.00	24.48	24.75	2,495,000	6,123,000	2.45	29	21	62,150,450	112	28	3.86	54 670	211 138	265 551	118 810	137 368
21.05.2019	25.01	13.50	30.00	24.57	24.94	2,495,000	5,328,000	2.14	28	21	62,399,950	94	36	3.36	56 681	190 286	276 592	118 810	165 428
22.05.2019	25.65	25.23	25.82	25.51	25.53	112,500	512,500	4.56	6	2	2,885,625	29	4	4.83	17 672	85 417	31 801	56 250	18 750
22.05.2019	25.40	13.50	31.00	25.05	25.24	4,428,500	9,305,500	2.10	24	17	112,483,900	105	32	4.38	88 624	387 729	556 212	260 500	313 843
23.05.2019	26.05	13.50	35.00	25.74	26.05	2,495,000	4,540,500	1.82	26	25	64,994,750	84	43	3.23	54 054	174 635	223 258	99 800	151 428
28.05.2019	25.30	13.50	30.00	24.74	25.17	2,495,000	5,199,000	2.08	24	17	63,123,500	82	23	3.42	63 402	216 625	275 376	146 765	194 988

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 – June 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
03.06.2019	23.96	23.65	30.00	24.21	24.01	2,775,500	4,395,000	1.58	29	23	66,500,980	83	49	2.86	52 952	151 552	191 318	120 674	167 949
04.06.2019	23.86	23.34	30.00	23.93	23.78	2,775,500	4,441,500	1.60	28	20	66,223,430	81	33	2.89	54 833	158 625	203 112	138 775	175 227
05.06.2019	24.42	23.89	30.00	24.54	24.32	4,428,500	7,045,000	1.59	25	16	108,143,970	82	32	3.28	85 915	281 800	387 935	276 781	326 407
06.06.2019	24.07	23.50	30.00	24.17	23.95	2,775,500	5,185,000	1.87	26	17	66,806,285	96	27	3.69	54 010	199 423	297 807	163 265	248 915
11.06.2019	25.12	15.00	30.00	24.99	24.97	2,775,500	5,303,500	1.91	28	19	69,720,560	89	25	3.18	59 590	189 411	230 580	146 079	210 157
13.06.2019	24.92	24.00	31.00	25.15	24.83	2,775,500	4,827,500	1.74	25	16	69,165,460	73	25	2.92	66 130	193 100	269 516	173 469	241 394
17.06.2019	24.78	24.00	29.00	24.87	24.75	2,775,500	4,214,000	1.52	25	19	68,776,890	71	30	2.84	59 352	168 560	266 083	146 079	236 704
18.06.2019	24.98	24.55	29.00	25.00	24.85	2,775,500	5,587,000	2.01	25	17	69,331,990	79	22	3.16	70 722	223 480	296 213	163 265	208 056
19.06.2019	24.98	24.00	28.00	25.02	24.93	4,428,500	7,328,000	1.65	25	18	110,623,930	84	36	3.36	87 238	293 120	420 300	246 028	337 422
20.06.2019	24.86	23.76	27.00	24.82	24.78	2,775,500	5,346,500	1.93	21	17	68,998,930	69	24	3.29	77 486	254 595	337 996	163 265	206 271
24.06.2019	25.64	24.25	27.00	25.61	25.57	2,775,500	4,500,000	1.62	19	11	71,163,820	60	22	3.16	75 000	236 842	385 115	252 318	394 856
25.06.2019	-	24.00	30.00	26.11	-	2,775,500	3,354,500	1.21	20	-	-	53	-	2.65	63 293	167 725	236 450	-	-
27.06.2019	27.10	24.00	29.00	27.10	27.02	3,469,000	8,037,500	2.32	19	16	94,009,900	72	28	3.79	111 632	423 026	849 796	216 813	397 079

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 – April 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 – May 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
08.05.2019	26.50	25.95	26.85	26.41	26.41	640 000	2 113 500	3.30	10	7	16,960,000	46	14	4.60	45 946	211 350	155 357	91 429	86 292
22.05.2019	25.65	25.23	25.82	25.51	25.53	112 500	512 500	4.56	6	2	2,885,625	29	4	4.83	17 672	85 417	31 801	56 250	18 750

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 – June 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.

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