

Auctions by the *Common Auction Platform*

July, August, September 2023

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:

3, 4, 5(PL), 6, 10, 11, 13, 17, 18, 19(PL), 20, 24, 25, 27, 31 July 2023;

1, 2(PL), 3, 7, 8, 10, 14, 15, 16(PL), 17, 21, 22, 24, 28, 29, 30(PL), 31 August 2023;

4, 5, 11, 12, 13(PL), 14, 18, 19, 21, 25, 26, 27(PL), 28 September 2023;

Aviation Allowances:

12 July 2023;

No auctions in August 2023;

20 September 2023;

Cancelled auctions:

No auctions in July 2023;

No auctions in August 2023;

No auctions in September 2023;

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 6 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*. 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. Poland may appoint an opt-out auction platform but is using for the time being the common auction platform. Allowances for Northern Ireland are also auctioned on EEX.

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.

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: https://ec.europa.eu/clima/eu-action/eu-emissions-trading-system-eu-ets/auctioning_en

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). On 4 November 2020, the European Commission signed a five-year contract with EEX and its clearing system for the services of the third common auction platform (CAP3) under the EU Emissions Trading System (EU ETS).

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 concluded in December 2020 an agreement with EEX to make use of the common auction platform to auction its share of allowances in the absence of listing of its auction platform.

The member states of the European Free Trade Association (EFTA) that are Party to the European Economic Area (EEA)¹ 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*.

¹ Iceland, Liechtenstein and Norway.

Executive summary

In the reporting period, EEX, in its capacity as the *Common Auction Platform (CAP3)*, conducted auctions of *general allowances* and *aviation allowances* for the *fourth 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 July, August, September 2023 auctions at a glance:

	<i>General Allowances</i>			<i>Aviation Allowances</i>		
	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>	<i>Jul</i>	<i>Aug</i>	<i>Sep</i>
General						
Number of auctions	15	17	13	1	-	1
Total volume auctioned	39,906,000	22,879,000	40,086,500	775,500	-	775,500
Amount raised from the auctions (€)	3,438,886,200	1,939,207,975	3,273,588,055	66,165,660	-	61,884,900
Average Auction Clearing Price (€/allowance)	86.17	84.76	81.66	85.32	-	79.80
Total bid volume	75,292,000	63,291,000	73,748,500	1,645,000	-	2,398,000
Average Cover ratio	1.9	2.8	1.8	2.1	-	3.1
Monthly HHI	1,113	1,983	1,134	3,099	-	2,591
Participation						
Number of eligible bidders	95	95	94	95	95	94
Number of participating bidders ⁽¹⁾	33	31	28	13	-	12
Number of successful bidders ⁽¹⁾	29	26	27	9	-	6
Average number of bidders per auction	21.3	18.3	20.9	13.0	-	12.0

Average number of successful bidders per auction	15.3	11.5	16.4	9.0	-	6.0
Auction data						
Average total volume bid per bidder per auction	239,078	205,254	272,633	126,538	-	199,833
Average bid size (volume per bid)	60,517	50,436	62,413	34,271	-	38,063
Average volume won per bidder per auction	178,830	120,052	197,289	86,167	-	129,250
Average range of bids (€)	44.20	33.05	53.39	13.70	-	3.50
Cancelled Auctions	0	0	0	0	-	0

(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, Poland and Northern Ireland from the start of the third trading period auctions (November 2012) to September 2023 are EUR 132,654,001,940, and of aviation allowances EUR 1,224,909,520. Looking exclusively at the fourth trading period (January 2021 - September 2023) the total revenues from the auctions of general allowances are EUR 83,570,266,585 and of aviation allowances EUR 744,521,180. 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 website².

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[1]	Average number of bidders	Average number of successful bidders	Average auction clearing price (€)[2]
Sep 23	40,086,500	73,748,500	3,273,588,055	1.8	20.9	16.4	81.66
Aug 23	22,879,000	63,291,000	1,939,207,975	2.8	18.3	11.5	84.76
Jul 23	39,906,000	75,292,000	3,438,886,200	1.9	21.3	15.3	86.17
Jun 23	36,670,000	70,987,000	3,118,311,030	1.9	20.3	14.4	85.04
May 23	31,851,000	63,620,000	2,668,676,670	2.0	20.1	14.4	83.79
Apr 23	31,851,000	64,478,500	2,862,689,280	2.0	19.9	15.0	89.88
Mar 23	39,346,500	72,309,000	3,521,771,655	1.8	19.3	15.8	89.51
Feb 23	34,260,000	68,040,000	3,144,208,740	2.0	20.2	16.4	91.77
Jan 23	29,175,000	60,749,500	2,325,458,580	2.1	23.2	18.1	79.71
Dec 22	23,244,500	42,657,500	2,016,605,305	1.8	18.9	15.3	86.76

² <https://www.eex.com/en/market-data/environmental-markets/auction-market>

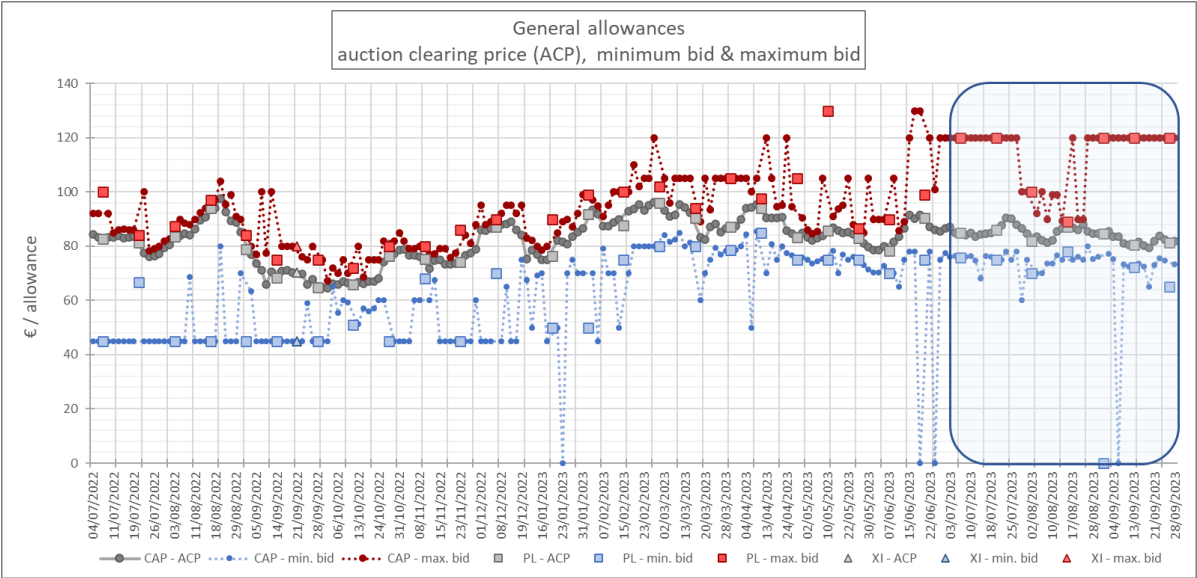
Nov 22	38,839,500	78,824,500	2,931,027,595	2.0	19.4	13.8	75.47
Oct 22	38,839,500	86,400,000	2,687,470,070	2.2	18.0	12.5	69.19
Sep 22	37,259,000	71,870,500	2,583,969,930	1.9	18.6	13.8	69.35
Aug 22	20,192,500	63,544,000	1,759,853,265	3.1	16.4	9.4	87.15
Jul 22	32,862,000	73,215,500	2,674,980,145	2.2	20.8	14.8	81.40
2022 total	398,159,000	828,646,000	31,696,205,050	2.1	20.4	15.1	79.61
2021 total	482,490,000	775,121,500	25,581,263,350	1.6	23.4	17.9	53.02
2020 total	560,046,500	951,992,500	13,723,091,055	1.7	24.3	18.2	24.50
2019 total	460,978,500	906,546,500	11,357,236,835	2.0	24.1	17.2	24.64
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

[1] Cover ratio is the ratio between the total bid volume and the auction volume.

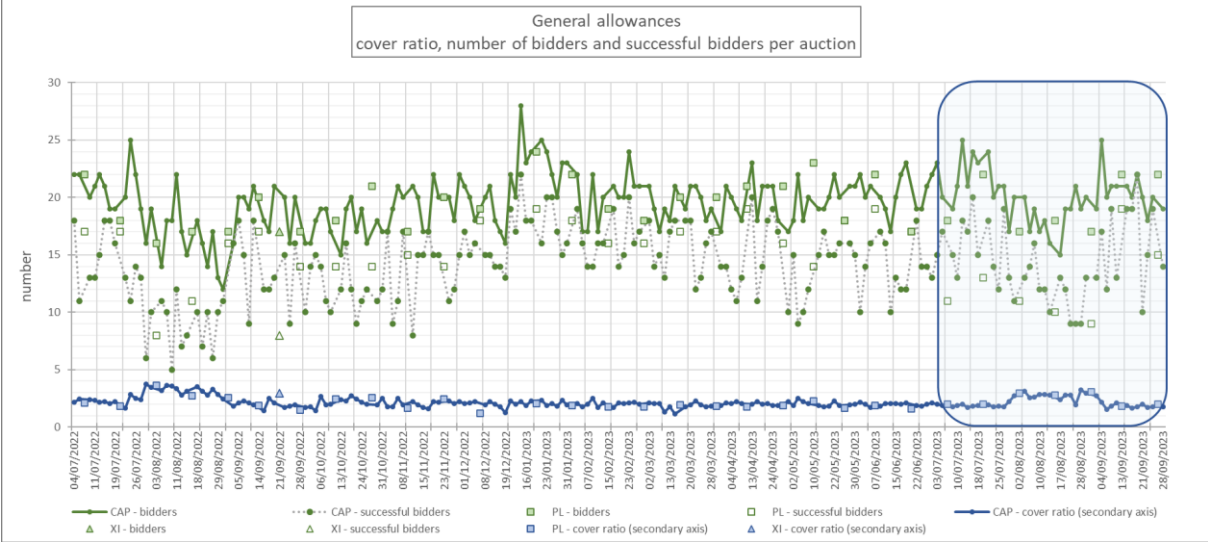
[2] The average auction clearing price is weighted by the volumes of the respective auctions.

During July, August, September 2023, 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 -0.09, 0.00, -0.09 respectively, and this difference had a standard deviation of EUR 0.29, 0.33, 0.34 respectively.

Graph 1: General allowances - auction clearing price (ACP), maximum bid & minimum bid

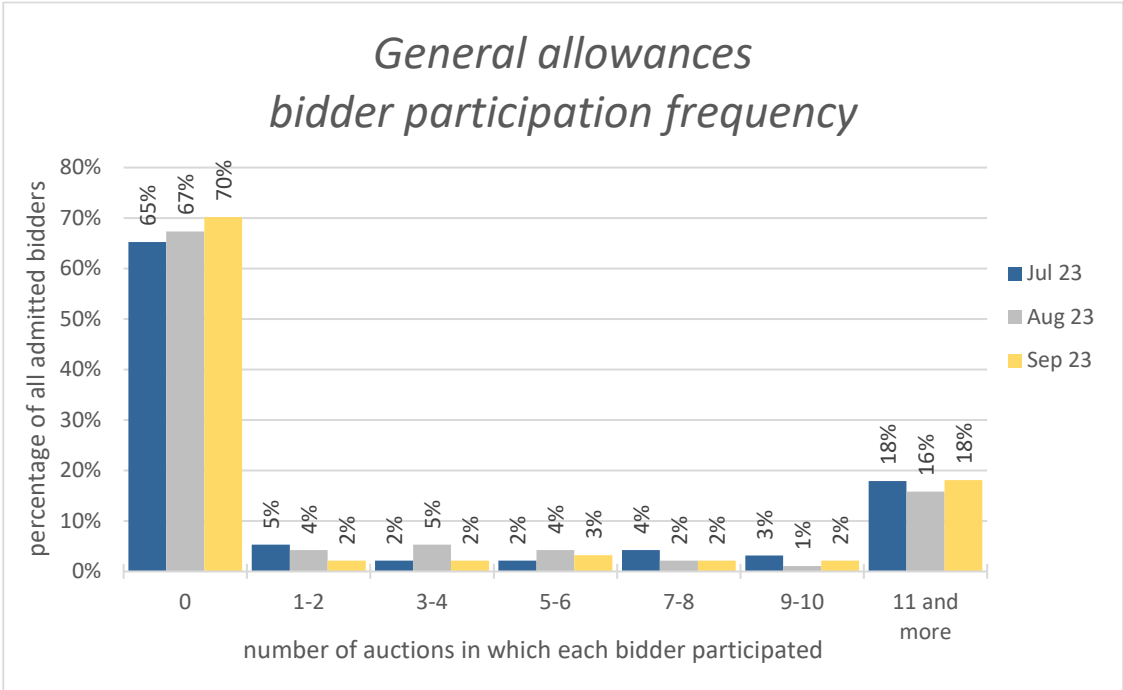


Graph 2: General allowances - cover ratio, number of bidders and successful bidders per auction



The number of eligible bidders is provided in Section 2. Out of these 33, 31 and 28 different bidders participated in the auctions in respectively during the reporting period. Graph 3 indicates the participation frequency over these months.

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[1]	Average total volume bid per bidder per auction over the month[2]	Standard deviation of total volume per bidder per auction over the month[3]	Total monthly nr of bids	Average nr. of bids per bidder per auction[4]	Average bid size[5]
Sep 23	13	28	73,748,500	272,633	272,135	391,170	1,183	4.4	62,413
Aug 23	17	31	63,291,000	205,254	203,508	335,640	1,258	4.0	50,436
Jul 23	15	33	75,292,000	239,078	236,025	350,571	1,250	3.9	60,517
Jun 23	15	30	70,987,000	234,781	233,510	355,596	1,264	4.2	56,493
May 23	13	30	63,620,000	243,965	243,755	376,281	1,174	4.5	54,897
Apr 23	13	32	64,478,500	250,996	248,952	344,835	1,301	5.0	49,791
Mar 23	16	28	72,309,000	236,297	234,769	350,777	1,450	4.7	50,115
Feb 23	14	30	68,040,000	241,622	240,424	364,634	1,300	4.6	52,788
Jan 23	12	33	60,749,500	219,518	218,523	314,965	1,321	4.8	46,263
Dec 22	9	27	42,657,500	249,014	250,926	389,053	693	4.1	62,034
Nov 22	15	33	78,824,500	272,710	270,875	440,787	1,136	3.9	69,821
Oct 22	15	30	86,400,000	323,939	321,190	540,112	1,135	4.2	76,579
Sep 22	15	30	71,870,500	264,361	258,527	403,897	1,150	4.1	63,503
Aug 22	17	29	63,544,000	230,907	227,756	439,575	1,043	3.7	61,754
Jul 22	14	34	73,215,500	251,452	250,738	459,989	1,161	4.0	63,396

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

[1] 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.

[2] 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).

[3] Standard deviation of total volume bid per bidder in each auction over the month

[4] 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).

[5] 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 ^[1]	Average volume won per bidder per auction over the month ^[2]	Standard deviation of volume won per bidder per auction over the month ^[3]	Total monthly nr of successful bids
Sep 23	13	27	40,086,500	197,289	188,200	297,163	449
Aug 23	17	26	22,879,000	120,052	116,730	177,980	327
Jul 23	15	29	39,906,000	178,830	173,504	212,177	437
Jun 23	15	25	36,670,000	175,945	170,558	242,356	472
May 23	13	26	31,851,000	176,424	170,326	268,674	465
Apr 23	13	30	31,851,000	171,999	164,180	210,176	560
Mar 23	16	24	39,346,500	158,032	155,520	231,259	777
Feb 23	14	27	34,260,000	150,878	148,957	239,198	600
Jan 23	12	29	29,175,000	135,948	134,447	195,200	583
Dec 22	9	25	23,244,500	170,697	169,668	257,923	363
Nov 22	15	28	38,839,500	198,271	188,541	285,020	469
Oct 22	15	23	38,839,500	212,128	207,698	303,925	423
Sep 22	15	24	37,259,000	194,737	184,450	261,447	485
Aug 22	17	25	20,192,500	137,299	127,801	149,570	351
Jul 22	14	31	32,862,000	162,674	158,754	241,835	478

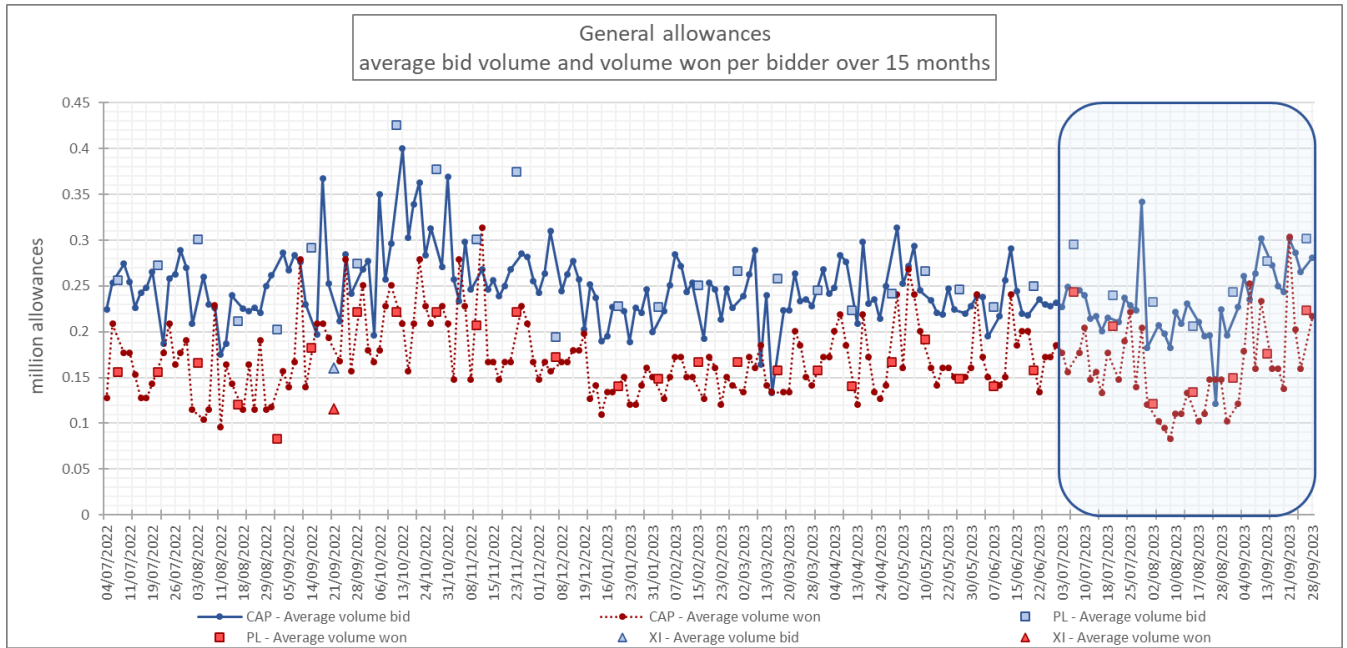
(1): Number of unique individual bidders or unique successful bidders present in a whole month.

[1] 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.

[2] 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).

[3] Standard deviation of volume won per bidder in each auction over the month

Graph 4: General allowances - average bid volume and volume won per bidder over 15 months



1.1.3. Type of bidders - general allowance

No successful bids for aviation allowances were submitted by intermediaries, the remaining successful bids were 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

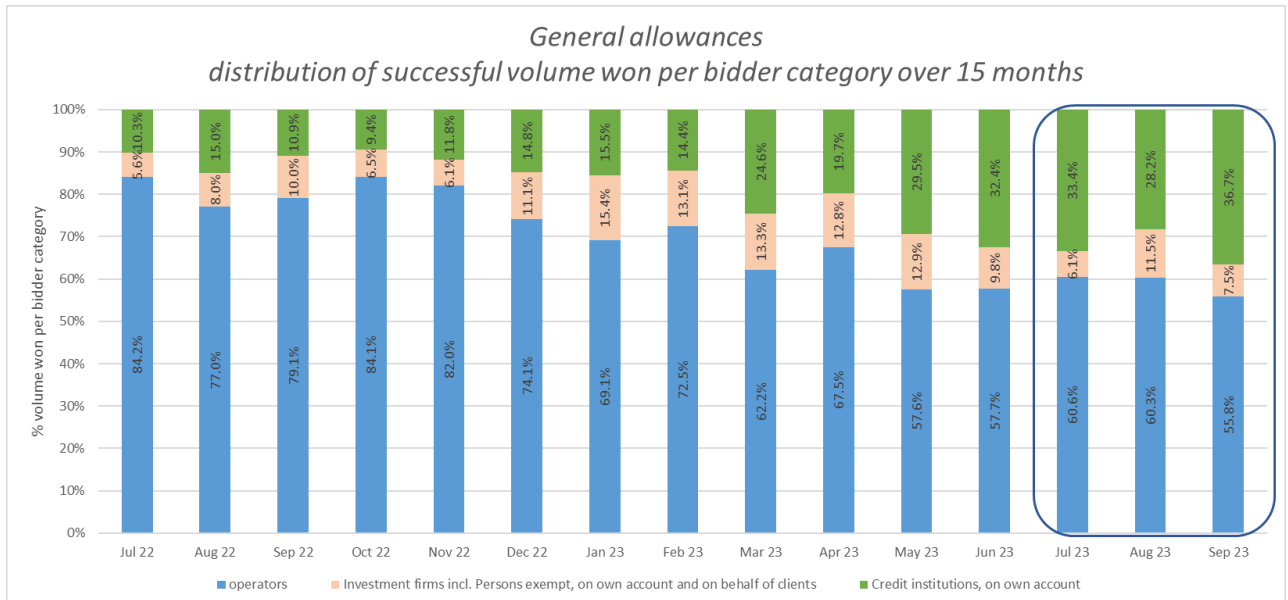


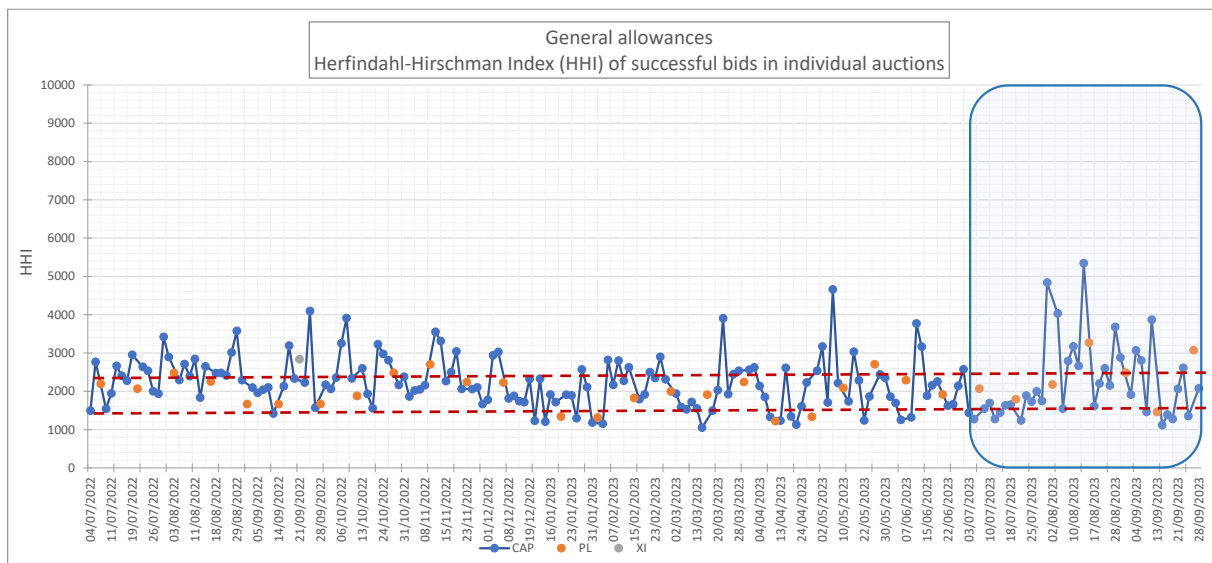
Table 4: General allowances – distribution of volume won per bidder category and their standard deviations

Month	% volume won coming from bidding on behalf of a client	Bidder category	% volume won	Standard deviation of % of volume won
Jul 23	0.00%	Operators (including Business groupings)	60.56%	8.7% points
		Investment firms (including persons exempt)	6.06%	2.3% points
		Credit institutions	33.39%	9.0% points
Aug 23	0.00%	Operators (including Business groupings)	60.26%	22.2% points
		Investment firms (including persons exempt)	11.55%	7.7% points
		Credit institutions	28.19%	22.7% points
Sep 23	0.00%	Operators (including Business groupings)	55.84%	17.5% points
		Investment firms (including persons exempt)	7.50%	4.3% points
		Credit institutions	36.65%	18.0% points

1.1.4. Concentration - general allowances

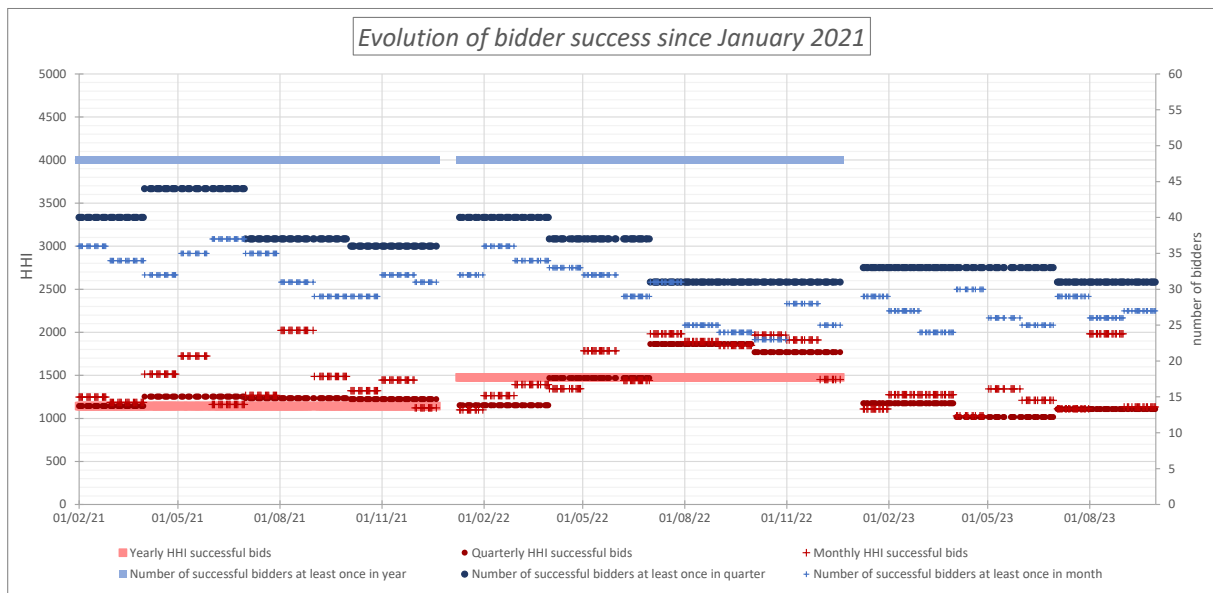
The Herfindahl-Hirschman Index (HHI) of successful bids is used to measure market concentration³. The HHI ranges from a value of 0 (perfect competition) to 10 000 (a single buyer). A common interpretation of the HHI is that a score below 1 500 is 'not-concentrated', between 1 500 and 2 500 is 'moderately 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



³ 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 2014⁴. Pursuant to the published *auction calendar*, only *aviation allowances* for the calendar year 2012 were auctioned in 2014⁵; 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[1]	Average number of bidders	Average number of successful bidders	Average auction clearing price (€)[2]
Sep 23	775,500	2,398,000	61,884,900	3.1	12.0	6.0	79.80
Aug 23	-	-	-	-	-	-	-
Jul 23	775,500	1,645,000	66,165,660	2.1	13.0	9.0	85.32
Jun 23	-	-	-	-	-	-	-
May 23	775,500	2,362,500	66,367,290	3.1	15.0	7.0	85.58
Apr 23	-	-	-	-	-	-	-
Mar 23	775,500	1,894,000	66,801,570	2.4	10.0	8.0	86.14
Feb 23	-	-	-	-	-	-	-
Jan 23	775,500	1,160,000	60,713,895	1.5	10.0	10.0	78.29
Dec 22	-	-	-	-	-	-	-
Nov 22	602,000	954,000	44,698,500	1.6	7.0	5.0	74.25
Oct 22	-	-	-	-	-	-	-
Sep 22	600,000	634,000	41,436,000	1.1	6.0	6.0	69.06
Aug 22	-	-	-	-	-	-	-
Jul 22	-	-	-	-	-	-	-

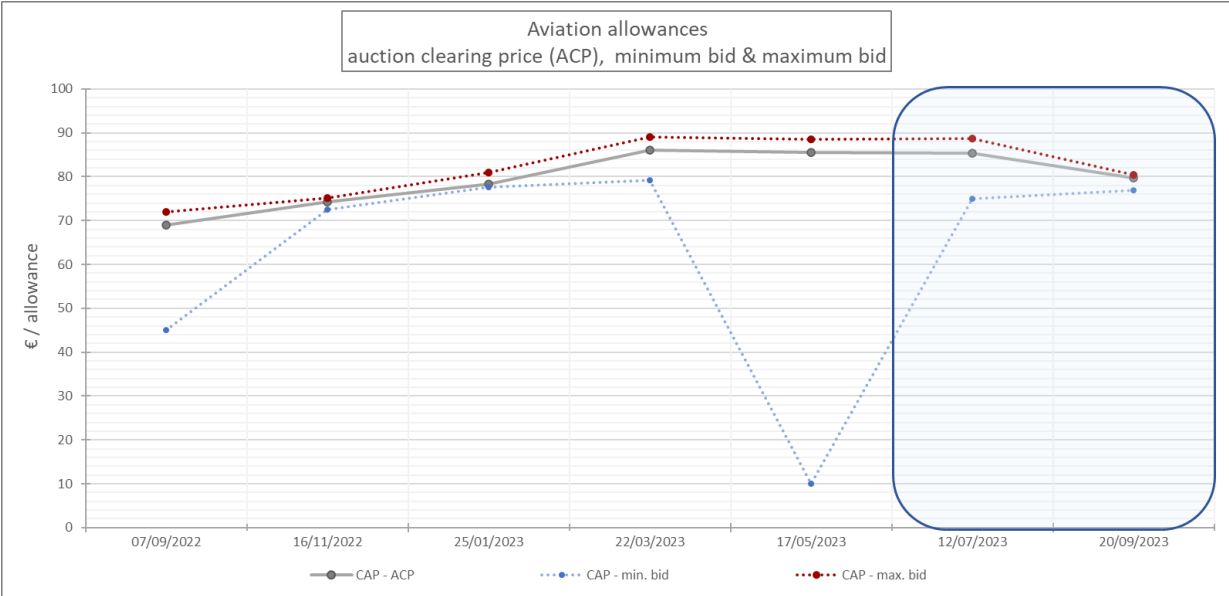
⁴ The auctions were suspended end 2012, see the Regulatory update published by the Commission on 16 November 2012: https://ec.europa.eu/clima/news-your-voice/news/auctions-2012-aviation-allowances-put-hold-2012-11-16_en

⁵ See also the regulatory update published by the Commission on 29 July 2014: https://ec.europa.eu/clima/news-your-voice/news/2014-aviation-auction-calendars-published-2014-07-29_en

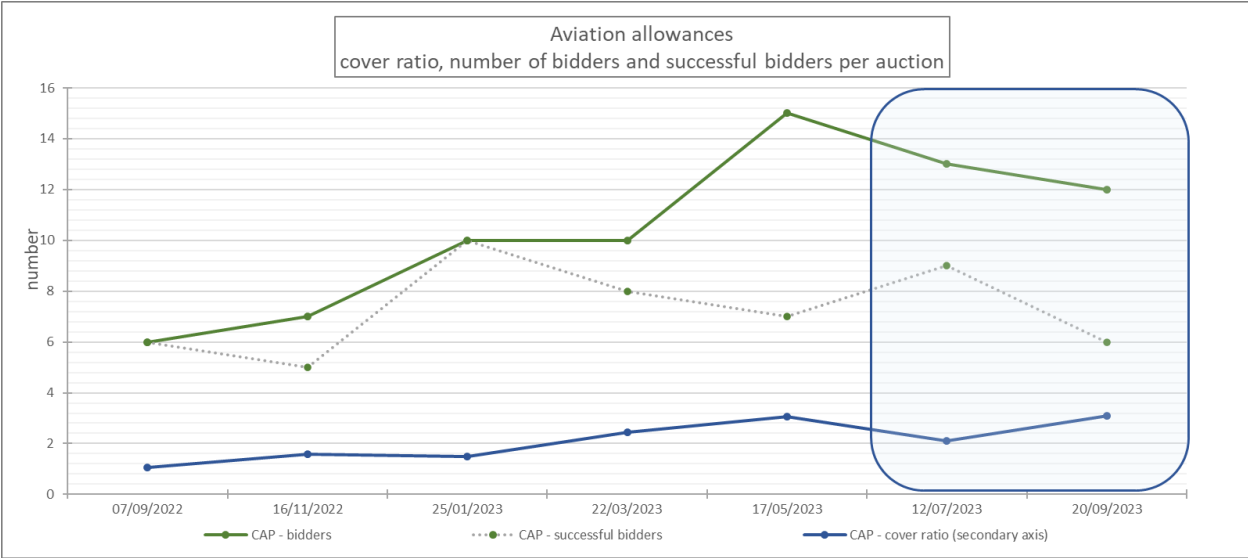
2022 total	3,111,500	5,998,000	251,280,375	2.3	7.5	5.8	80.76
2021 total	3,185,500	7,463,000	171,307,490	2.6	6.5	4.5	53.78
2020 total	5,049,500	13,474,500	119,509,185	2.7	8.0	5.0	23.67
2019 total	4,701,000	13,172,500	119,584,255	2.8	8.7	5.9	25.44
2018 total	3,941,000	10,830,000	73,956,020	2.7	8.8	6.1	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

[1] The cover ratio is the ratio between the total bid volume and the auction volume.

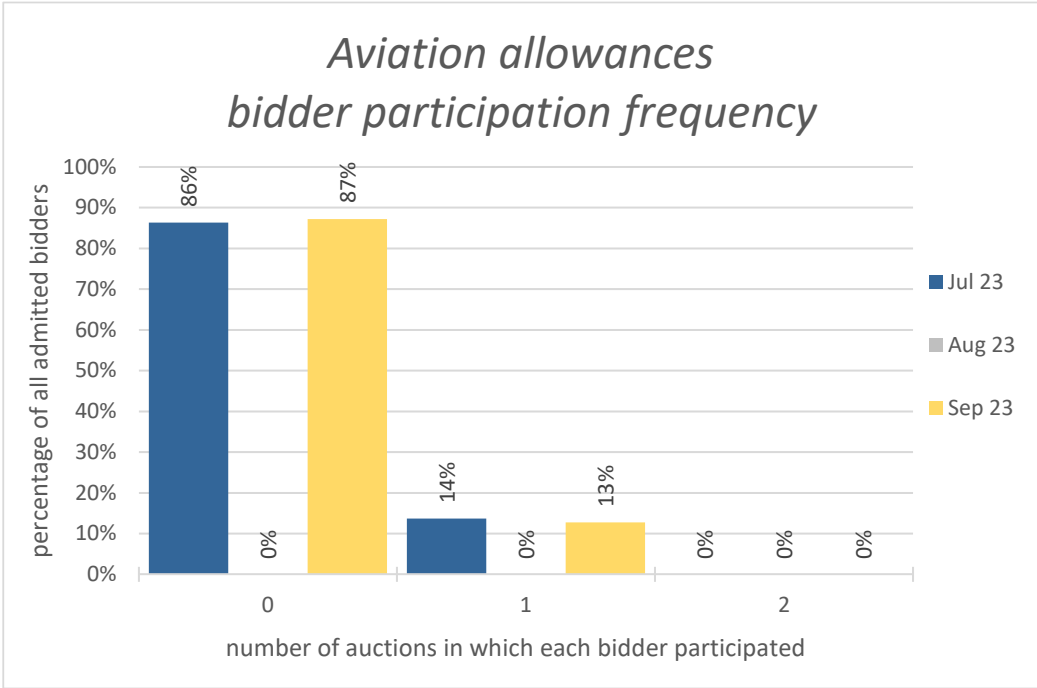
Graph 8: Aviation allowances - auction clearing price (ACP) & maximum prices bid & minimum prices bid



Graph 9: Aviation allowances - cover ratio, number of bidders and successful bidders per auction



Graph 10: Aviation allowances – bidder participation frequency



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[1]	Average total volume bid per bidder per auction over the month[2]	standard deviation of total volume bid per bidder per auction over the month[3]	Total monthly nr of bids	Average nr. of bids per bidder per auction[4]	Average bid size[5]
Sep 23	1	12	2,398,000	199,833	199,833	216,624	63	5.3	38,063
Aug 23	-	-	-	-	-	-	-	-	-
Jul 23	1	13	1,645,000	126,538	126,538	193,424	48	3.7	34,271
Jun 23	-	-	-	-	-	-	-	-	-
May 23	1	15	2,362,500	157,500	157,500	193,106	58	3.9	40,733
Apr 23	-	-	-	-	-	-	-	-	-
Mar 23	1	10	1,894,000	189,400	189,400	228,597	54	5.4	35,074
Feb 23	-	-	-	-	-	-	-	-	-
Jan 23	1	10	1,160,000	116,000	116,000	108,312	38	3.8	30,526
Dec 22	-	-	-	-	-	-	-	-	-
Nov 22	1	7	954,000	136,286	136,286	195,404	35	5.0	27,257
Oct 22	-	-	-	-	-	-	-	-	-
Sep 22	1	6	634,000	105,667	105,667	96,965	23	3.8	27,565
Aug 22	-	-	-	-	-	-	-	-	-
Jul 22	-	-	-	-	-	-	-	-	-

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

[1] 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.

[2] 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).

[3] Standard deviation of total volume bid per bidder in each auction over the month

[4] 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).

[5] 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 ^[1]	Average volume won per bidder per auction over the month ^[2]	Standard deviation of volume won per bidder per auction over the month ^[3]	Total monthly nr of successful bids
Sep 23	1	6	775,500	129,250	129,250	96,248	13
Aug 23	-	-	-	-	-	-	-
Jul 23	1	9	775,500	86,167	86,167	115,250	21
Jun 23	-	-	-	-	-	-	-
May 23	1	7	775,500	110,786	110,786	83,735	14
Apr 23	-	-	-	-	-	-	-
Mar 23	1	8	775,500	96,938	96,938	87,683	20
Feb 23	-	-	-	-	-	-	-
Jan 23	1	10	775,500	77,550	77,550	82,704	30
Dec 22	-	-	-	-	-	-	-
Nov 22	1	5	602,000	120,400	120,400	127,820	21
Oct 22	-	-	-	-	-	-	-
Sep 22	1	6	600,000	100,000	100,000	96,334	22
Aug 22	-	-	-	-	-	-	-
Jul 22	-	-	-	-	-	-	-

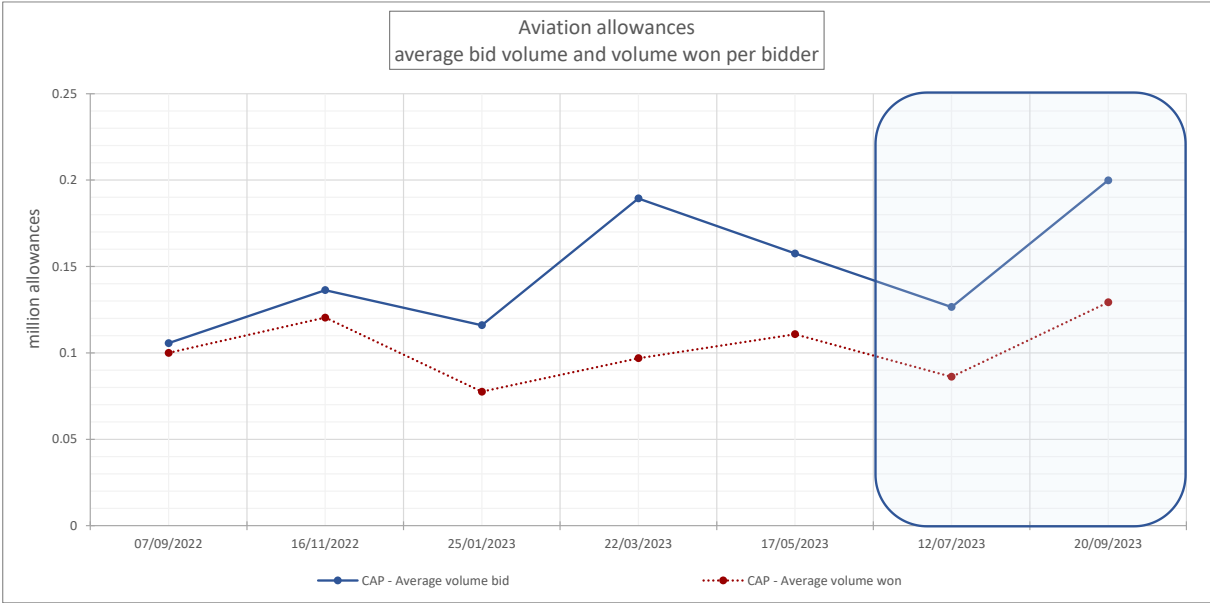
(1): Number of unique individual bidders or unique successful bidders present in a whole month.

[1] 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.

[2] 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).

[3] Standard deviation of volume won per bidder in each auction over the month

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



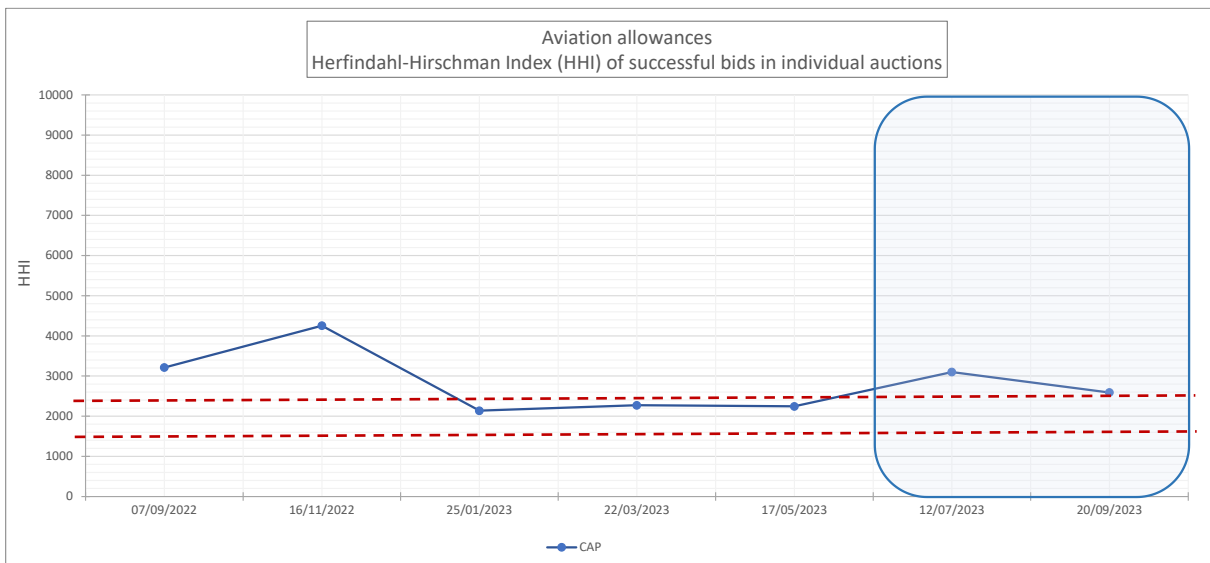
1.2.3 Type of bidders – aviation allowances

No bids for aviation allowances were submitted by intermediaries, the remaining volume bid was done on own account.

1.2.4 Concentration – aviation allowances

The HHI of successful bids is used to measure market concentration⁶. 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



⁶ 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.

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 auctions⁷.

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	Jul 23	-	-	-	-	-	-	172
	Aug 23	-	-	-	-	-	-	172
	Sep 23	-	-	-	-	-	-	175
Participants eligible to bid in the auctions	Jul 23	69	1	10	6	1	8	95
	Aug 23	69	1	10	6	1	8	95
	Sep 23	69	1	10	6	1	7	94
(Of which:) Participants eligible to bid in the auctions on behalf of clients	Jul 23	-	-	2	2	-	1	5
	Aug 23	-	-	2	2	-	1	5
	Sep 23	-	-	2	2	-	1	5
(Of which:) Auction-only access	Jul 23	2	-	2	1	-	1	6
	Aug 23	2	-	2	1	-	1	6
	Sep 23	2	-	2	1	-	1	6

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

⁷ This assessment is based on the auction participants' activity in EEX's secondary market and general market knowledge of EEX.

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.

2. 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: 15/10/2023

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> .
Common auction platform	The auction platform appointed pursuant to Article 26(1) of the <i>Auctioning Regulation</i> . The <i>common auction platform</i> referred to as the third common auction platform, or CAP3, was appointed pursuant to Article 26(1) of the <i>Auctioning Regulation</i> , on 4 November 2020 for a period of 5 years.
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 .
Fourth trading period	The period 2021-2030.
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>EUA</i> . See Article 12(2a) and (3) of the <i>ETS Directive</i> .
Investment firms	Investment firms as defined in EU financial markets legislation (point (1) of Article 4(1) of Directive 2004/39/EC).
Market abuse	Insider dealing and market manipulation. See Article 36 of the <i>Auctioning Regulation</i> and Article 1 of Directive 2003/6/EC ('Market Abuse Directive').
Participating Member States	All EU Member States except Germany and Poland, 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> .

**Annex 1a Auction revenues per Member State and for Poland from 12 November 2012 to the end of Quarter 3 2023
(reported in euros)**

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

<i>Cumulated Revenues since November 2012 (start of Phase III)</i>	General allowances	Aviation allowances	General and aviation allowances
Austria	1,898,286,805	31,710,910	1,929,997,715
Belgium	3,403,033,610	40,910,055	3,443,943,665
Bulgaria	4,502,950,420	13,160,470	4,516,110,890
Croatia	714,572,645	9,752,830	724,325,475
Cyprus	356,244,370	13,345,345	369,589,715
Czech Republic	4,316,611,750	15,491,140	4,332,102,890
Denmark	1,747,943,610	37,406,315	1,785,349,925
Estonia	1,385,143,970	3,168,270	1,388,312,240
Finland	2,414,061,855	30,331,830	2,444,393,685
France	8,354,116,610	169,988,415	8,524,105,025
Greece	5,741,303,700	72,128,485	5,813,432,185
Hungary	2,071,799,075	13,867,455	2,085,666,530
Iceland	73,947,340	12,825,995	86,773,335
InnoFund RRF	768,902,610	-	768,902,610
Innovation Fund	8,501,105,600	-	8,501,105,600
Ireland	1,062,938,475	28,596,700	1,091,535,175
Italy	14,572,700,625	185,236,790	14,757,937,415
Latvia	398,690,940	7,499,610	406,190,550
Liechtenstein	2,124,385	-	2,124,385
Lithuania	641,150,275	5,335,000	646,485,275
Luxembourg	117,334,170	4,944,660	122,278,830
Malta	168,761,400	8,329,980	177,091,380
Modernisation Fund	13,530,533,160	-	13,530,533,160
MS RRF	651,213,435	-	651,213,435
The Netherlands	5,112,668,465	61,757,225	5,174,425,690
Northern Ireland	168,261,110	-	168,261,110
Norway	1,764,128,585	83,438,630	1,847,567,215
Poland	22,691,532,250	25,427,790	22,716,960,040
Portugal	2,897,071,100	50,086,710	2,947,157,810
Romania	4,541,474,975	24,855,520	4,566,330,495
Slovak Republic	1,979,954,300	2,418,680	1,982,372,980
Slovenia	741,584,010	1,964,850	743,548,860
Spain	14,055,894,890	218,964,840	14,274,859,730
Sweden	1,305,961,420	51,965,020	1,357,926,440
TOTAL	132,654,001,940	1,224,909,520	133,878,911,460

Annex 1b Auction revenues per Member State and for Poland from January 2021 to the end of Quarter 3 2023

(reported in euros)

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

<i>Cumulated Revenues since January 2021 (start of Phase IV)</i>	General allowances	Aviation allowances	General and aviation allowances
Austria	994,763,685	19,188,745	1,013,952,430
Belgium	1,717,855,310	25,894,440	1,743,749,750
Bulgaria	2,801,773,545	8,561,175	2,810,334,720
Croatia	366,656,585	6,965,460	373,622,045
Cyprus	260,172,745	6,213,615	266,386,360
Czech Republic	1,822,949,410	9,275,895	1,832,225,305
Denmark	937,829,210	23,206,270	961,035,480
Estonia	850,859,065	2,378,325	853,237,390
Finland	1,328,810,145	19,272,325	1,348,082,470
France	4,800,304,080	101,337,950	4,901,642,030
Greece	3,391,983,535	46,991,480	3,438,975,015
Hungary	1,069,863,690	8,805,865	1,078,669,555
Iceland	13,755,195	8,137,600	21,892,795
InnoFund RRF	768,902,610	-	768,902,610
Innovation Fund	7,167,282,595	-	7,167,282,595
Ireland	458,457,740	17,401,155	475,858,895
Italy	8,282,294,480	110,601,505	8,392,895,985
Latvia	210,493,285	4,800,135	215,293,420
Liechtenstein	812,120	-	812,120
Lithuania	270,187,195	3,912,510	274,099,705
Luxembourg	36,973,125	3,235,185	40,208,310
Malta	98,980,485	5,484,090	104,464,575
Modernisation Fund	13,530,533,160	-	13,530,533,160
MS RRF	651,213,435	-	651,213,435
The Netherlands	2,938,578,185	38,578,425	2,977,156,610
Northern Ireland	168,261,110	-	168,261,110
Norway	566,773,650	38,003,380	604,777,030
Poland	14,687,423,480	14,516,295	14,701,939,775
Portugal	1,708,549,805	34,919,665	1,743,469,470
Romania	1,367,138,700	16,856,875	1,383,995,575
Slovak Republic	896,084,225	1,431,905	897,516,130
Slovenia	439,503,475	1,259,000	440,762,475
Spain	8,252,174,845	133,838,540	8,386,013,385
Sweden	712,072,680	33,453,370	745,526,050
TOTAL	83,570,266,585	744,521,180	84,314,787,765

Annex 2 Results of individual auctions on behalf of participating Member States and Poland in July, August, September 2023

(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 - July 2023																			
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
03/07/2023	87.11	76.00	120.00	86.78	86.51	2,658,000	5,230,000	1.97	23	15	231,538,380	97	25	4.22	53,918	227,391	325,038	177,200	190,376
04/07/2023	85.00	76.38	120.00	85.15	84.63	2,658,000	4,973,500	1.87	20	17	225,930,000	88	29	4.40	56,517	248,675	328,020	156,353	168,478
05/07/2023	84.84	75.81	120.00	84.48	84.01	2,676,000	5,310,000	1.98	18	11	227,031,840	94	19	5.22	56,489	295,000	409,426	243,273	274,635
06/07/2023	84.18	75.97	120.00	84.67	83.97	2,658,000	4,660,500	1.75	19	15	223,750,440	79	34	4.16	58,994	245,289	342,353	177,200	203,700
10/07/2023	85.00	76.27	120.00	84.95	84.50	2,658,000	5,041,500	1.90	21	13	225,930,000	78	20	3.71	64,635	240,071	340,684	204,462	224,090
11/07/2023	83.62	74.80	120.00	83.79	83.38	2,658,000	5,353,500	2.01	25	18	222,261,960	91	35	3.64	58,830	214,140	304,676	147,667	168,056
13/07/2023	84.25	68.00	120.00	84.42	84.24	2,658,000	4,556,000	1.71	21	17	223,936,500	80	40	3.81	56,950	216,952	326,171	156,353	188,430
17/07/2023	84.72	76.48	120.00	84.98	84.51	2,658,000	4,820,500	1.81	24	20	225,185,760	80	34	3.33	60,256	200,854	335,310	132,900	200,140
18/07/2023	84.90	76.23	120.00	84.89	84.39	2,658,000	4,956,500	1.86	23	15	225,664,200	81	26	3.52	61,191	215,500	324,531	177,200	215,025
19/07/2023	86.03	75.00	120.00	85.55	85.36	2,676,000	5,282,000	1.97	22	13	230,216,280	81	18	3.68	65,210	240,091	330,918	205,846	237,208
20/07/2023	87.76	75.00	120.00	87.49	87.45	2,658,000	5,065,500	1.91	24	18	233,266,080	86	31	3.58	58,901	211,063	304,918	147,667	163,660
24/07/2023	90.30	78.00	120.00	89.81	90.00	2,658,000	4,735,000	1.78	20	14	240,017,400	75	27	3.75	63,133	236,750	350,071	189,857	243,099
25/07/2023	90.25	75.00	120.00	89.45	89.60	2,658,000	4,803,500	1.81	21	12	239,884,500	80	20	3.81	60,044	228,738	336,384	221,500	230,061
27/07/2023	88.02	78.00	120.00	88.23	88.10	2,658,000	4,696,000	1.77	21	19	233,957,160	85	48	4.05	55,247	223,619	353,962	139,895	233,621
31/07/2023	86.65	60.00	100.00	85.90	86.45	2,658,000	5,808,000	2.19	17	13	230,315,700	75	31	4.41	77,440	341,647	532,993	204,462	230,567

General Allowances - August 2023

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
01/08/2023	84.69	75.00	100.00	84.23	84.09	1,329,000	3,655,000	2.75	20	11	112,553,010	74	18	3.70	49,392	182,750	346,522	120,818	251,160
02/08/2023	81.88	70.00	100.00	81.39	81.55	1,338,000	3,957,500	2.96	17	11	109,555,440	68	24	4.00	58,199	232,794	345,311	121,636	143,604
03/08/2023	83.52	70.00	92.00	82.51	83.15	1,329,000	4,135,000	3.11	20	13	110,998,080	74	22	3.70	55,878	206,750	354,337	102,231	210,576
07/08/2023	82.28	70.00	100.00	82.08	82.11	1,329,000	3,368,000	2.53	17	14	109,350,120	71	27	4.18	47,437	198,118	332,694	94,929	102,612
08/08/2023	81.46	73.49	90.00	81.26	81.30	1,329,000	3,472,500	2.61	19	16	108,260,340	73	28	3.84	47,568	182,763	335,612	83,063	154,534
10/08/2023	82.24	73.70	99.00	81.71	81.71	1,329,000	3,767,000	2.83	17	12	109,296,960	75	17	4.41	50,227	221,588	361,135	110,750	185,501
14/08/2023	85.34	76.55	99.00	84.66	84.73	1,329,000	3,754,000	2.82	18	12	113,416,860	74	13	4.11	50,730	208,556	345,067	110,750	164,059
15/08/2023	86.71	75.00	89.21	85.64	86.22	1,329,000	3,692,500	2.78	16	10	115,237,590	74	14	4.63	49,899	230,781	403,187	132,900	276,939
16/08/2023	87.01	78.00	89.01	86.11	86.51	1,338,000	3,715,500	2.78	18	10	116,419,380	75	16	4.17	49,540	206,417	356,927	133,800	201,478
17/08/2023	86.84	75.00	120.00	86.84	86.92	1,329,000	3,165,000	2.38	15	13	115,410,360	62	35	4.13	51,048	211,000	351,942	102,231	107,078
21/08/2023	86.00	76.00	90.01	85.22	85.66	1,329,000	3,711,500	2.79	19	12	114,294,000	82	20	4.32	45,262	195,342	322,832	110,750	142,086
22/08/2023	87.86	75.00	90.02	86.91	87.49	1,329,000	3,718,000	2.80	19	9	116,765,940	78	21	4.11	47,667	195,684	332,831	147,667	170,631
24/08/2023	85.51	80.00	120.00	85.39	84.76	1,329,000	2,543,000	1.91	21	9	113,642,790	71	10	3.38	35,817	121,095	131,345	147,667	143,040
28/08/2023	84.70	75.33	120.00	84.07	83.45	1,329,000	4,268,500	3.21	19	9	112,566,300	69	9	3.63	61,862	224,658	349,543	147,667	224,579
29/08/2023	84.64	76.13	120.00	84.80	84.13	1,329,000	3,917,000	2.95	20	13	112,486,560	71	19	3.55	55,169	195,850	320,073	102,231	169,273
30/08/2023	84.57	0.01	120.00	83.10	83.77	1,344,500	4,140,000	3.08	17	9	113,704,365	85	12	5.00	48,706	243,529	336,344	149,389	166,102
31/08/2023	85.52	77.14	120.00	85.48	85.12	1,581,500	4,311,000	2.73	19	13	135,249,880	82	22	4.32	52,573	226,895	322,604	121,654	148,045

General Allowances - September 2023

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
04/09/2023	83.42	75.17	120.00	83.36	83.23	3,035,500	6,518,500	2.15	25	17	253,221,410	98	35	3.92	66,515	260,740	451,226	178,559	366,710
05/09/2023	83.41	0.01	120.00	82.62	82.92	3,035,500	4,699,000	1.55	20	12	253,191,055	89	19	4.45	52,798	234,950	339,733	252,958	388,889
11/09/2023	80.98	73.24	120.00	81.41	80.98	3,035,500	5,542,000	1.83	21	19	245,814,790	95	48	4.52	58,337	263,905	339,236	159,763	213,163
12/09/2023	80.60	72.43	120.00	80.39	80.13	3,035,500	6,329,500	2.09	21	13	244,661,300	96	19	4.57	65,932	301,405	492,595	233,500	468,810
13/09/2023	80.50	72.34	120.00	80.83	80.12	3,347,500	6,091,000	1.82	22	19	269,473,750	101	35	4.59	60,307	276,864	349,612	176,184	234,258
14/09/2023	81.69	73.51	120.00	82.26	81.42	3,035,500	5,724,500	1.89	21	19	247,969,995	94	35	4.48	60,899	272,595	315,958	159,763	168,833
18/09/2023	80.26	72.57	120.00	81.19	80.35	3,035,500	4,994,500	1.65	20	19	243,629,230	80	46	4.00	62,431	249,725	351,833	159,763	204,645
19/09/2023	79.50	65.00	120.00	79.92	79.60	3,035,500	5,366,000	1.77	22	22	241,322,250	86	54	3.91	62,395	243,909	346,094	137,977	185,707
21/09/2023	81.78	73.00	120.00	81.20	80.91	3,036,500	6,032,500	1.99	20	10	248,324,970	84	12	4.20	71,815	301,625	408,223	303,650	313,044
25/09/2023	83.92	75.66	120.00	84.77	83.90	3,035,500	5,155,000	1.70	18	15	254,739,160	79	37	4.39	65,253	286,389	428,194	202,367	345,733
26/09/2023	82.44	74.63	120.00	82.90	82.60	3,035,500	5,304,000	1.75	20	19	250,246,620	95	59	4.75	55,832	265,200	340,794	159,763	199,970
27/09/2023	81.37	65.00	120.00	80.98	80.81	3,347,500	6,647,500	1.99	22	15	272,386,075	99	26	4.50	67,146	302,159	452,974	223,167	424,115
28/09/2023	81.90	73.40	120.00	81.82	81.27	3,035,500	5,344,500	1.76	19	14	248,607,450	87	24	4.58	61,431	281,289	401,812	216,821	299,272

Aviation Allowances - July 2023

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
12/07/2023	85.32	75.00	88.70	85.04	85.23	775,500	1,645,000	2.12	13	9	66,165,660	48	21	3.69	34,271	126,538	193,424	86,167	115,250

Aviation Allowances - August 2023

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
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Aviation Allowances - September 2023

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
20/09/2023	79.80	77.00	80.50	79.11	79.12	775,500	2,398,000	3.09	12	6	61,884,900	63	13	5.25	38,063	199,833	216,624	129,250	96,248

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.