

Auctions by the *Common Auction Platform*

July, August, September 2020

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(PL)¹, 2, 6, 7, 9, 13, 14, 15(PL), 16, 20, 21, 23, 27, 28, 29(PL), 30 July 2020;

3, 4, 6, 10, 11, 12(PL), 13, 17, 18, 20, 24, 25, 26(PL), 27 August 2020;

1, 7, 8, 9(PL), 10, 14, 15, 17, 21, 22, 23(PL), 24, 28, 29 September 2020;

Aviation Allowances:

1 July 2020;

9 September 2020.

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

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

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

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

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 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 July, August, September 2020 auctions at a glance:

| | General Allowances | | | Aviation Allowances | | |
|--|---------------------------|-------------|---------------|----------------------------|------------|------------|
| | Jul | Aug | Sep | Jul | Aug | Sep |
| General | | | | | | |
| Number of auctions | 16 | 14 | 14 | 1 | - | 1 |
| Total volume auctioned | 57 456 000 | 27 002 500 | 60 221 000 | 810 500 | - | 810 500 |
| Amount raised from the auctions (€) | 1 572 416 810 | 717 255 960 | 1 652 727 680 | 21 964 550 | - | 21 089 210 |
| Average Auction Clearing Price (€/allowance) | 27.37 | 26.56 | 27.44 | 27.10 | - | 26.02 |
| Total bid volume | 88 777 000 | 53 053 500 | 97 108 000 | 2 453 500 | - | 1 868 000 |
| Average Cover ratio | 1.5 | 2.0 | 1.6 | 3.0 | - | 2.3 |
| Monthly HHI | 1281 | 994 | 1377 | 5422 | - | 2055 |
| Participation | | | | | | |
| Number of eligible bidders | 91 | 91 | 91 | 91 | - | 91 |
| Number of participating bidders ⁽¹⁾ | 33 | 37 | 39 | 8 | - | 10 |
| Number of successful bidders ⁽¹⁾ | 31 | 34 | 34 | 4 | - | 8 |
| Average number of bidders per auction | 21.4 | 22.7 | 27.1 | 8.0 | - | 10.0 |
| Average number of successful bidders per auction | 16.3 | 18.5 | 20.2 | 4.0 | - | 8.0 |
| Auction data | | | | | | |
| Average total volume bid per bidder per auction | 280 052 | 172 502 | 266 879 | 306 688 | - | 186 800 |
| Average bid size (volume per bid) | 82 137 | 50 628 | 76 570 | 87 625 | - | 60 258 |
| Average volume won per bidder per auction | 252 224 | 109 952 | 230 018 | 202 625 | - | 101 313 |
| Average range of bids (€) | 7.12 | 5.35 | 7.68 | 1.91 | - | 2.20 |

(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 September 2020 are EUR 44 895 077 035, and of *aviation allowances* EUR 459 143 895. 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.

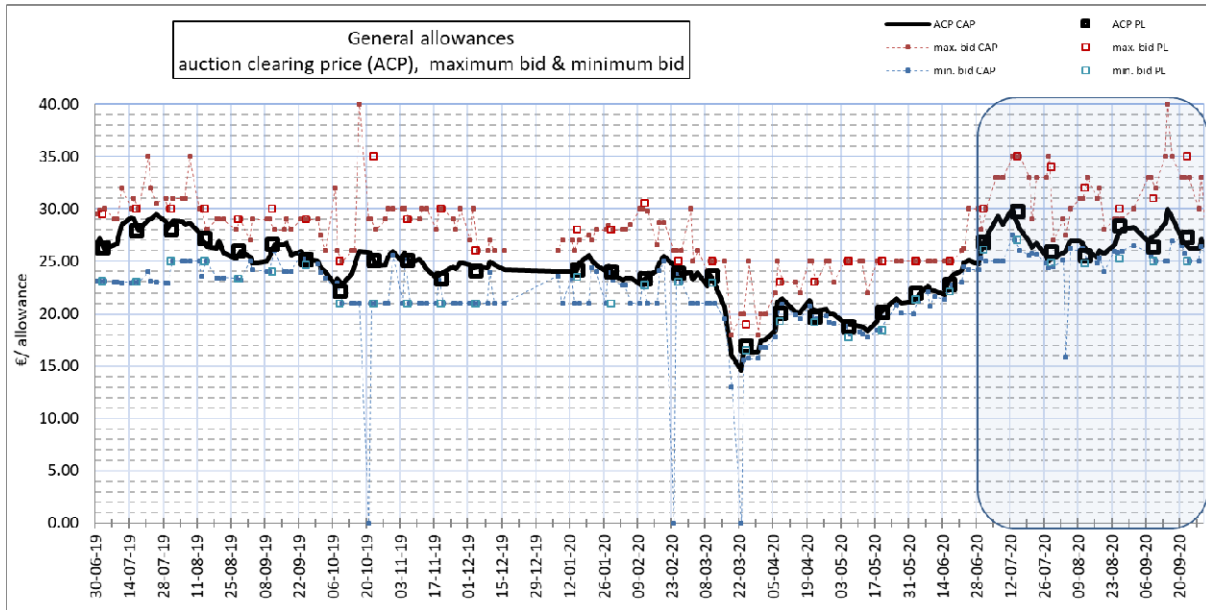
Table 1: General allowances - main statistics on the results of the auctions per month

| 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 (€) |
|-------------------|----------------------|----------------------|-----------------------|----------------------------------|---------------------------|--------------------------------------|------------------------------------|
| September 2020 | 60 221 000 | 97 108 000 | 1 652 727 680 | 1.6 | 27.1 | 20.2 | 27.44 |
| August 2020 | 27 002 500 | 53 053 500 | 717 255 960 | 2.0 | 22.7 | 18.5 | 26.56 |
| July 2020 | 57 456 000 | 88 777 000 | 1 572 416 810 | 1.5 | 21.4 | 16.3 | 27.37 |
| June 2020 | 45 985 000 | 73 944 000 | 1 062 777 700 | 1.6 | 20.6 | 14.3 | 23.11 |
| May 2020 | 35 117 000 | 56 002 000 | 684 921 430 | 1.6 | 21.9 | 15.6 | 19.50 |
| April 2020 | 43 271 000 | 76 593 500 | 866 904 870 | 1.8 | 21.5 | 15.9 | 20.03 |
| March 2020 | 48 709 000 | 92 013 000 | 960 193 830 | 1.9 | 22.1 | 16.8 | 19.71 |
| February 2020 | 43 274 000 | 95 448 000 | 1 030 723 300 | 2.2 | 25.4 | 17.8 | 23.82 |
| January 2020 | 40 556 500 | 72 943 000 | 986 511 155 | 1.8 | 26.5 | 20.3 | 24.32 |
| December 2019 | 24 194 500 | 45 831 000 | 591 458 800 | 1.9 | 21.4 | 14.4 | 24.45 |
| November 2019 | 42 357 000 | 72 818 000 | 1 037 136 940 | 1.7 | 22.1 | 16.7 | 24.49 |
| October 2019 | 47 850 500 | 86 964 500 | 1 166 555 660 | 1.8 | 23.2 | 15.6 | 24.38 |
| September 2019 | 42 363 000 | 74 616 500 | 1 089 560 710 | 1.8 | 22.7 | 15.9 | 25.72 |
| August 2019 | 21 197 000 | 53 781 500 | 573 418 415 | 2.5 | 24.4 | 16.6 | 27.05 |
| July 2019 | 54 221 000 | 109 326 500 | 1 509 916 775 | 2.0 | 24.7 | 18.1 | 27.85 |
| 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 |
| 2013 total | 530 488 000 | 1 761 639 500 | 2 349 853 340 | 3.3 | 18.4 | 13.2 | 4.43 |

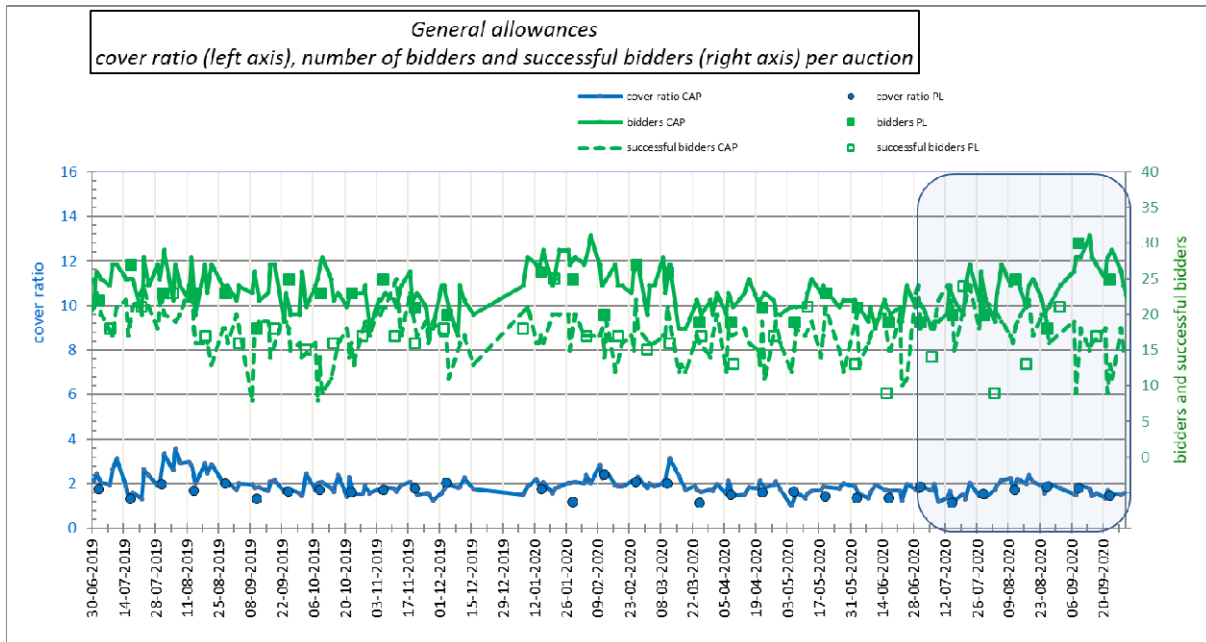
During July, August, September 2020, the difference between the Auction Clearing Prices and the mean of the *best-ask* and *best-bid* prices on the EEX *spot secondary market* for *general allowances* at the closure of the auction *bidding window* was on average EUR -0.13, -0.09, -0.08 respectively, and this difference had a standard deviation of EUR 0.22, 0.09, 0.13 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



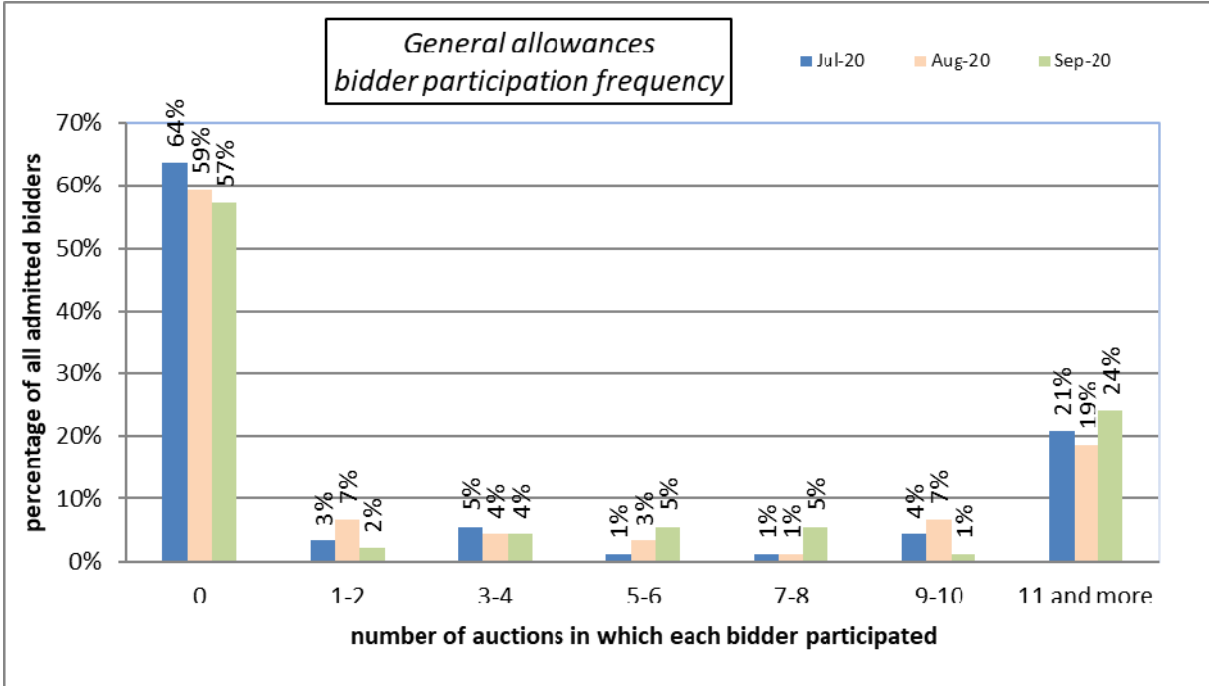
Graph 2: General allowances - cover ratio (left axis), number of bidders and successful bidders (right axis) per auction



The number of eligible bidders is provided in Section 2. Out of these 33, 37 and 39 different bidders participated in the auctions in respectively in July, August, September 2020. Graph 3 indicates the participation frequency over these months.

⁶ Auctions on behalf of Poland were held on the following days: 3/7/2019, 17/7/2019, 31/7/2019, 14/8/2019, 28/8/2019, 11/9/2019, 25/9/2019, 9/10/2019, 23/10/2019, 6/11/2019, 20/11/2019, 4/12/2019, 15/1/2020, 29/1/2020, 12/2/2020, 26/2/2020, 11/3/2020, 25/3/2020, 8/4/2020, 22/4/2020, 6/5/2020, 20/5/2020, 3/6/2020, 17/6/2020, 1/7/2020, 15/7/2020, 29/7/2020, 12/8/2020, 26/8/2020, 9/9/2020, 23/9/2020.

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 |
|----------------|----------------|------------------------------|----------------------|--|---|---|--------------------------|--|--------------------------------|
| September 2020 | 14 | 39 | 97 108 000 | 266 879 | 256 222 | 457 614 | 1 298 | 3.4 | 76 570 |
| August 2020 | 14 | 37 | 53 053 500 | 172 502 | 166 312 | 255 369 | 1 073 | 3.4 | 50 628 |
| July 2020 | 16 | 33 | 88 777 000 | 280 052 | 258 825 | 452 807 | 1 145 | 3.3 | 82 137 |
| June 2020 | 15 | 29 | 73 944 000 | 253 5345 | 237 762 | 338 289 | 877 | 2.8 | 88 162 |
| May 2020 | 11 | 29 | 56 002 000 | 257 521 | 230 461 | 340 214 | 751 | 3.1 | 77 226 |
| April 2020 | 14 | 32 | 76 593 500 | 274 245 | 251 952 | 292 851 | 1 052 | 3.5 | 75 611 |
| March 2020 | 15 | 35 | 92 013 000 | 289 186 | 277 148 | 384 788 | 1 139 | 3.4 | 86 054 |
| February 2020 | 14 | 41 | 95 448 000 | 303 101 | 265 133 | 420 541 | 1 454 | 4.1 | 70 987 |
| January 2020 | 13 | 37 | 72 943 000 | 223 330 | 210 210 | 290 750 | 1 266 | 3.7 | 61 347 |
| December 2019 | 8 | 33 | 45 831 000 | 289 107 | 266 459 | 443 330 | 744 | 4.3 | 64 230 |
| November 2019 | 14 | 35 | 72 818 000 | 247 825 | 236 422 | 347 222 | 1 254 | 4.1 | 59 514 |
| October 2019 | 16 | 37 | 86 964 500 | 244 505 | 233 776 | 367 655 | 1 419 | 3.8 | 62 856 |
| September 2019 | 14 | 39 | 74 616 500 | 244 214 | 233 908 | 350 009 | 1 152 | 3.6 | 66 033 |
| August 2019 | 14 | 37 | 53 781 500 | 158 458 | 156 797 | 236 796 | 1 150 | 3.4 | 47 633 |
| July 2019 | 17 | 38 | 109 326 500 | 268 249 | 259 683 | 489 432 | 1 446 | 3.4 | 75 903 |

(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.

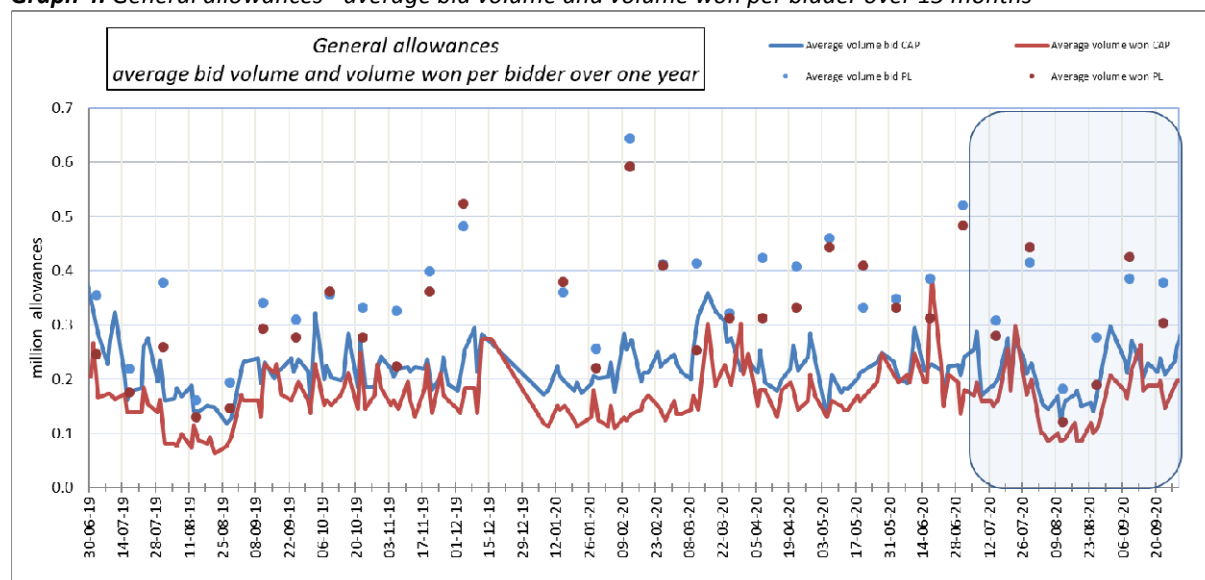
Table 3 provides monthly data on successful bids over 15 months. See also Graph 4.

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 |
|----------------|----------------|---|----------------------|---|--|--|-------------------------------------|
| September 2020 | 14 | 34 | 60 221 000 | 230 018 | 210 563 | 332 460 | 592 |
| August 2020 | 14 | 34 | 27 002 500 | 109 952 | 104 257 | 144 589 | 506 |
| July 2020 | 16 | 31 | 57 456 000 | 252 224 | 217 636 | 331 763 | 555 |
| June 2020 | 15 | 28 | 45 985 000 | 237 237 | 218 976 | 301 271 | 368 |
| May 2020 | 11 | 26 | 35 117 000 | 245 553 | 198 401 | 321 182 | 325 |
| April 2020 | 14 | 30 | 43 271 000 | 213 328 | 194 914 | 254 656 | 368 |
| March 2020 | 15 | 32 | 48 709 000 | 213 914 | 197 202 | 233 879 | 455 |
| February 2020 | 14 | 37 | 43 274 000 | 227 273 | 164 540 | 239 696 | 533 |
| January 2020 | 13 | 36 | 40 556 500 | 177 466 | 151 897 | 196 407 | 536 |
| December 2019 | 8 | 31 | 24 194 500 | 256 429 | 203 315 | 292 584 | 238 |
| November 2019 | 14 | 31 | 42 357 000 | 197 454 | 181 790 | 248 526 | 452 |
| October 2019 | 16 | 36 | 47 850 500 | 207 552 | 190 639 | 271 944 | 446 |
| September 2019 | 14 | 33 | 42 363 000 | 203 307 | 191 688 | 285 320 | 390 |
| August 2019 | 14 | 33 | 21 197 000 | 96 530 | 90 974 | 125 087 | 326 |
| July 2019 | 17 | 35 | 54 221 000 | 185 658 | 177 193 | 273 721 | 608 |

(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: 3/7/2019, 17/7/2019, 31/7/2019, 14/8/2019, 28/8/2019, 11/9/2019, 25/9/2019, 9/10/2019, 23/10/2019, 6/11/2019, 20/11/2019, 4/12/2019, 15/1/2020, 29/1/2020, 12/2/2020, 26/2/2020, 11/3/2020, 25/3/2020, 8/4/2020, 22/4/2020, 6/5/2020, 20/5/2020, 3/6/2020, 17/6/2020, 1/7/2020, 15/7/2020, 29/7/2020, 12/8/2020, 26/8/2020, 9/9/2020, 23/9/2020.

1.1.3. Type of bidders - general allowances

The volume submitted by intermediaries on behalf of a client¹⁶ in July, August, September 2020 was 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

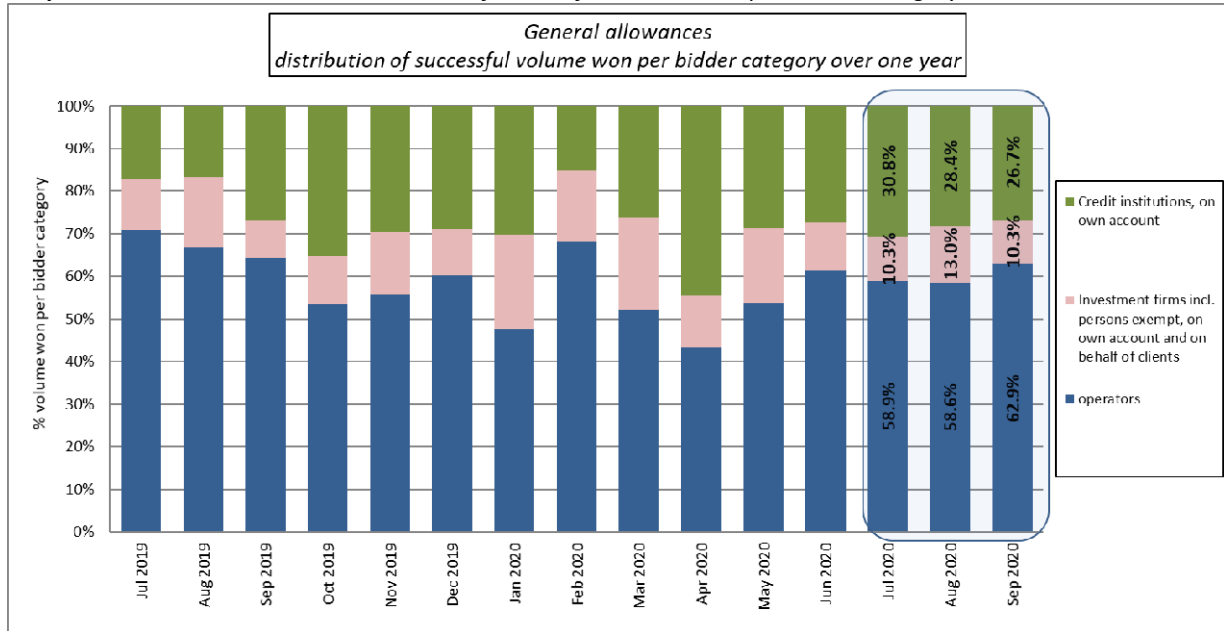


Table 4: General allowances – distribution of volume won per bidder category and their standard deviations

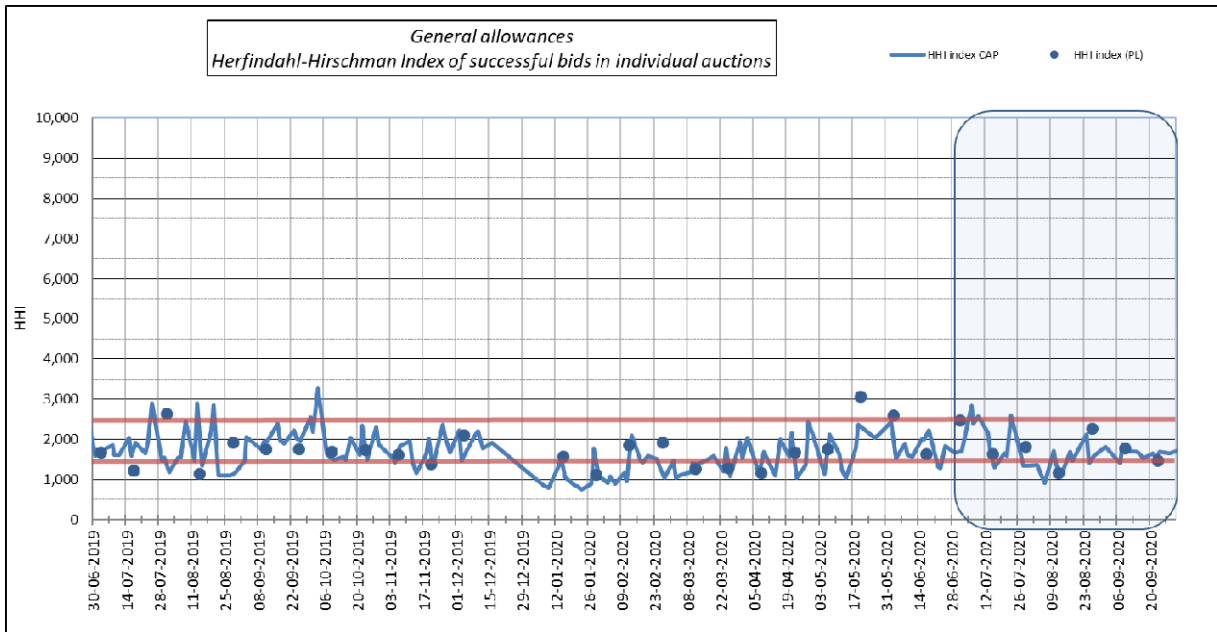
| Month | % volume won coming from bidding on behalf of a client | Bidder category | % volume won | Standard deviation of % of volume won |
|----------------|--|---|--------------|---------------------------------------|
| July 2020 | 0% | Operators (including Business groupings) | 58.9% | 14.8% points |
| | | Investment firms (including persons exempt) | 10.3% | 6.2% points |
| | | Credit institutions | 30.8% | 15.8% points |
| August 2020 | 0% | Operators (including Business groupings) | 58.6% | 10.6% points |
| | | Investment firms (including persons exempt) | 13.0% | 6.0% points |
| | | Credit institutions | 28.4% | 8.6% points |
| September 2020 | 0% | Operators (including Business groupings) | 62.9% | 6.5% points |
| | | Investment firms (including persons exempt) | 10.3% | 4.4% points |
| | | Credit institutions | 26.7% | 7.8% 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

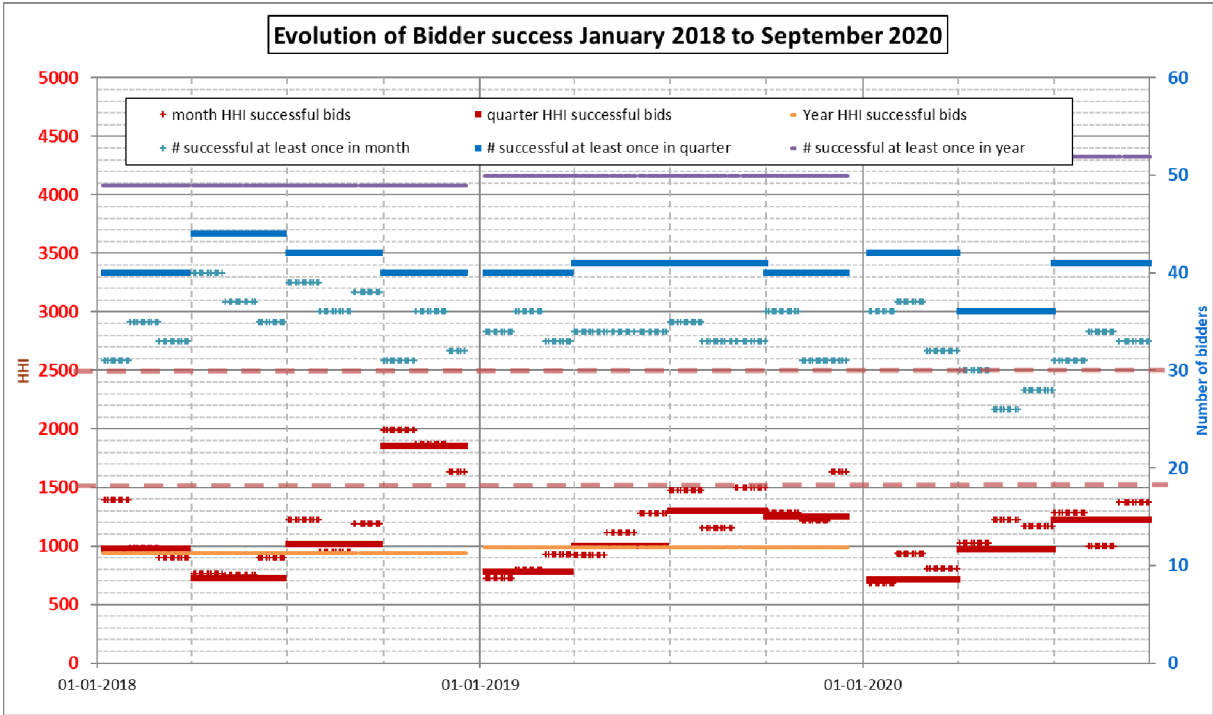
The Herfindahl-Hirschman Index (HHI) of successful bids is used to measure market concentration¹⁷. The HHI ranges from a value of 0 (perfect competition) to 10 000 (a single buyer). A common interpretation of the HHI is that a score below 1 500 is 'not-concentrated,' between 1 500 and 2 500 is 'moderately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

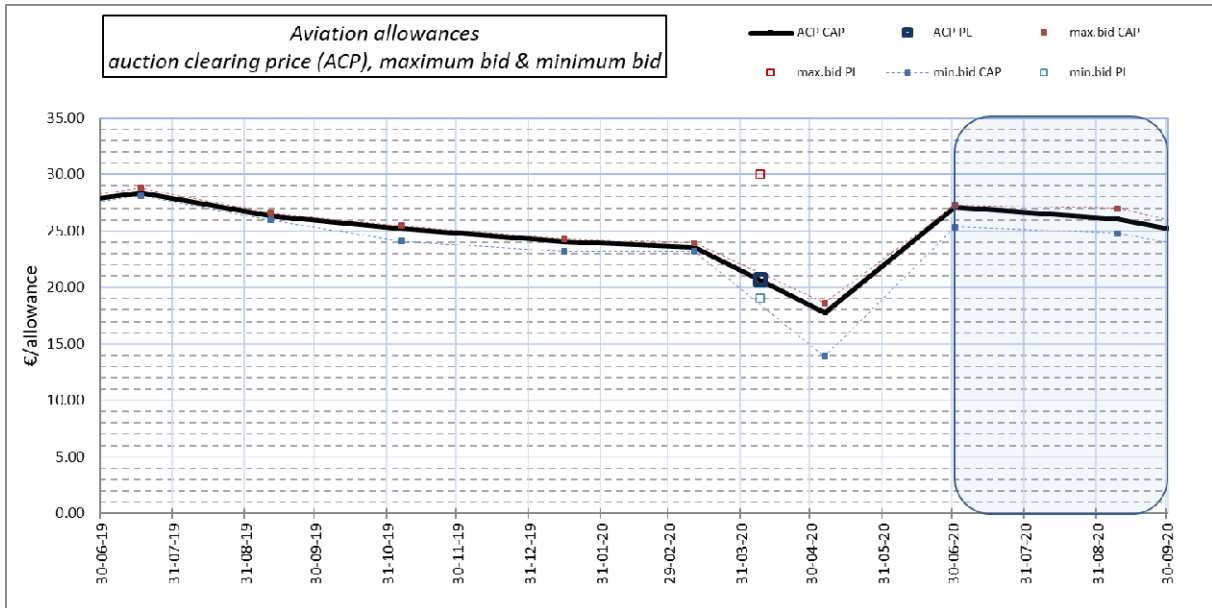
| Month | Total auction volume | Total bid volume | Total revenue (€) | Average Cover ratio ²⁰ | Average number of bidders | Average number of successful bidders | Average auction clearing price (€) |
|-------------------|----------------------|-------------------|--------------------|-----------------------------------|---------------------------|--------------------------------------|------------------------------------|
| September 2020 | 810 500 | 1 868 000 | 21 089 210 | 2.3 | 10 | 8 | 26.02 |
| August 2020 | - | - | - | - | - | - | - |
| July 2020 | 810 500 | 2 453 500 | 21 964 550 | 3.0 | 8 | 4 | 27.10 |
| June 2020 | - | - | - | - | - | - | - |
| May 2020 | 810 500 | 1 729 500 | 14 386 375 | 2.1 | 6 | 4 | 17.75 |
| April 2020 | 105 500 | 422 000 | 2 188 070 | 4.0 | 7 | 4 | 20.74 |
| March 2020 | 810 500 | 1 825 000 | 19 119 695 | 2.3 | 6 | 4 | 23.59 |
| February 2020 | - | - | - | - | - | - | - |
| January 2020 | 810 500 | 3 150 500 | 19 516 840 | 3.9 | 8 | 4 | 24.08 |
| December 2019 | - | - | - | - | - | - | - |
| November 2019 | 884 500 | 3 202 500 | 22 271 710 | 3.6 | 10 | 5 | 25.18 |
| October 2019 | - | - | - | - | - | - | - |
| September 2019 | 892 000 | 1 320 000 | 23 495 280 | 1.5 | 8 | 7 | 26.34 |
| August 2019 | - | - | - | - | - | - | - |
| July 2019 | 892 000 | 1 512 000 | 25 306 040 | 1.7 | 7 | 6 | 28.37 |
| 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 |
| 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.

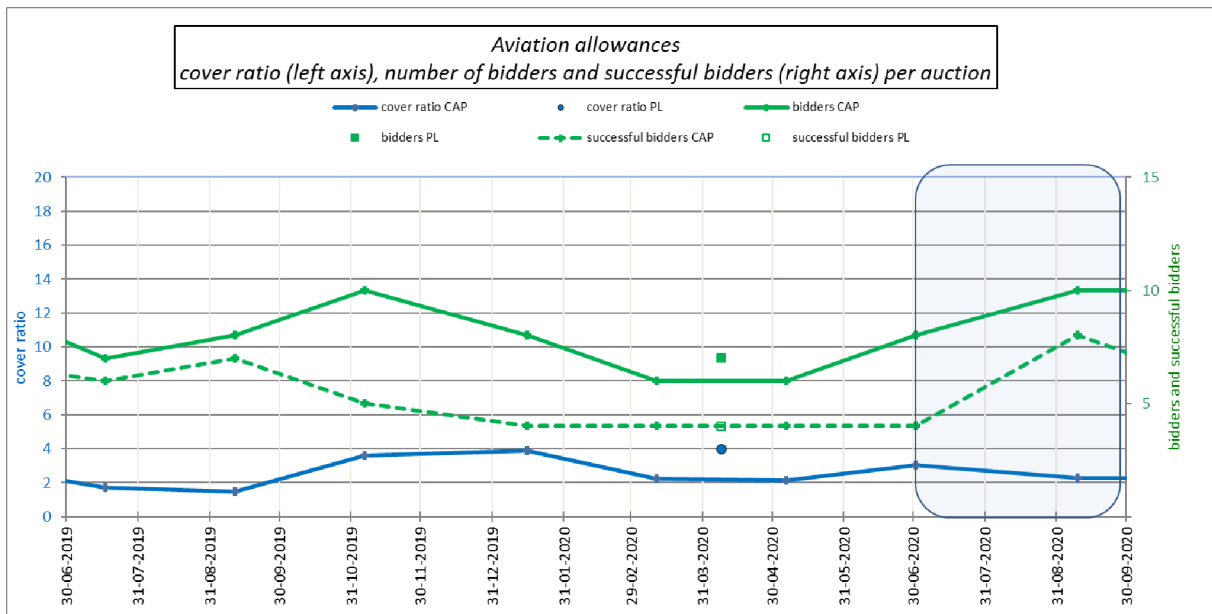
¹⁹ See also the regulatory update published by the Commission on 29 July 2014: http://ec.europa.eu/clima/news/articles/news_2014072901_en.htm.

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

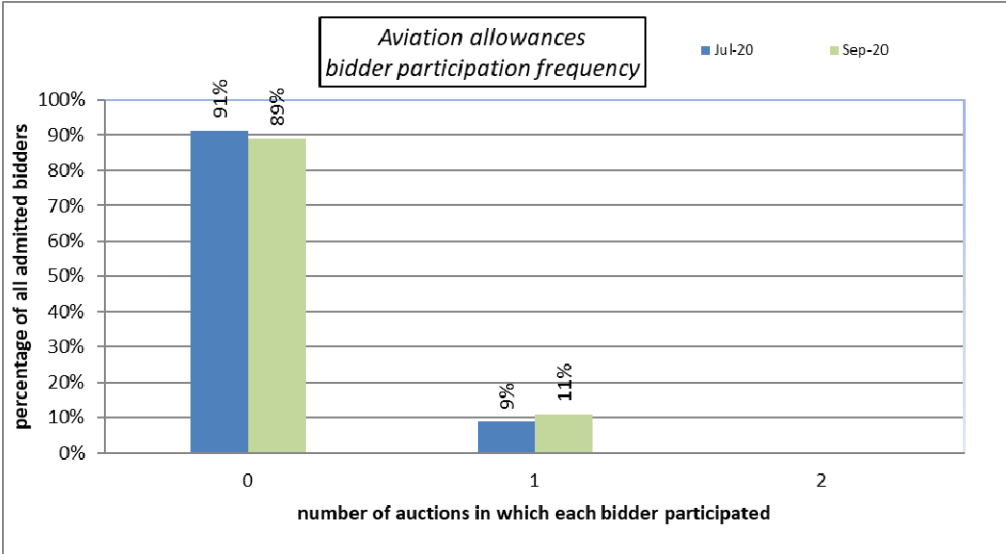


Graph 9: Aviation allowances - cover ratio (left axis), number of bidders and successful bidders (right axis) per auction



²¹ Auctions on behalf of Poland were held on the following days: 8/4/2020.

Graph 10: Aviation allowances – bidder participation frequency



No aviation allowances have been auctioned in August 2020.

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 |
|----------------|----------------|------------------------------|----------------------|---|--|--|--------------------------|--|--------------------------------|
| September 2020 | 1 | 10 | 1 868 000 | 186 800 | 186 800 | 226 053 | 31 | 3.1 | 60 258 |
| August 2020 | - | - | - | - | - | - | - | - | - |
| July 2020 | 1 | 8 | 2 453 500 | 306 688 | 306 688 | 259 914 | 28 | 3.5 | 87 625 |
| June 2020 | - | - | - | - | - | - | - | - | - |
| May 2020 | 1 | 6 | 1 729 500 | 288 250 | 288 250 | 253 121 | 17 | 2.8 | 101 735 |
| April 2020 | 1 | 7 | 422 000 | 60 286 | 60 286 | 41 562 | 20 | 2.9 | 21 100 |
| March 2020 | 1 | 6 | 1 825 000 | 304 167 | 304 167 | 253 483 | 28 | 4.7 | 65 179 |
| February 2020 | - | - | - | - | - | - | - | - | - |
| January 2020 | 1 | 8 | 3 150 500 | 393 813 | 393 813 | 290 528 | 52 | 6.5 | 60 587 |
| December 2019 | - | - | - | - | - | - | - | - | - |
| November 2019 | 1 | 10 | 3 202 500 | 320 250 | 320 250 | 290 402 | 75 | 7.5 | 42 700 |
| October 2019 | - | - | - | - | - | - | - | - | - |
| September 2019 | 1 | 8 | 1 320 000 | 165 000 | 165 000 | 163 917 | 36 | 4.5 | 36 667 |
| August 2019 | - | - | - | - | - | - | - | - | - |
| July 2019 | 1 | 7 | 1 512 000 | 216 000 | 216 000 | 141 690 | 24 | 3.4 | 63 000 |

(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.

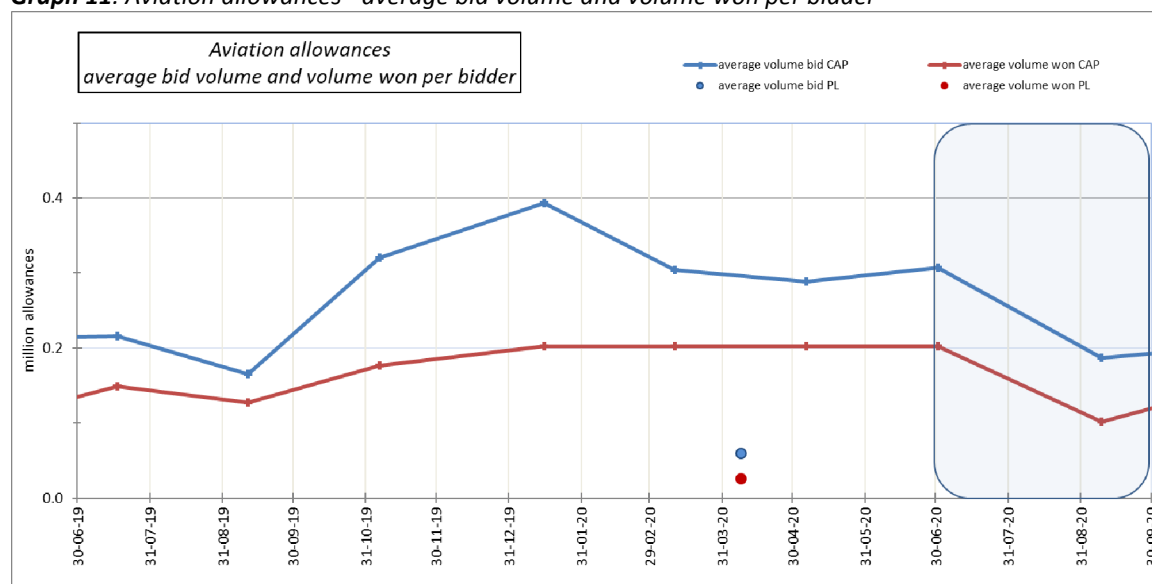
Table 7 provides monthly data on successful bids over 15 months. See also Graph 11.

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 |
|----------------|----------------|---|----------------------|---|--|--|-------------------------------------|
| September 2020 | 1 | 8 | 810 500 | 101 313 | 101 313 | 81 322 | 17 |
| August 2020 | - | - | - | - | - | - | - |
| July 2020 | 1 | 4 | 810 500 | 202 625 | 202 625 | 219 071 | 7 |
| June 2020 | - | - | - | - | - | - | - |
| May 2020 | 1 | 4 | 810 500 | 202 625 | 202 625 | 112 786 | 7 |
| April 2020 | 1 | 4 | 105 500 | 26 375 | 26 375 | 15 497 | 5 |
| March 2020 | 1 | 4 | 810 500 | 202 625 | 202 625 | 93 652 | 9 |
| February 2020 | - | - | - | - | - | - | - |
| January 2020 | 1 | 4 | 810 500 | 202 625 | 202 625 | 126 800 | 12 |
| December 2019 | - | - | - | - | - | - | - |
| November 2019 | 1 | 5 | 884 500 | 176 900 | 176 900 | 93 504 | 10 |
| October 2019 | - | - | - | - | - | - | - |
| September 2019 | 1 | 7 | 892 000 | 127 429 | 127 429 | 138 949 | 24 |
| August 2019 | - | - | - | - | - | - | - |
| July 2019 | 1 | 6 | 892 000 | 148 667 | 148 667 | 78 754 | 14 |

(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.

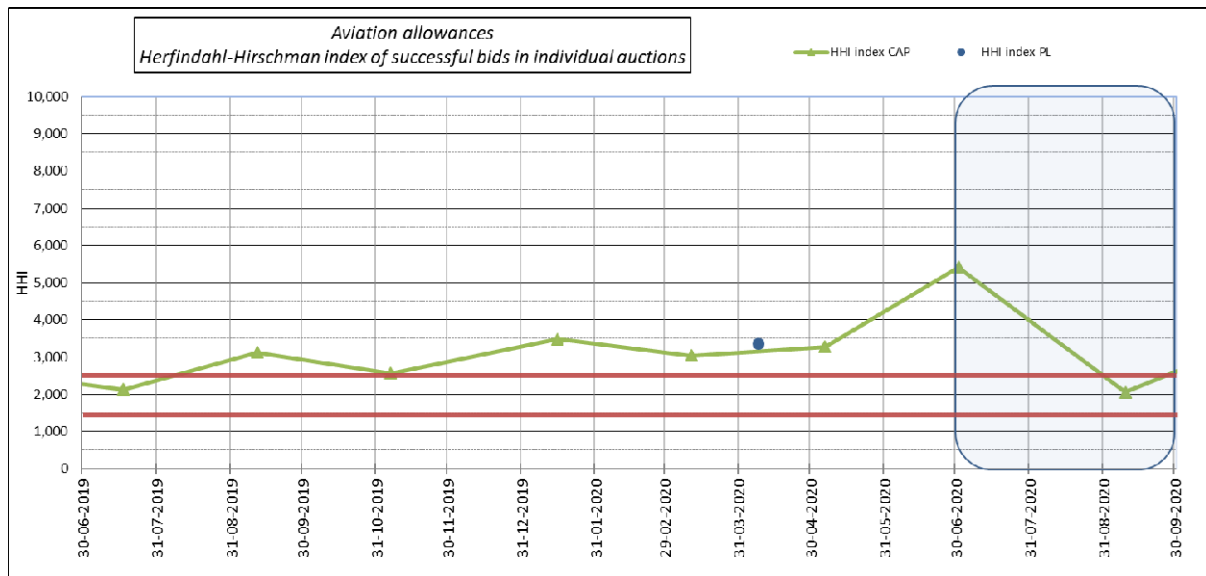
1.2.3 Type of bidders – aviation allowances

In July, August, September 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 | Jul 2020 | | | | | | | 141 |
| | Aug 2020 | | | | | | | 142 |
| | Sep 2020 | | | | | | | 143 |
| Participants eligible to bid in the auctions | Jul 2020 | | | | | | | |
| | Aug 2020 | 64 | 1 | 12 | 5 | - | 9 | 91 |
| | Sep 2020 | | | | | | | |
| (Of which:) Participants eligible to bid in the auctions on behalf of clients | Jul 2020 | | | | | | | |
| | Aug 2020 | - | - | 3 | 2 | - | 3 | 8 |
| | Sep 2020 | | | | | | | |
| (Of which:) Auction-only access | Jul 2020 | | | | | | | |
| | Aug 2020 | 2 | - | - | - | - | 1 | 3 |
| | Sep 2020 | | | | | | | |

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/2020

Glossary

| | |
|------------------------------|--|
| Auction calendar | Document setting out the <i>bidding windows</i> , individual volumes and auction dates of the auctions in a given calendar year. See Articles 11, 13 and 32 of the <i>Auctioning Regulation</i> . |
| Auction Clearing Price | Price determined upon closure of the <i>bidding window</i> . |
| Auction-only access | Access to the auctions without becoming a member of or participant in other markets organised by the auction platform. |
| Auctioning Regulation | Commission Regulation (EU) No 1031/2010 — Timing, administration and other aspects of auctioning of greenhouse gas emission allowances pursuant to Directive 2003/87/EC of the European Parliament and of the Council establishing a scheme for greenhouse gas emission allowances trading within the Community, Official Journal L 302, 18.11.2010, p. 1, as subsequently amended. See: 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>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> . |
| 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 September 2020 (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 | 851,499,910 | 12,057,480 | 863,557,390 |
| Belgium | 1,585,117,820 | 14,467,525 | 1,599,585,345 |
| Bulgaria | 1,577,203,025 | 4,420,570 | 1,581,623,595 |
| Croatia | 327,864,950 | 2,656,305 | 330,521,255 |
| Cyprus | 85,194,635 | 6,869,600 | 92,064,235 |
| Czech Republic | 2,293,179,890 | 5,965,030 | 2,299,144,920 |
| Denmark | 763,403,050 | 13,640,040 | 777,043,090 |
| Estonia | 494,739,245 | 742,285 | 495,481,530 |
| Finland | 1,022,846,230 | 10,594,820 | 1,033,441,050 |
| France | 3,349,034,940 | 66,148,315 | 3,415,183,255 |
| Greece | 2,208,072,995 | 24,112,315 | 2,232,185,310 |
| Hungary | 938,951,975 | 4,847,120 | 943,799,095 |
| Iceland | 50,233,205 | 4,235,625 | 54,468,830 |
| Ireland | 569,576,245 | 10,778,520 | 580,354,765 |
| Italy | 5,926,141,365 | 71,668,450 | 5,997,809,815 |
| Latvia | 176,535,845 | 2,592,240 | 179,128,085 |
| Lichtenstein | 1,160,745 | 0 | 1,160,745 |
| Lithuania | 346,987,870 | 1,351,000 | 348,338,870 |
| Luxemburg | 75,549,815 | 1,697,560 | 77,247,375 |
| Malta | 65,532,155 | 2,750,570 | 68,282,725 |
| The Netherlands | 2,048,830,980 | 22,428,155 | 2,071,259,135 |
| Norway | 997,558,635 | 40,824,145 | 1,038,382,780 |
| Poland | 7,161,426,320 | 10,911,495 | 7,172,337,815 |
| Portugal | 1,117,278,175 | 14,583,210 | 1,131,861,385 |
| Romania | 2,952,289,005 | 7,653,110 | 2,959,942,115 |
| Slovak Republic | 1,016,699,745 | 951,030 | 1,017,650,775 |
| Slovenia | 283,861,885 | 670,105 | 284,531,990 |
| Spain | 5,458,545,585 | 81,778,185 | 5,540,323,770 |
| Sweden | 558,798,730 | 17,749,090 | 576,547,820 |
| Innovation Fund | 590,962,065 | | |
| TOTAL | 44,895,077,035 | 459,143,895 | 45,354,220,930 |

Annex 2 Results of individual auctions on behalf of participating Member States and Poland in July – September 2020

(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 2020 | | | | | | | | | | | | | | | | | | | |
|--------------------------------|------------------------|-------------------|-------------------|----------------|------------------|----------------------|------------------|-------------|---------------|--------------------------|---------------|------------|-----------------------|---------------------------|------------------|---------------------------------|---|-------------------------------|---|
| 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 |
| 01.07.2020 | 26.88 | 26.09 | 30.00 | 26.92 | 26.62 | 5,332,000 | 9,905,000 | 1.86 | 19 | 11 | 143,324,160 | 67 | 20 | 3.53 | 147,836 | 521,316 | 1,002,305 | 484,727 | 636,934 |
| 02.07.2020 | 27.25 | 25.00 | 30.00 | 27.19 | 27.13 | 2,717,000 | 5,065,000 | 1.86 | 21 | 15 | 74,038,250 | 60 | 19 | 2.86 | 84,417 | 241,190 | 335,190 | 181,133 | 227,366 |
| 06.07.2020 | 28.86 | 25.00 | 33.00 | 29.00 | 28.91 | 2,717,000 | 4,590,500 | 1.69 | 18 | 16 | 78,412,620 | 57 | 31 | 3.17 | 80,535 | 255,028 | 569,963 | 169,813 | 319,088 |
| 07.07.2020 | 29.34 | 25.00 | 33.00 | 29.38 | 29.26 | 2,717,000 | 5,459,000 | 2.01 | 19 | 14 | 79,716,780 | 67 | 25 | 3.53 | 81,478 | 287,316 | 487,750 | 194,071 | 296,376 |
| 09.07.2020 | 28.48 | 25.00 | 33.00 | 28.62 | 28.53 | 2,717,000 | 3,226,500 | 1.19 | 19 | 17 | 77,380,160 | 59 | 38 | 3.11 | 54,686 | 169,816 | 278,451 | 159,824 | 293,287 |
| 13.07.2020 | 30.04 | 27.50 | 35.00 | 30.20 | 30.08 | 2,717,000 | 3,719,500 | 1.37 | 20 | 17 | 81,618,680 | 66 | 37 | 3.30 | 56,356 | 185,975 | 332,252 | 159,824 | 261,800 |
| 14.07.2020 | 29.20 | 27.00 | 35.00 | 29.33 | 28.96 | 2,717,000 | 4,516,000 | 1.66 | 24 | 18 | 79,336,400 | 81 | 28 | 3.38 | 55,753 | 188,167 | 299,531 | 150,944 | 212,601 |
| 15.07.2020 | 29.81 | 27.00 | 35.00 | 30.26 | 30.02 | 5,332,000 | 6,180,000 | 1.16 | 20 | 19 | 158,946,920 | 73 | 59 | 3.65 | 84,658 | 309,000 | 491,912 | 280,632 | 409,785 |
| 16.07.2020 | 28.13 | 26.00 | 35.00 | 28.67 | 28.51 | 3,594,000 | 4,475,500 | 1.25 | 22 | 22 | 101,099,220 | 75 | 66 | 3.41 | 59,673 | 203,432 | 373,420 | 163,364 | 222,320 |
| 20.07.2020 | 26.85 | 25.60 | 33.00 | 27.13 | 26.81 | 3,594,000 | 5,513,500 | 1.53 | 20 | 14 | 96,498,900 | 78 | 34 | 3.90 | 70,686 | 275,675 | 372,853 | 256,714 | 293,983 |
| 21.07.2020 | 26.34 | 25.71 | 29.00 | 26.54 | 26.38 | 3,594,000 | 4,724,500 | 1.31 | 24 | 20 | 94,665,960 | 71 | 37 | 2.96 | 66,542 | 196,854 | 267,432 | 179,700 | 265,748 |
| 23.07.2020 | 26.76 | 25.63 | 33.00 | 26.63 | 26.35 | 3,594,000 | 7,379,500 | 2.05 | 27 | 12 | 96,175,440 | 85 | 17 | 3.15 | 86,818 | 273,315 | 422,691 | 299,500 | 435,541 |
| 27.07.2020 | 25.53 | 24.83 | 33.00 | 25.77 | 25.56 | 3,594,000 | 5,213,500 | 1.45 | 22 | 18 | 91,754,820 | 77 | 41 | 3.50 | 67,708 | 236,977 | 376,152 | 199,667 | 276,513 |
| 28.07.2020 | 25.03 | 24.35 | 35.00 | 25.58 | 25.00 | 3,594,000 | 5,462,000 | 1.52 | 26 | 21 | 89,957,820 | 86 | 41 | 3.31 | 63,512 | 210,077 | 307,377 | 171,143 | 230,768 |
| 29.07.2020 | 25.96 | 24.91 | 34.00 | 25.97 | 25.61 | 5,332,000 | 8,309,000 | 1.56 | 20 | 12 | 138,418,720 | 73 | 23 | 3.65 | 113,822 | 415,450 | 522,086 | 444,333 | 486,247 |
| 30.07.2020 | 25.34 | 24.51 | 27.00 | 25.48 | 25.39 | 3,594,000 | 5,038,000 | 1.40 | 22 | 18 | 91,071,960 | 70 | 39 | 3.18 | 71,971 | 229,000 | 295,211 | 199,667 | 238,507 |

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 – August 2020

| 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 |
|------------|------------------------|-------------------|-------------------|----------------|------------------|----------------------|------------------|-------------|---------------|--------------------------|---------------|------------|-----------------------|---------------------------|------------------|---------------------------------|---|-------------------------------|---|
| 03.08.2020 | 25.81 | 25.15 | 29.00 | 26.02 | 25.90 | 1,797,000 | 3,131,500 | 1.74 | 19 | 18 | 46,380,570 | 69 | 47 | 3.63 | 45,384 | 164,816 | 209,223 | 99,833 | 119,948 |
| 04.08.2020 | 25.95 | 15.85 | 27.50 | 25.79 | 25.90 | 1,797,000 | 3,511,500 | 1.95 | 23 | 18 | 46,632,150 | 83 | 35 | 3.61 | 42,307 | 152,674 | 195,206 | 99,833 | 108,054 |
| 06.08.2020 | 26.95 | 26.25 | 30.00 | 27.03 | 26.95 | 1,797,000 | 3,896,000 | 2.17 | 27 | 21 | 48,429,150 | 91 | 47 | 3.37 | 42,813 | 144,296 | 187,054 | 85,571 | 82,350 |
| 10.08.2020 | 26.92 | 26.01 | 31.00 | 27.04 | 26.77 | 1,797,000 | 4,055,500 | 2.26 | 24 | 18 | 48,375,240 | 84 | 30 | 3.50 | 48,280 | 168,979 | 235,937 | 99,833 | 143,948 |
| 11.08.2020 | 26.71 | 26.22 | 31.00 | 27.05 | 26.75 | 1,797,000 | 3,065,000 | 1.71 | 25 | 21 | 47,997,870 | 80 | 47 | 3.20 | 38,313 | 122,600 | 185,200 | 85,571 | 117,202 |
| 12.08.2020 | 25.55 | 24.80 | 32.00 | 25.96 | 25.59 | 2,666,000 | 4,574,000 | 1.72 | 25 | 22 | 68,116,300 | 80 | 46 | 3.20 | 57,175 | 182,960 | 257,804 | 121,182 | 153,107 |
| 13.08.2020 | 25.94 | 25.10 | 33.00 | 26.01 | 25.75 | 1,797,000 | 3,997,500 | 2.22 | 25 | 20 | 46,614,180 | 78 | 28 | 3.12 | 51,250 | 159,900 | 239,703 | 89,850 | 97,729 |
| 17.08.2020 | 25.42 | 24.88 | 31.00 | 25.64 | 25.42 | 1,797,000 | 3,617,500 | 2.01 | 21 | 15 | 45,679,740 | 67 | 32 | 3.19 | 53,993 | 172,262 | 234,665 | 119,800 | 149,242 |
| 18.08.2020 | 26.05 | 25.34 | 32.00 | 26.12 | 25.91 | 1,797,000 | 4,303,500 | 2.39 | 24 | 21 | 46,811,850 | 84 | 31 | 3.50 | 51,232 | 179,313 | 242,580 | 85,571 | 123,747 |
| 20.08.2020 | 25.70 | 24.00 | 28.00 | 25.69 | 25.65 | 1,797,000 | 3,778,000 | 2.10 | 25 | 21 | 46,182,900 | 78 | 33 | 3.12 | 48,436 | 151,120 | 275,882 | 85,571 | 138,055 |
| 24.08.2020 | 26.60 | 25.99 | 29.00 | 26.57 | 26.50 | 1,797,000 | 3,446,000 | 1.92 | 22 | 15 | 47,800,200 | 74 | 26 | 3.36 | 46,568 | 156,636 | 227,418 | 119,800 | 177,629 |
| 25.08.2020 | 27.33 | 25.90 | 29.01 | 27.53 | 27.44 | 1,797,000 | 2,813,000 | 1.57 | 20 | 18 | 49,112,010 | 66 | 42 | 3.30 | 42,621 | 140,650 | 199,845 | 99,833 | 124,281 |
| 26.08.2020 | 28.42 | 25.25 | 30.00 | 28.34 | 28.40 | 2,668,500 | 5,007,500 | 1.88 | 18 | 14 | 75,838,770 | 71 | 32 | 3.94 | 70,528 | 278,194 | 477,881 | 190,607 | 281,431 |
| 27.08.2020 | 28.03 | 25.99 | 29.10 | 28.00 | 28.00 | 1,901,000 | 3,857,000 | 2.03 | 21 | 17 | 53,285,030 | 68 | 30 | 3.24 | 56,721 | 183,667 | 309,319 | 111,824 | 146,536 |

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 – September 2020

| 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 |
|------------|------------------------|-------------------|-------------------|----------------|------------------|----------------------|------------------|-------------|---------------|--------------------------|---------------|------------|-----------------------|---------------------------|------------------|---------------------------------|---|-------------------------------|---|
| 01.09.2020 | 28.28 | 26.50 | 30.00 | 28.28 | 28.25 | 3,952,000 | 7,145,000 | 1.81 | 24 | 19 | 111,762,560 | 85 | 41 | 3.54 | 84,059 | 297,708 | 550,803 | 208,000 | 326,976 |
| 07.09.2020 | 26.90 | 25.90 | 33.00 | 27.11 | 26.95 | 3,952,000 | 6,105,000 | 1.54 | 26 | 22 | 106,308,800 | 94 | 55 | 3.62 | 64,947 | 234,808 | 375,111 | 179,636 | 260,719 |
| 08.09.2020 | 27.25 | 25.50 | 33.00 | 27.48 | 27.22 | 3,952,000 | 5,937,000 | 1.50 | 28 | 24 | 107,692,000 | 91 | 45 | 3.25 | 65,242 | 212,036 | 391,957 | 164,667 | 297,816 |
| 09.09.2020 | 26.45 | 25.00 | 31.00 | 26.35 | 26.20 | 6,398,500 | 11,583,500 | 1.81 | 30 | 15 | 169,240,325 | 119 | 32 | 3.97 | 97,340 | 386,117 | 698,971 | 426,567 | 551,611 |
| 10.09.2020 | 27.46 | 25.00 | 32.00 | 27.37 | 27.22 | 3,952,000 | 7,576,000 | 1.92 | 28 | 18 | 108,521,920 | 95 | 29 | 3.39 | 79,747 | 270,571 | 478,150 | 219,556 | 317,756 |
| 14.09.2020 | 28.66 | 25.00 | 35.00 | 28.58 | 28.45 | 3,952,000 | 7,069,500 | 1.79 | 31 | 15 | 113,264,320 | 100 | 23 | 3.23 | 70,695 | 228,048 | 381,856 | 263,467 | 326,194 |
| 15.09.2020 | 29.99 | 25.00 | 40.00 | 30.22 | 30.00 | 3,952,000 | 5,691,500 | 1.44 | 28 | 22 | 118,520,480 | 95 | 52 | 3.39 | 59,911 | 203,268 | 377,910 | 179,636 | 291,325 |
| 17.09.2020 | 29.10 | 26.99 | 35.00 | 29.59 | 29.07 | 3,952,000 | 6,195,500 | 1.57 | 27 | 21 | 115,003,200 | 98 | 48 | 3.63 | 63,219 | 229,463 | 390,520 | 188,190 | 280,722 |
| 21.09.2020 | 27.12 | 26.50 | 33.00 | 27.65 | 27.18 | 3,952,000 | 5,330,000 | 1.35 | 25 | 21 | 107,178,240 | 80 | 46 | 3.20 | 66,625 | 213,200 | 300,635 | 188,190 | 296,256 |
| 22.09.2020 | 26.75 | 25.73 | 33.00 | 26.93 | 26.60 | 3,952,000 | 6,674,500 | 1.69 | 28 | 20 | 105,716,000 | 93 | 31 | 3.32 | 71,769 | 238,375 | 369,617 | 197,600 | 283,543 |
| 23.09.2020 | 27.31 | 25.00 | 35.00 | 27.85 | 27.42 | 6,398,500 | 9,460,500 | 1.48 | 25 | 21 | 174,743,035 | 91 | 58 | 3.64 | 103,962 | 378,420 | 638,357 | 304,690 | 443,174 |
| 24.09.2020 | 26.28 | 25.00 | 33.00 | 26.77 | 26.32 | 3,952,000 | 6,038,000 | 1.53 | 29 | 27 | 103,858,560 | 88 | 54 | 3.03 | 68,614 | 208,207 | 375,292 | 146,370 | 275,779 |
| 28.09.2020 | 26.28 | 25.00 | 30.00 | 26.50 | 26.27 | 3,952,000 | 6,042,500 | 1.53 | 26 | 21 | 103,858,560 | 79 | 38 | 3.04 | 76,487 | 232,404 | 393,528 | 188,190 | 294,828 |
| 29.09.2020 | 27.09 | 26.43 | 33.00 | 27.43 | 27.02 | 3,952,000 | 6,259,500 | 1.58 | 24 | 20 | 107,059,680 | 90 | 40 | 3.75 | 69,550 | 260,813 | 446,942 | 197,600 | 302,527 |

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 – July 2020

| 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 |
|------------|------------------------|-------------------|-------------------|----------------|------------------|----------------------|------------------|-------------|---------------|--------------------------|---------------|------------|-----------------------|---------------------------|------------------|---------------------------------|---|-------------------------------|---|
| 01.07.2020 | 27.10 | 25.35 | 27.26 | 26.61 | 26.73 | 810,500 | 2,453,500 | 3.03 | 8 | 4 | 21,964,550 | 28 | 7 | 3.50 | 87,625 | 306,688 | 259,914 | 202,625 | 219,071 |
| | | | | | | | | | | | | | | | | | | | |

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 – August 2020 | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|------------------------|-------------------|-------------------|----------------|------------------|----------------------|------------------|-------------|---------------|--------------------------|---------------|------------|-----------------------|---------------------------|------------------|---------------------------------|---|-------------------------------|---|
| 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 – September 2020

| 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 |
|------------|------------------------|-------------------|-------------------|----------------|------------------|----------------------|------------------|-------------|---------------|--------------------------|---------------|------------|-----------------------|---------------------------|------------------|---------------------------------|---|-------------------------------|---|
| 09.09.2020 | 26.02 | 24.80 | 27.00 | 26.05 | 26.07 | 810,500 | 1,868,000 | 2.30 | 10 | 8 | 21,089,210 | 31 | 17 | 3.10 | 60,258 | 186,800 | 226,053 | 101,313 | 81,322 |
| | | | | | | | | | | | | | | | | | | | |

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>