



© Konstantin Kirillov/Stock

AUCTIONS BY THE TRANSITIONAL COMMON AUCTION PLATFORM

The world's largest auctioning of emissions allowances

December 2016

Auctions by the *Common Auction Platforms*

December 2016

Auction platform: European Energy Exchange (EEX)

Auction dates/reporting period:

General Allowances:

1, 5, 6, 8, 12, 13 and 15 December 2016;

Aviation Allowances:

-

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 2 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.

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 following Member States: Austria, Belgium, Bulgaria, Republic of Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden. The report complies with the requirement laid down in the fourth paragraph of Article 10(4) of the *ETS Directive*.

Methodology: The report is based on the reports submitted by EEX, on the discussions in regular meetings between the Commission, its advisors and EEX and on any further relevant information available to the Commission. The authors of the report did not actively verify EEX's compliance with the specific rules and provisions applicable under European or national law. EEX has supplied the data used in this report and been consulted before its publication, whereas the *participating Member States* have been consulted on its template.

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. Any data not directly related to the auctions is based only on public reports.

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. 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.

Executive summary

This report covers the auctioning of emission allowances in the period December 2016. In that period, EEX, in its capacity as the *Common Auction Platform*, auctioned a total of 25 668 500 *general allowances* in 7 auctions for the *third trading period* on behalf of those EU Member States (*participating Member States*) that participate in the *Common Auction Platform*. During this period no auctions were held by EEX on behalf of Poland. No aviation allowances have been auctioned during this period.

All auctions were held successfully, and no irregularities or deviations from the requirements were observed. The table below contains a summary of the information concerning the conducted auctions.

The December 2016 auctions at a glance:

	<i>General Allowances December</i>	<i>Aviation Allowances December</i>
General		
Number of auctions	7	-
Total volume auctioned	25 668 500	-
Amount raised from the auctions (€)	115 187 920	-
Average Auction Clearing Price (€/allowance)	4.49	-
Total bid volume	62 485 500	-
Average <i>Cover ratio</i>	2.4	-
		-
Participation		-
Number of eligible bidders	67	-
Number of participating bidders ⁽¹⁾	26	-
Number of successful bidders ⁽¹⁾	22	-
Average number of bidders per auction	17.6	-
Average number of successful bidders per auction	10.7	-
		-
Auction data		-
Average total volume bid per bidder per auction	509 661	-
Average bid size (volume per bid)	121 257	-
Average volume won per bidder per auction	369 401	-
Average range of bids (€)	1.69	-

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

Introduction

All the *participating Member States* were participating in the auctions as from January 2015. 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 then by EEX appointed as *Common Auction Platform* pursuant to Article 26(1) of the Auctioning Regulation (also referred to as second common auction platform or CAP2).

In accordance with the second subparagraph of Article 30(7) of the *Auctioning Regulation*, pending the procurement, appointment and listing of its opt-out auction platform, Poland contracted EEX to auction its share of allowances to be auctioned. These auctions were held on the *Transitional Common Auction Platform* between 16 September 2013 and 18 August 2016 (due to the *Back-loading*, no auctions were held for Poland from May to December 2014, the auctions restarted in January 2015). The continuation of the auctions by CAP2 for Poland is subject to the conclusion of a bilateral agreement between EEX and Poland.

Accordingly, the present report includes data on the auctions performed by the *common auction platform* on behalf of the *participating Member States* and Poland. However, during this period no auctions were held by EEX on behalf of Poland.

The Member States of the European Free Trade Association (EFTA) that are Party to the European Economic Area (EEA)¹ have also stated their intention to make use of the *Common Auction Platform* by aggregating their volumes to those auctioned on behalf of the *participating Member States*. The preparations for this are on-going.

1. Results of the auctions

The total revenues from auctions of *general allowances* accrued to the *participating Member States* and Poland from the start of the *Third trading period* auctions (November 2012) to December 2016 are EUR 10 340 977 890. The total revenues from auctions of *aviation allowances* accrued to the *participating Member States* and Poland from the start of the *Third trading period* auctions (November 2012) to December 2016 are EUR 143 567 420. The revenues per each *participating Member State* in the reporting period as well as cumulative data are provided in Annex 1.

Information on *general allowances'* auctions is provided in section 1.1, and on *aviation allowances* in section 1.2 hereafter. Detailed information on the auctions held in the reporting period December 2016, including results per auction, is provided in Annex 2.

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

¹ Iceland, Liechtenstein and Norway.

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 from December 2015 to December 2016 is provided in Table 1.

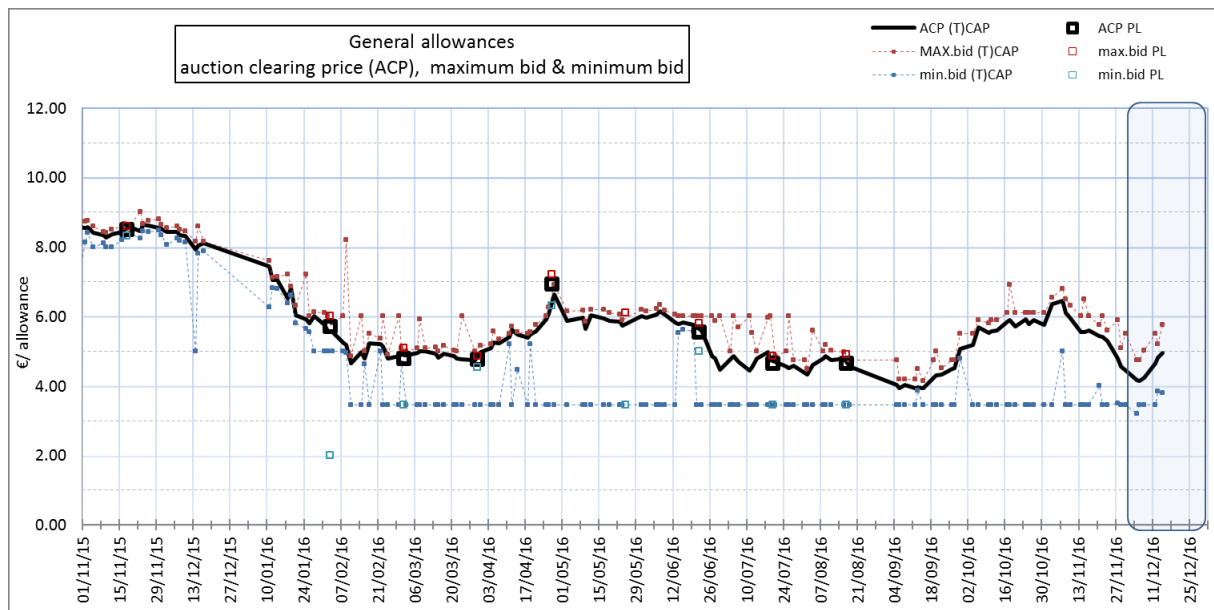
Table 1: General allowances - main statistics on the results of the auctions per month

Month	Total auction volume	Total bid volume	Total revenue (€)	Average Cover ratio ²	Average number of bidders	Average number of successful bidders	Average auction clearing price (€)
December 2016	25 668 500	62 485 500	115 187 920	2.4	17.6	10.7	4.49
November 2016	43 968 000	100 554 000	245 707 840	2.3	17.3	13.6	5.59
October 2016	43 968 000	115 140 000	250 397 760	2.6	18.1	11.3	5.70
September 2016	43 968 000	92 219 000	185 984 640	2.1	18.4	13.9	4.23
August 2016	16 344 500	50 355 000	75 727 925	3.1	16.7	10.6	4.63
July 2016	45 507 500	103 410 500	212 877 125	2.3	18.1	12.2	4.68
June 2016	48 932 500	119 140 000	273 801 625	2.4	19.2	13.2	5.60
May 2016	30 825 000	56 918 000	181 251 000	1.8	16.8	13.0	5.88
April 2016	44 626 000	93 734 000	254 493 440	2.1	18.8	13.0	5.70
March 2016	51 577 000	117 768 000	251 299 820	2.3	20.7	14.8	4.87
February 2016	48 051 000	106 282 000	249 230 700	2.2	22.7	17.2	5.19
January 2016	30 825 000	74 934 000	200 910 500	2.4	21.6	14.1	6.52
December 2015	23 244 500	64 626 500	192 130 220	2.8	18.9	14.1	8.27
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

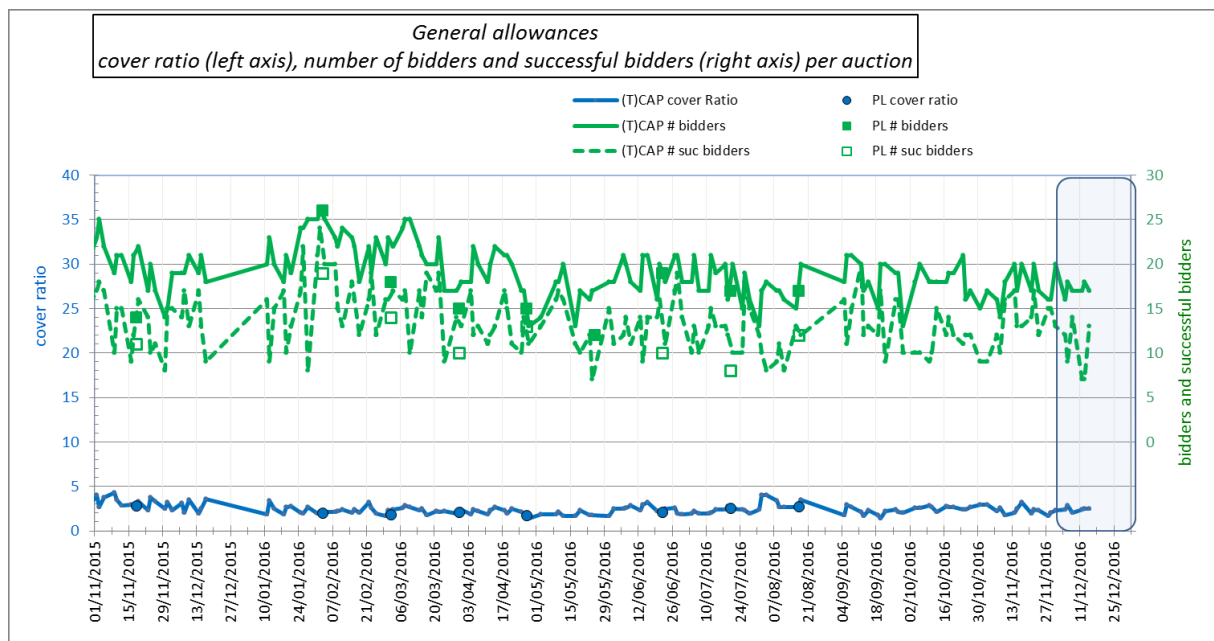
During December 2016, the difference between the Auction Clearing Prices and the mean of the *best-ask* and *best-bid* prices on the EEX *spot secondary market* for *general allowances* at the closure of the auction *bidding window* was on average EUR 0.00, and this difference had a standard deviation of EUR 0.05.

² 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 bid³



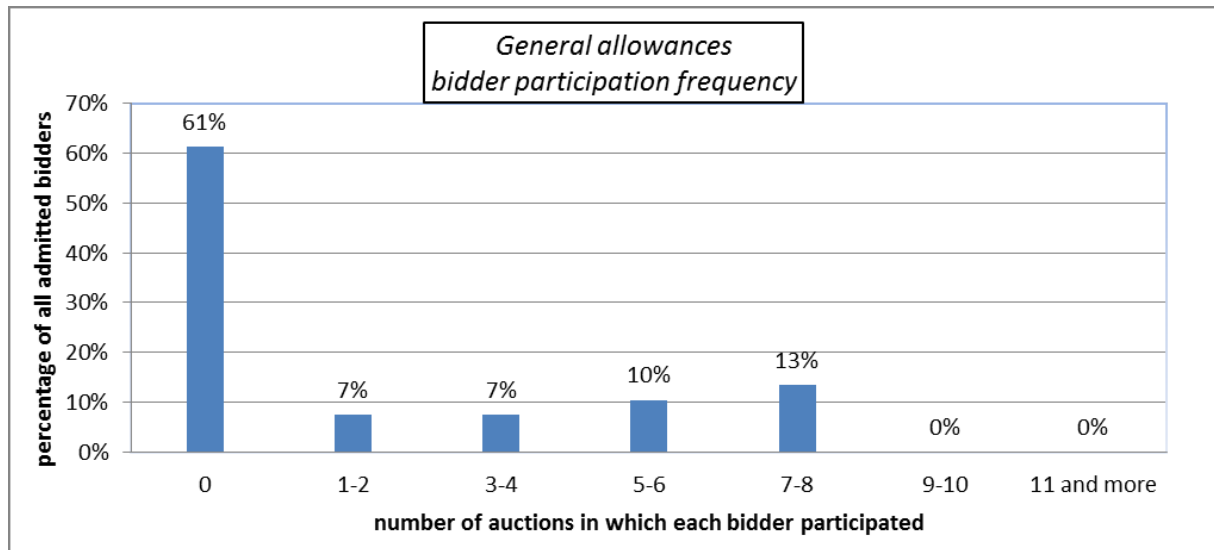
Graph 2: General allowances - cover ratio (left axis), number of bidders and successful bidders (right axis) per auction



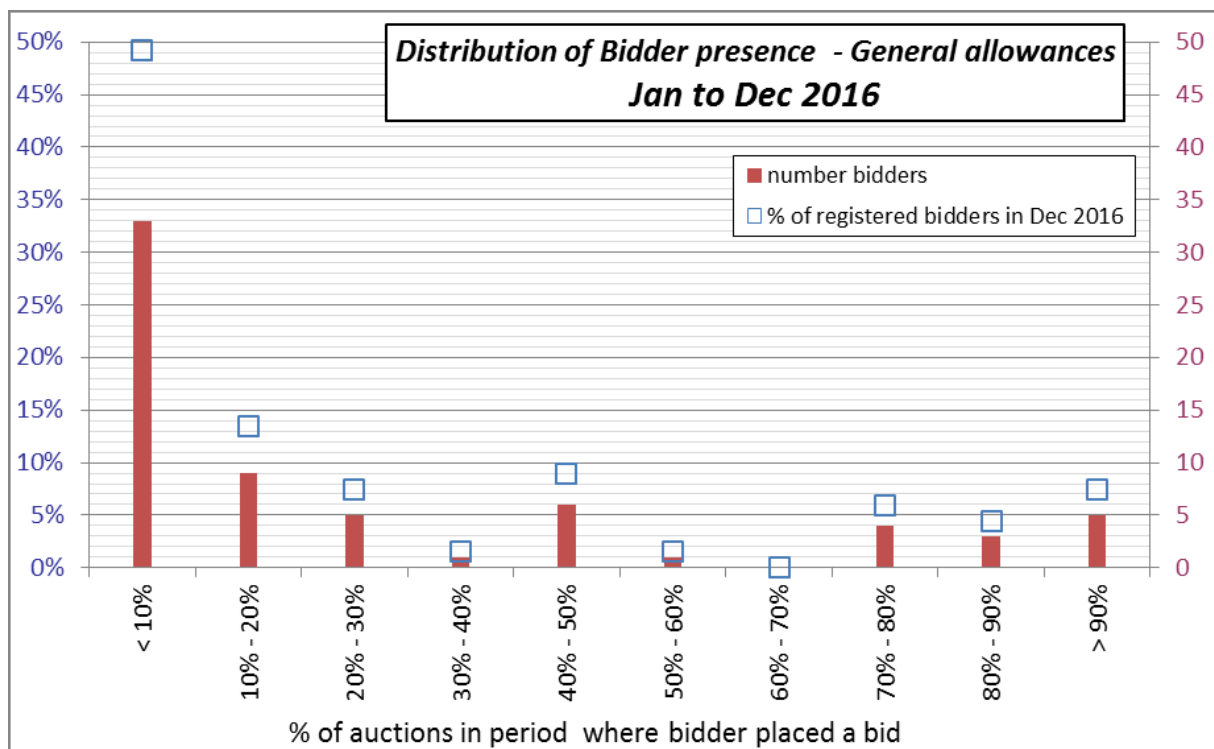
There were 67 eligible bidders in December 2016. Out of these, 26 different bidders participated in the auctions in December 2016. Graph 3A indicates the participation frequency in December 2016, and Graph 3B for the whole 2016.

³ Auctions on behalf of Poland were held on the following days: 18/11/2015, 3/2/2016, 2/3/2016, 30/3/2016, 27/4/2016, 25/5/2016, 22/6/2016, 20/7/2016 and 17/8/2016.

Graph 3A: General allowances -bidder participation frequency in December 2016



Graph 3B: General allowances -bidder participation frequency in 2016



1.1.2. Bidding behaviour - general allowances

Table 2 provides monthly data on the bids submitted from December 2015 to December 2016. 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 ⁴	Average total volume bid per bidder per auction over the month ⁵	standard deviation of total volume bid per bidder per auction over the month ⁶	Total monthly nr of bids	Average nr. of bids per bidder per auction ⁷	Average bid size ⁸
December 2016	7	26	62 485 500	509 661	508 012	707 571	531	4.3 ⁺⁺	121 257
November 2016	12	31	100 554 000	487 443	483 433	662 613	837	4.0 ⁺⁺	120 567
October 2016	12	26	115 140 000	535 857	530 599	788 774	865	4.0 ⁺⁺	134 484
September 2016	12	27	92 219 000	420 765	417 281	584 075	823	3.7 ⁺⁺	114 146
August 2016	9	27	50 355 000	339 877	335 700	404 083	531	3.5 ⁺⁺	95 870
July 2016	13	28	103 410 500	443 747	438 180	493 818	970	4.1 ⁺⁺	107 529
June 2016	14	29	119 140 000	445 334	442 900	537 011	979	3.7 ⁺⁺	121 595
May 2016	9	28	56 918 000	382 049	376 940	435 872	507	3.4 ⁺⁺	113 975
April 2016	13	29	93 734 000	384 877	384 156	468 364	850	3.5 ⁺⁺	111 049
March 2016	15	35	117 768 000	384 552	379 897	457 186	1147	3.7 ⁺⁺	105 729
February 2016	14	30	106 282 000	338 333	334 220	461 502	1104	3.5 ⁺⁺	98 299
January 2016	9	32	74 394 000	386 086	383 474	547 998	692	3.6 ⁺⁺	110 917
December 2015	8	31	64 626 500	433 690	427 990	543 279	538	3.6 ⁺⁺	119 573

++: indicates simple average

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

⁴ 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.

⁵ 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).

⁶ Standard deviation of total volume bid per bidder in each auction over the month.

⁷ 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).

⁸ 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.

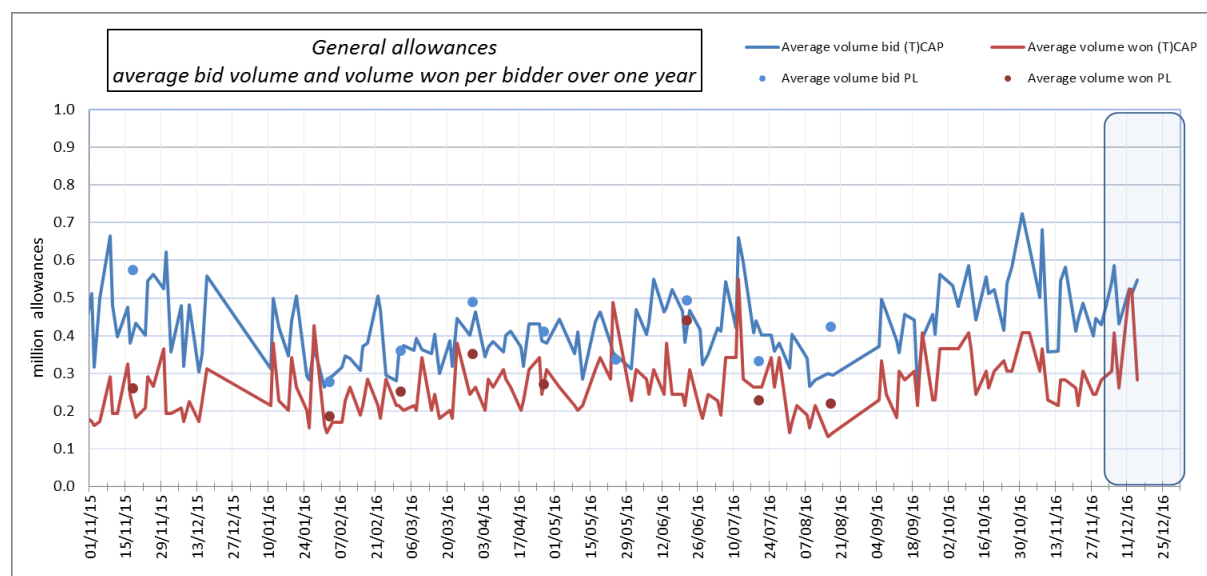
Table 3 provides monthly data on successful bids from December 2015 to December 2016. See also Graph 4.

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 ⁹	Average volume won per bidder per auction over the month ¹⁰	Standard deviation of volume won per bidder per auction over the month ¹¹	Total monthly nr of successful bids
December 2016	7	22	25 668 500	369 401	342 247	514 424	160
November 2016	12	30	43 968 000	279 848	269 742	366 801	353
October 2016	12	23	43 968 000	331 152	323 294	401 178	260
September 2016	12	27	43 968 000	277 426	263 281	339 773	355
August 2016	9	24	16 344 500	178 411	172 047	211 858	152
July 2016	13	28	45 507 500	305 955	284 422	328 532	262
June 2016	14	29	48 932 500	279 016	263 078	300 660	326
May 2016	9	26	30 825 000	283 328	263 462	292 574	256
April 2016	13	24	44 626 000	270 885	264 059	255 486	287
March 2016	15	31	51 577 000	245 210	232 329	256 557	416
February 2015	14	27	48 051 000	207 756	199 382	213 657	468
January 2016	9	30	30 825 000	268 407	242 717	293 170	264
December 2015	8	29	23 244 500	212 431	205 704	218 453	219

(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 one year¹²



⁹ 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.

¹⁰ 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).

¹¹ Standard deviation of volume won per bidder in each auction over the month.

¹² Auctions on behalf of Poland were held on the following days: 18/11/2015, 3/2/2016, 2/3/2016, 30/3/2016, 27/4/2016, 25/5/2016, 22/6/2016, 20/7/2016 and 17/8/2016.

1.1.3. Type of bidders - general allowances

In December 2016, almost all volume bid was done on own account, with 0.97% of the volume submitted by intermediaries on behalf of a client¹³. 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 one year

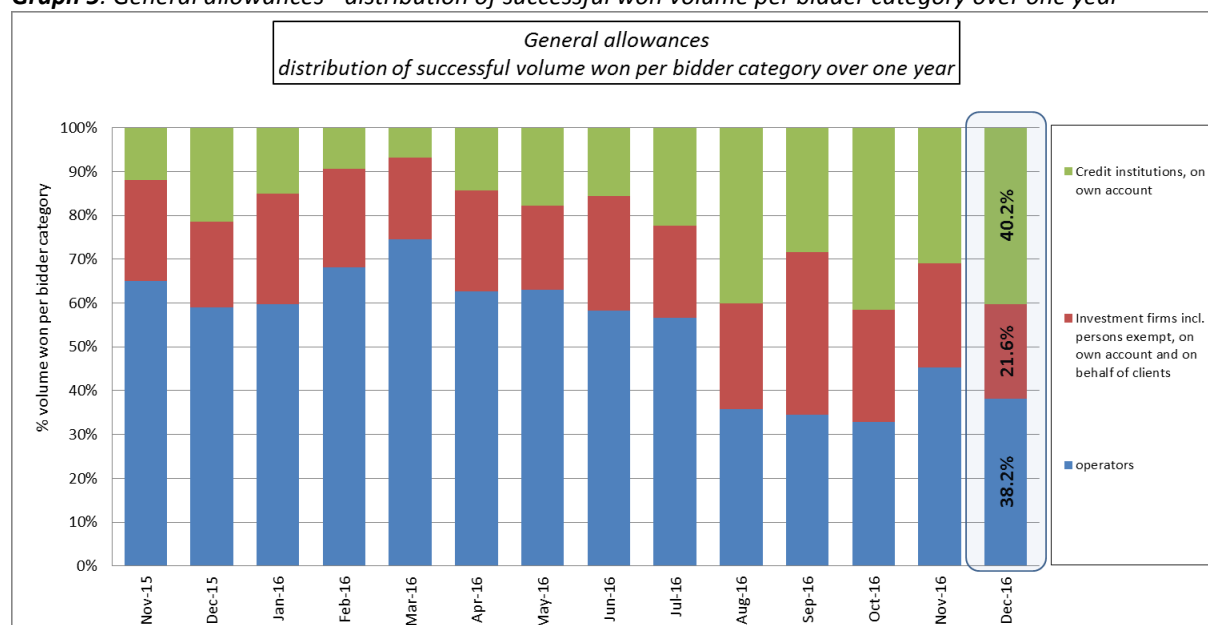


Table 4: General allowances – distribution of volume won per bidder category and their standard deviations

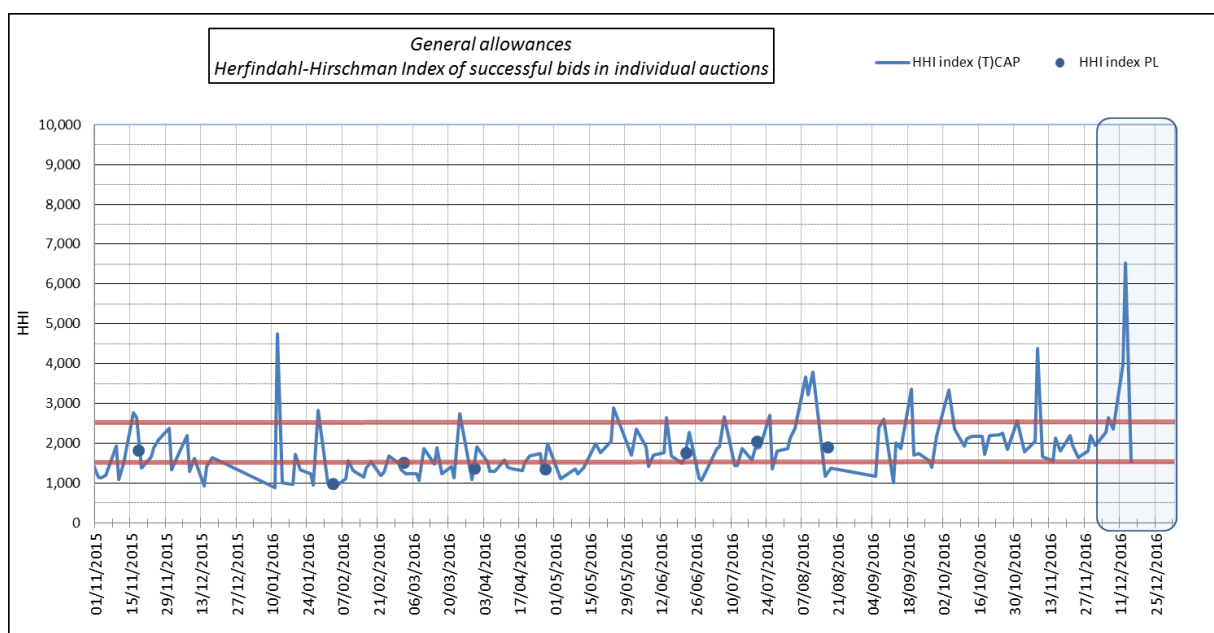
Month	% volume won coming from bidding on behalf of a client	Bidder category	% volume won	Standard deviation of % of volume won
December 2016	2.32%	Operators (including Business groupings)	38.2%	13.7 % points
		Investment firms (including persons exempt)	21.6%	12.3 % points
		Credit institutions	40.2%	23.7 % points

¹³ The data related to bidding on behalf of clients reflects the self-assessment of the respective trader.

1.1.4. Concentration - general allowances

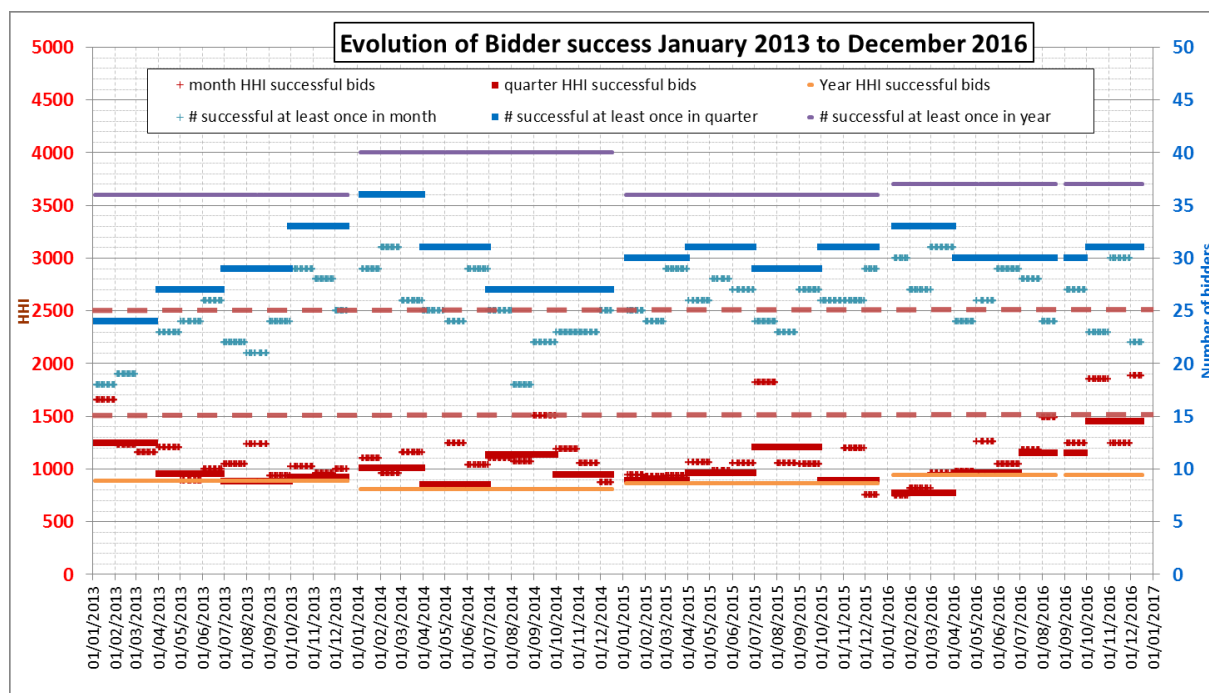
The Herfindahl-Hirschman Index (HHI) of successful bids is used to measure market concentration¹⁴. The HHI ranges from a value of 0 (perfect competition) to 10 000 (a single buyer). A common interpretation of the HHI is that a score below 1 500 is 'not-concentrated', between 1 500 and 2 500 is 'moderately 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



¹⁴ The HHI is calculated as the sum of the squares of all successful bidders' shares (in % 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 2014¹⁵. Pursuant to the published *auction calendar*, only *aviation allowances* for the calendar year 2012 were auctioned in 2014¹⁶; 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 from December 2015 to December 2016 is provided in Table 5. No aviation allowances have been auctioned in December 2016.

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

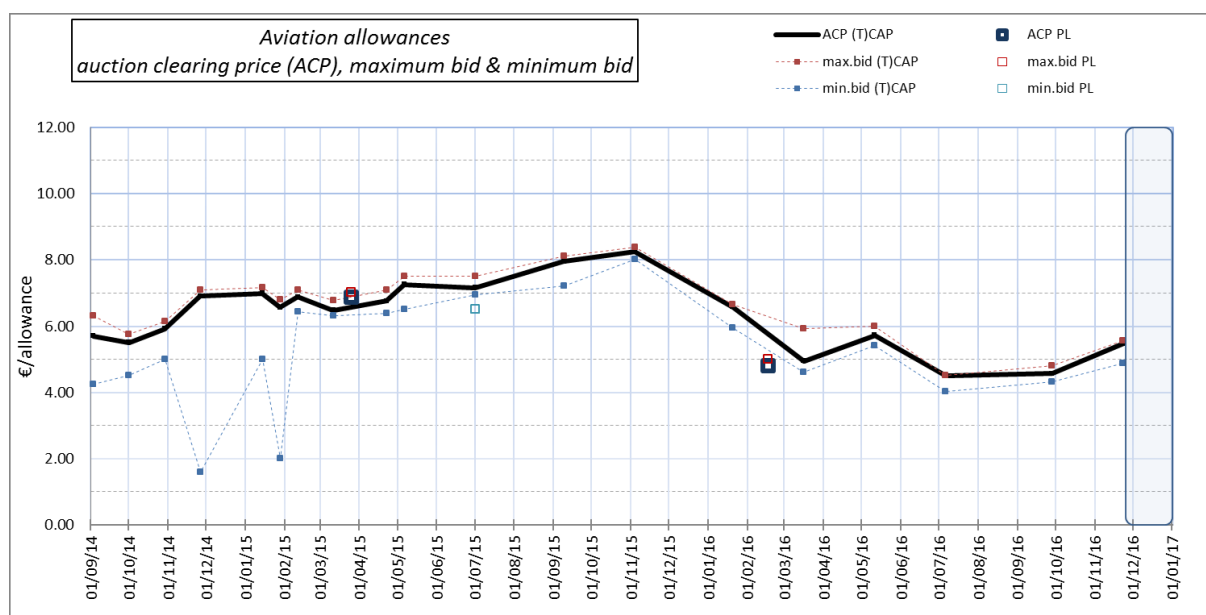
Month	Total auction volume	Total bid volume	Total revenue (€)	Average Cover ratio ¹⁷	Average number of bidders	Average number of successful bidders	Average auction clearing price (€)
December 2016	-	-	-	-	-	-	-
November 2016	681 500	2 146 500	3 720 990	3.2	10.0	6.0	5.46
October 2016	-	-	-	-	-	-	-
September 2016	683 500	1 993 000	3 123 595	2.9	11.0	5.0	4.57
August 2016	-	-	-	-	-	-	-
July 2016	683 500	2 539 000	3 068 915	3.7	10.0	4.0	4.49
June 2016	-	-	-	-	-	-	-
May 2016	683 500	3 140 500	3 909 620	4.6	11.0	5.0	5.72
April 2016	-	-	-	-	-	-	-
March 2016	683 500	2 625 500	3 376 490	3.8	8.0	3.0	4.94
February 2016	120 000	1 663 000	576 000	13.9	12.0	2.0	4.80
January 2016	683 500	3 866 000	4 490 595	5.7	12.0	5.0	6.57
December 2015	-	-	-	-	-	-	-
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

¹⁵ 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.

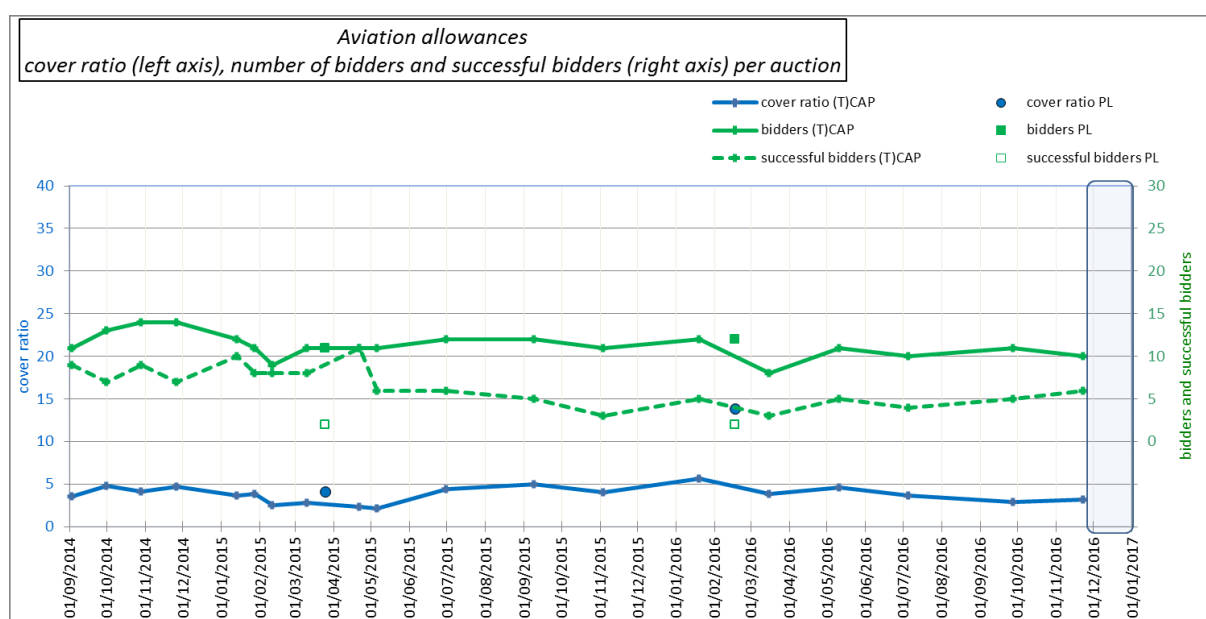
¹⁶ See also the regulatory update published by the Commission on 29 July 2014; http://ec.europa.eu/clima/news/articles/news_2014072901_en.htm.

¹⁷ 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 bid¹⁸



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

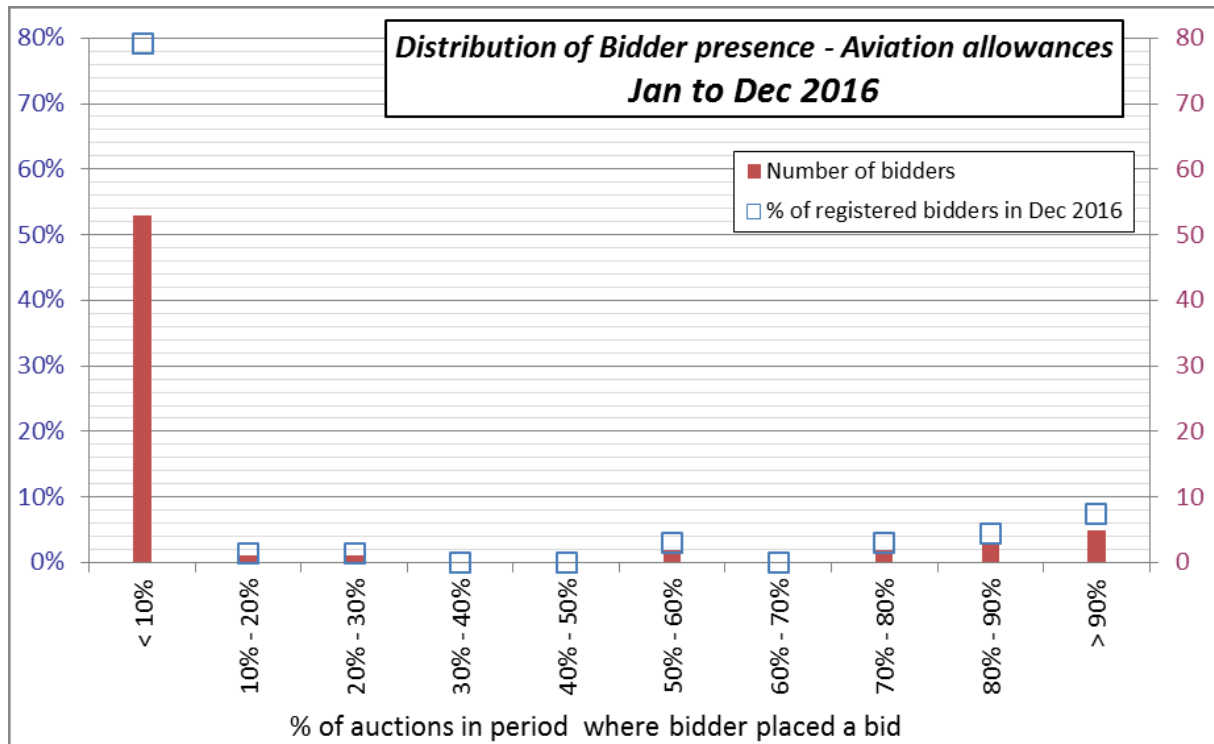


¹⁸ Auctions on behalf of Poland were held on the following days: 25/3/2015 and 17/2/2016.

Graph 10: Aviation allowances – bidder participation frequency in December 2016

N.A.

Graph 10B: Aviation allowances -bidder participation frequency in 2016



1.2.2 Bidding behaviour – aviation allowances

Table 6 provides monthly data on the bids submitted from December 2015 to December 2016. 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 ¹⁹	Average total volume bid per bidder per auction over the month ²⁰	standard deviation of total volume bid per bidder per auction over the month ²¹	Total monthly nr of bids	Average nr. of bids per bidder per auction ²²	Average bid size ²³
December 2016	-	-	-	-	-	-	-	-	-
November 2016	1	10	2 146 500	214 650	214 650	245 137	44	4.4 ⁺⁺	48 784
October 2016	-	-	-	-	-	-	-	-	-
September 2016	1	11	1 993 000	181 182	181 182	139 137	31	2.8 ⁺⁺	64 290
August 2016	-	-	-	-	-	-	-	-	-
July 2016	1	10	2 539 000	253 900	253 900	194 273	25	2.5 ⁺⁺	101 560
June 2016	-	-	-	-	-	-	-	-	-
May 2016	1	11	3 140 500	285 500	285 500	277 449	41	3.7 ⁺⁺	76 598
April 2016	-	-	-	-	-	-	-	-	-
March 2016	1	8	2 625 500	328 188	328 187	271 282	33	4.1 ⁺⁺	79 561
February 2016	1	12	1 663 000	138 583	138 583	126 140	40	3.3 ⁺⁺	41 575
January 2016	1	12	3 866 000	322 167	322 167	234 168	45	3.8 ⁺⁺	85 911
December 2015	-	-	-	-	-	-	-	-	-

++: indicates simple average

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

¹⁹ 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.

²⁰ 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).

²¹ Standard deviation of total volume bid per bidder in each auction over the month.

²² 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).

²³ 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.

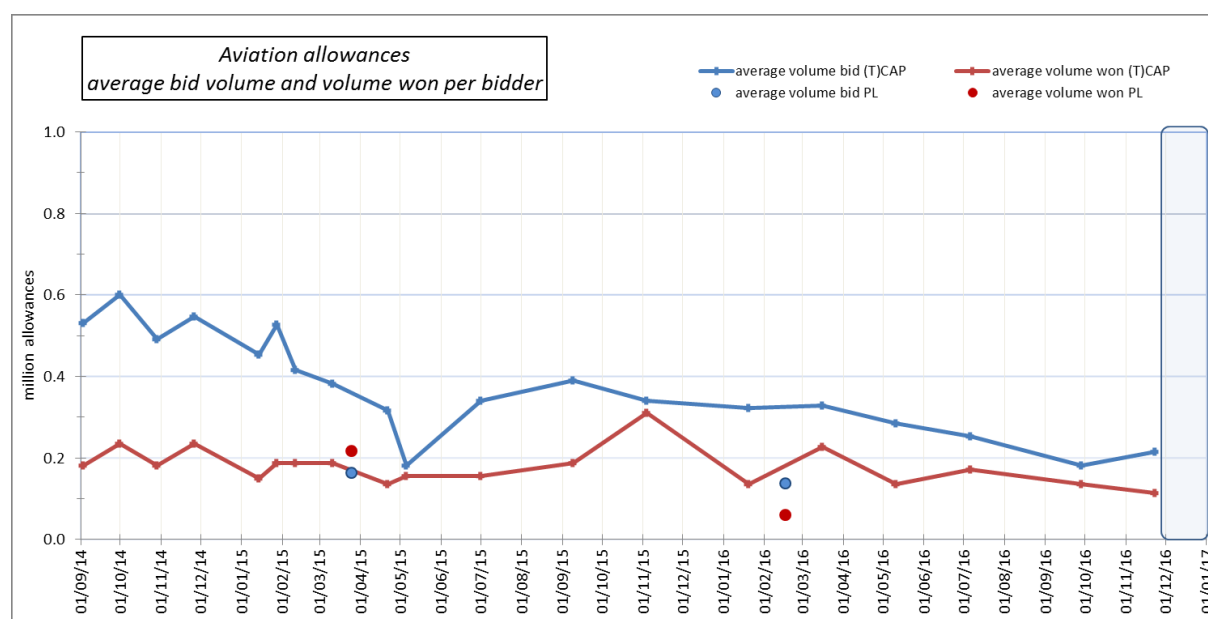
Table 7 provides monthly data on successful bids from December 2015 to December 2016. See also Graph 11.

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 ²⁴	Average volume won per bidder per auction over the month ²⁵	Standard deviation of volume won per bidder per auction over the month ²⁶	Total monthly nr of successful bids
December 2016	-	-	-	-	-	-	-
November 2016	1	6	681 500	113 583	113 583	83 332	8
October 2016	-	-	-	-	-	-	-
September 2016	1	5	683 500	136 700	136 700	73 380	8
August 2016	-	-	-	-	-	-	-
July 2016	1	4	683 500	170 875	170 875	106 277	4
June 2016	-	-	-	-	-	-	-
May 2016	1	5	683 500	136 700	136 700	87 650	8
April 2016	-	-	-	-	-	-	-
March 2016	1	3	683 500	227 833	227 833	199 581	7
February 2016	1	2	120 000	60 000	60 000	40 000	2
January 2016	1	5	683 500	136 700	136 700	32 366	6
December 2015	-	-	-	-	-	-	-

(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



²⁴ 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.

²⁵ 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).

²⁶ Standard deviation of volume won per bidder in each auction over the month.

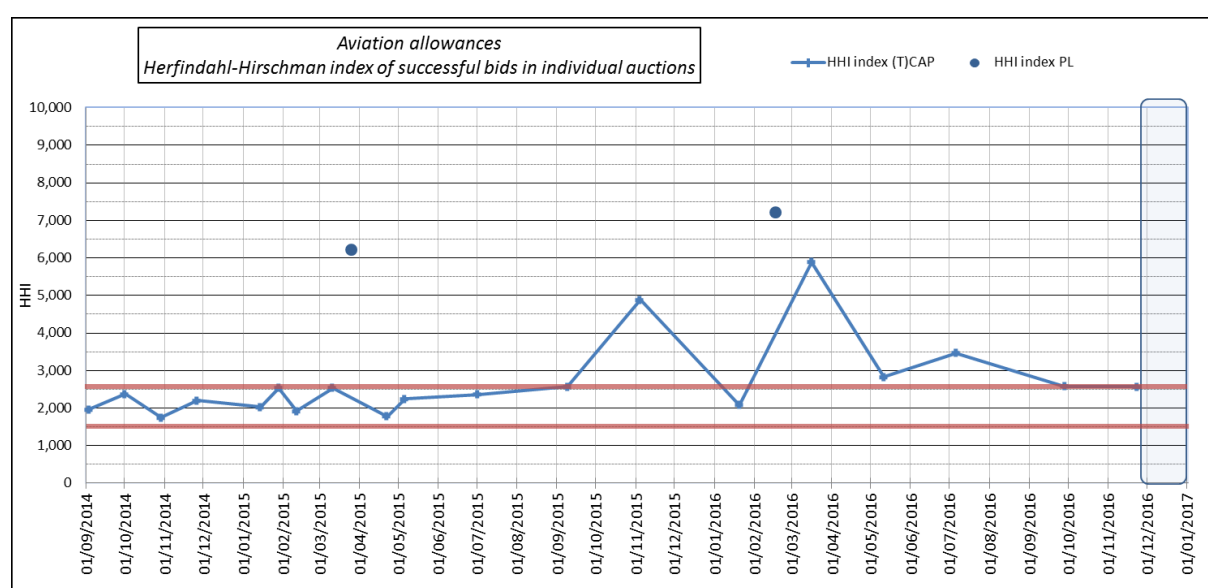
1.2.3 Type of bidders – aviation allowances

No aviation allowances have been auctioned in December 2016.

1.2.4 Concentration – aviation allowances

The HHI of successful bids is used to measure market concentration²⁷. 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



²⁷ The HHI is calculated as the sum of the squares of all successful bidders' shares (in % 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 December 2016.

Most of the active participants in the secondary carbon market are assumed to also have been admitted to bid in the auctions²⁸.

Table 8: Eligible participants to the auctions in December 2016, 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 <i>spot secondary market</i>							110
Participants eligible to bid in the auctions	49	1	8	4	0	5	67
(Of which:) Participants eligible to bid in the auctions on behalf of clients	-	-	1	2	-	2	5
(Of which:) Auction-only access	2	0	1	0	0	1	4

Throughout the period, EEX actively promoted the auctions in view of attracting bidders.

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

Transparency

The results for each auction were published in accordance with Article 61 of the *Auctioning Regulation*, not later than 15 minutes after the close of the *bidding window*.

EEX revised its webpage on auctioning where necessary for keeping it up to date.

Technical and operational aspects

No irregularities or deviations from the requirements were found as regards the auctions themselves or the *clearing* and *settlement* processes.

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. EEX's Market Surveillance department takes its instructions only from SMWA (Saxony's Ministry for Economy and Employment) and is independent of the exchange itself.

No infringements of the confidentiality requirements were identified.

²⁸ This assessment is based on the auction participants' activity in EEX's secondary market and general market knowledge of EEX.

6Other aspects

No problems or issues were identified as regards coordination of the auctions between the various auction platforms.

A new auctioneer was appointed by Greece in November 2014 and by Hungary in January 2015.

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 and the way they have been taken into account

EEX made no comments on the report.

Date of publication: 06/08/2017

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> .
Back-loading	A short-term measure to postpone the auctioning of 900 million allowances from the years 2013-2015 until 2019-2020. See: http://ec.europa.eu/clima/policies/ets/reform/index_en.htm .
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, Poland and the UK, which decided to opt out from the joint procurement of a common auction platform pursuant to Article 30 of the <i>Auctioning Regulation</i> .
Persons exempt from MiFID	Natural or legal persons exempt from the authorisation requirements in EU financial law because their trading and investment services activities are only ancillary to their main business (Article 2(1)(i) of Directive 2004/39/EC) and that have been authorised under national legislation implementing the rules laid down in the <i>Auctioning Regulation</i> to bid for allowances in the auctions. See Article 18(2) of the <i>Auctioning Regulation</i> .
Secondary market	Market in which persons buy or sell allowances either before or after they are allocated either free of charge or through auctioning. To be distinguished from the 'primary market', consisting of the auctions of allowances.
Settlement	Payment on delivery of the allowances. See Article 3(34) of the <i>Auctioning Regulation</i> .
Spot secondary market	<i>Secondary market</i> for allowances with delivery within 5 days from the transaction.
Third trading period	The period 2013-2020, including the allowances referred to in Article 10(1) of the <i>Auctioning Regulation</i> auctioned in 2012. Allowances are valid during a given period without distinction as regards the year within that period. See Article 13 of the <i>ETS Directive</i> .
Common auction platform	Auction platform appointed pursuant to Article 26(1) or (2) of the <i>Auctioning Regulation</i> . The common auction platform appointed pursuant to Article 26(2) of the <i>Auctioning Regulation</i> (also referred to as transitional common auction platform or TCAP) conducted auctions until 18 August 2016. The <i>common auction platform</i> referred to as CAP2 the second common auction platform or CAP2 was appointed, pursuant to Article 26(1) of the <i>Auctioning Regulation</i> , on 13 July 2016 until July 2021.

Annex 1 Auction revenues per Member State until December 2016 (reported in euros)

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

	General Allowances		Aviation Allowances		All Allowances
	12 November 2012 – November 2016	December 2016	12 November 2012 – November 2016	December 2016	12 November 2012 – December 2016
Austria	251 150 255	2 864 920	4 185 300	-	258 200 475
Belgium	450 847 100	5 270 270	5 481 135	-	461 598 505
Bulgaria	312 794 915	4 152 730	1 382 895	-	318 330 540
Croatia	105 505 090	979 495	654 360	-	107 138 945
Cyprus	2 359 150	-	2 110 375	-	4 469 525
Czech Republic	358 194 130	5 662 060	1 990 995	-	365 847 185
Denmark	223 113 330	2 498 740	4 619 680	-	230 231 750
Estonia	69 021 995	1 154 730	234 505	-	70 411 230
Finland	301 713 560	3 485 685	3 526 500	-	308 725 745
France	988 022 425	11 257 180	25 577 025	-	1 024 856 630
Greece	622 137 495	7 152 390	7 464 235	-	636 754 120
Hungary	237 418 060	3 079 005	1 552 395	-	242 049 460
Ireland	165 673 755	1 967 260	3 608 625	-	171 249 640
Italy	1 739 175 575	19 781 690	23 619 975	-	1 782 577 240
Latvia	48 512 275	605 885	818 000	-	49 936 160
Lithuania	88 423 355	1 010 905	420 960	-	89 855 220
Luxemburg	21 631 635	296 745	916 340	-	22 844 720
Malta	18 211 570	259 550	824 900	-	19 296 020
The Netherlands	603 802 085	6 839 930	10 162 975	-	620 804 990
Poland	587 438 565	-	3 558 480	-	590 997 045
Portugal	316 303 870	3 565 030	4 956 085	-	324 824 985
Romania	637 798 500	9 395 720	2 356 440	-	649 550 660
Slovak Republic	277 525 855	3 264 170	297 705	-	281 087 730
Slovenia	79 853 570	970 410	221 525	-	81 045 505
Spain	1 558 597 685	17 752 440	27 371 325	-	1 603 721 450
Sweden	160 564 170	1 920 980	5 654 685	-	168 139 835
TOTAL	10 225 789 970	115 187 920	143 567 420	-	10 484 545 310

Annex 2 Results of individual auctions on behalf of participating Member States and Poland in December 2016

(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 - December 2016																			
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
01/12/16	4.44	3.45	5.50	4.36	4.41	3 664 000	8 567 000	2.3	20	13	16 268 160	76	24	3.8	112 724	428 350	516 813	281 846	350 352
05/12/16	4.16	3.20	4.75	4.11	4.15	3 664 000	8 656 000	2.4	16	12	15 242 240	86	32	5.4	100 651	541 000	586 742	305 333	402 474
06/12/16	4.15	3.45	4.75	4.05	4.05	3 664 000	10 547 500	2.9	18	9	15 205 600	89	16	4.9	118 511	585 972	770 669	407 111	478 983
08/12/16	4.23	3.45	5.01	4.23	4.24	3 664 000	7 323 000	2.0	17	14	15 498 720	66	39	3.9	110 955	430 765	801 215	261 714	396 329
12/12/16	4.65	3.45	5.50	4.50	4.54	3 664 000	8 924 000	2.4	17	7	17 037 600	66	12	3.9	135 212	524 941	776 671	523 429	700 758
13/12/16	4.82	3.85	5.20	4.74	4.73	3 664 000	9 168 000	2.5	18	7	17 660 480	53	10	2.9	172 981	509 333	816 183	523 429	989 864
15/12/16	4.96	3.80	5.75	4.88	4.92	3 684 500	9 300 000	2.5	17	13	18 275 120	95	27	5.6	97 895	547 059	618 124	283 423	284 295
Monthly Value	-	-	-	-	-	25 668 500	62 485 500	2.4	26 ⁽¹⁾	22 ⁽¹⁾	115 187 920	531	160	4.3 ⁽²⁾	117 675 ⁽³⁾	508 012 ⁽⁴⁾	707 571 ⁽⁵⁾	342 247 ⁽⁶⁾	514 424 ⁽⁷⁾
Monthly minimum	4.15	3.20	4.75	-	-	3 664 000	7 323 000	2.0	16	7	15 205 600	53	10	2.9	97 895	428 350	-	261 714	-
Monthly average	4.49	3.52	5.21	4.41 ⁺⁺	-	3 666 929 ⁺⁺	8 926 798	2.4	17.6	10.7	16 455 417 ⁺⁺	75.9	22.9	4.3 ⁺⁺	121 257	509 661	-	369 401	-
Monthly maximum	4.96	3.85	5.75	-	-	3 684 500	10 547 500	2.9	20	14	18 275 120	95	39	5.6	172 981	585 972	-	523 429	-

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.

++: indicates simple average

Aviation Allowances – December 2016																			
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
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monthly Value	-	-	-	-	-	-	-	-	_(1)	_(1)	-	-	-	_(2)	_(3)	_(4)	_(5)	_(6)	_(7)
Monthly minimum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monthly average	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Monthly maximum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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.

++: indicates simple average

The data for previous auctions can be downloaded from EEX's website: <https://www.eex.com/en/market-data/emission-allowances/auction-market/european-emission-allowances-auction/european-emission-allowances-auction-download>

