



AUCTIONS BY THE TRANSITIONAL COMMON AUCTION PLATFORM

The world's largest auctioning of emissions allowances

October 2016

Auctions by the *Common Auction Platform*

October 2016

Auction platform: European Energy Exchange (EEX)

Auction dates/reporting period:

General Allowances:

4, 6, 10, 11, 13, 17, 18, 20, 24, 25, 27 and 31 October 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 October 2016. In that period, EEX, in its capacity as the *Common Auction Platform*, auctioned a total of 43 968 000 *general allowances* in 12 auctions for the *third trading period* on behalf of those EU Member States (*participating Member States*) that participate in the *Common Auction Platform*. No *aviation allowances* have been auctioned during this 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.

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 October 2016 auctions at a glance:

| | General Allowances | Aviation Allowances |
|---|-------------------------------|--------------------------------|
| | October | October |
| General | | |
| Number of auctions | 12 | - |
| Total volume auctioned | 43 968 000 | - |
| Amount raised from the auctions (€) | 250 397 760 | - |
| Average Auction Clearing Price (€/allowance) | 5.70 | - |
| Total bid volume | 115 140 000 | - |
| Average <i>Cover ratio</i> | 2.6 | - |
| Participation | | |
| Number of eligible bidders | 68 | - |
| Number of participating bidders ⁽¹⁾ | 26 | - |
| Number of successful bidders ⁽¹⁾ | 23 | - |
| Average number of bidders per auction | 18.1 | - |
| Average number of successful bidders per auction | 11.3 | - |
| Auction data | | |
| Average total volume bid per bidder per auction | 535 857 | - |
| Average bid size (volume per bid) | 134 484 | - |
| Average volume won per bidder per auction | 331 152 | - |
| Average range of bids (€) | 2.59 | - |

(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 October 2016 are EUR 9 980 082 130. 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 October 2016 are EUR 139 846 430. 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 October 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 October 2015 to October 2016 is provided in Table 1.

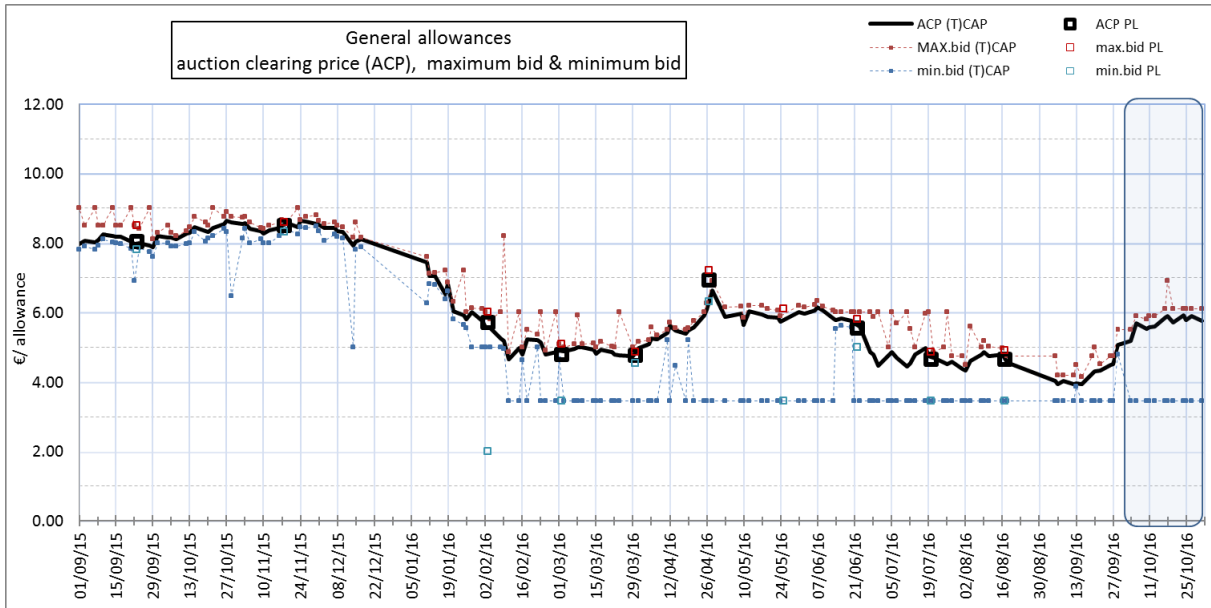
Table 1: General allowances - main statistics on the results of the auctions per month

| 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 (€) |
|-------------------|----------------------|----------------------|----------------------|----------------------------------|---------------------------|--------------------------------------|------------------------------------|
| 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 |
| November 2015 | 40 789 500 | 130 488 000 | 346 009 805 | 3.2 | 19.6 | 13.1 | 8.48 |
| October 2015 | 37 934 000 | 116 213 500 | 316 690 540 | 3.1 | 19.7 | 13.4 | 8.35 |
| 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 |

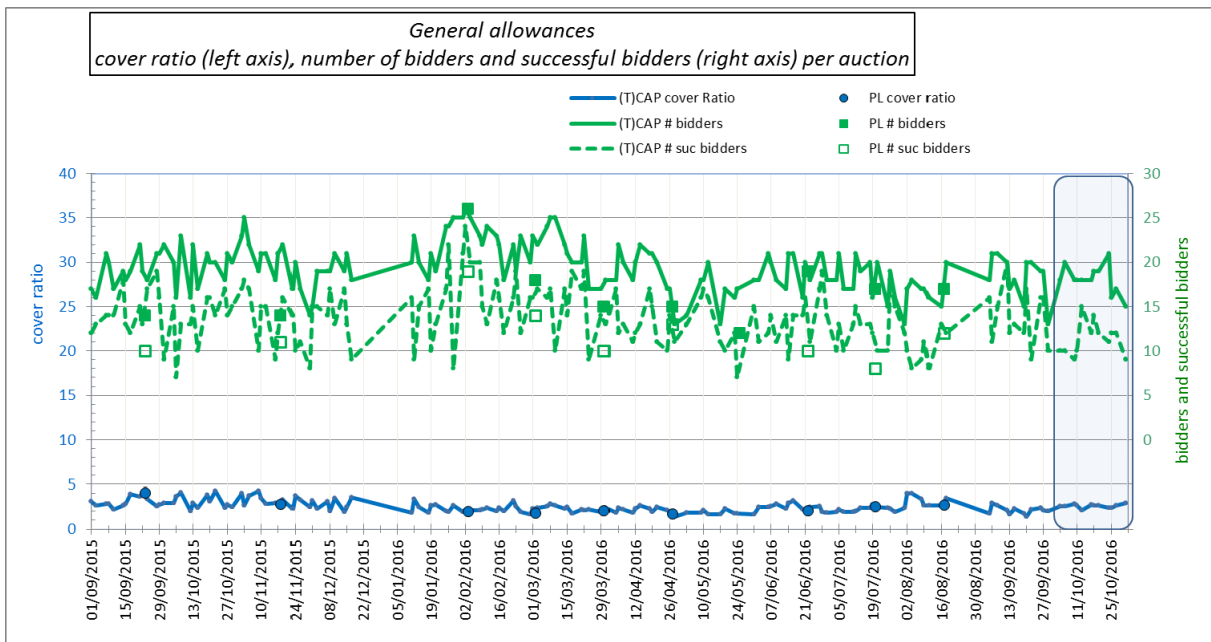
During October 2016, the difference between the Auction Clearing Prices and the mean of the *best-ask* and *best-bid* prices on the EEX *spot secondary market* for *general allowances* at the closure of the auction *bidding window* was on average EUR -0.01, and this difference had a standard deviation of EUR 0.02.

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



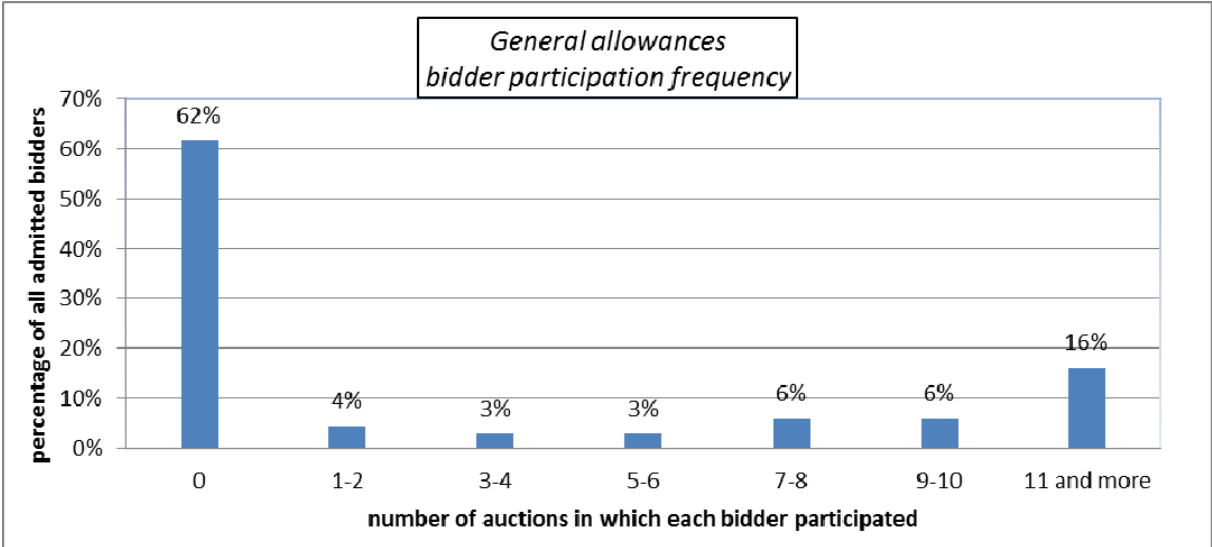
Graph 2: General allowances - cover ratio (left axis), number of bidders and successful bidders (right axis) per auction



There were 68 eligible bidders in October 2016. Out of these, 26 different bidders participated in the auctions in October 2016. Graph 3A indicates the participation frequency in October 2016.

³ Auctions on behalf of Poland were held on the following days: 23/9/2015, 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 October 2016



1.1.2. Bidding behaviour - general allowances

Table 2 provides monthly data on the bids submitted from October 2015 to October 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 |
|----------------|----------------|------------------------------|----------------------|--|---|---|--------------------------|---|-------------------------------|
| 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 |
| November 2015 | 14 | 30 | 130 488 000 | 483 238 | 476 234 | 628 078 | 923 | 3.4 ⁺⁺ | 142 930 |
| October 2015 | 13 | 32 | 116 213 500 | 455 083 | 453 959 | 576 354 | 862 | 3.4 ⁺⁺ | 134 450 |

++: 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.

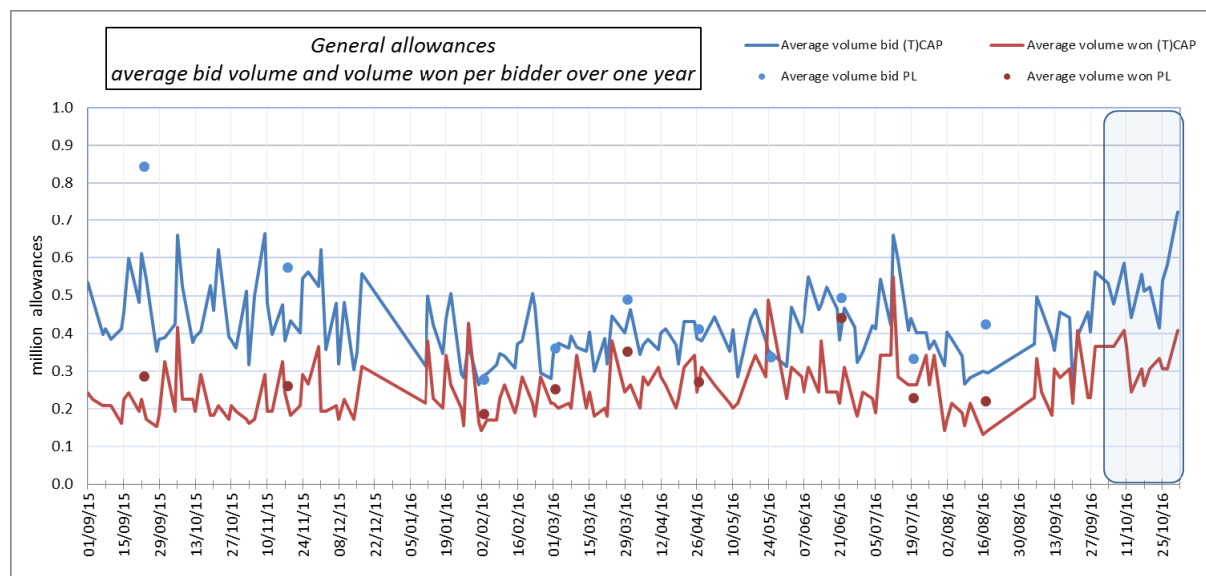
Table 3 provides monthly data on successful bids from October 2015 to October 2016. See also Graph 4.

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 |
|----------------|----------------|---|----------------------|--|--|--|-------------------------------------|
| 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 2016 | 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 |
| November 2015 | 14 | 26 | 40 789 500 | 237 529 | 222 893 | 253 845 | 311 |
| October 2015 | 13 | 26 | 37 934 000 | 232 204 | 218 011 | 244 823 | 302 |

(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: 23/9/2015, 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 October 2016, almost all volume bid was done on own account, with 2.85% 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

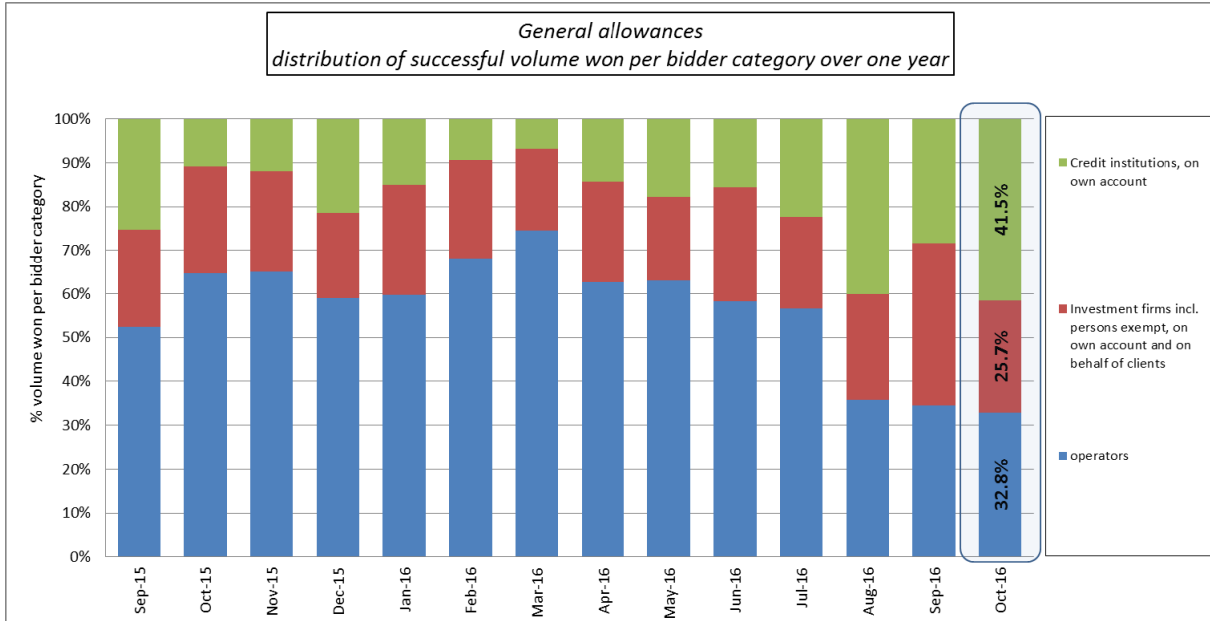


Table 4: General allowances – distribution of volume won per bidder category and their standard deviations

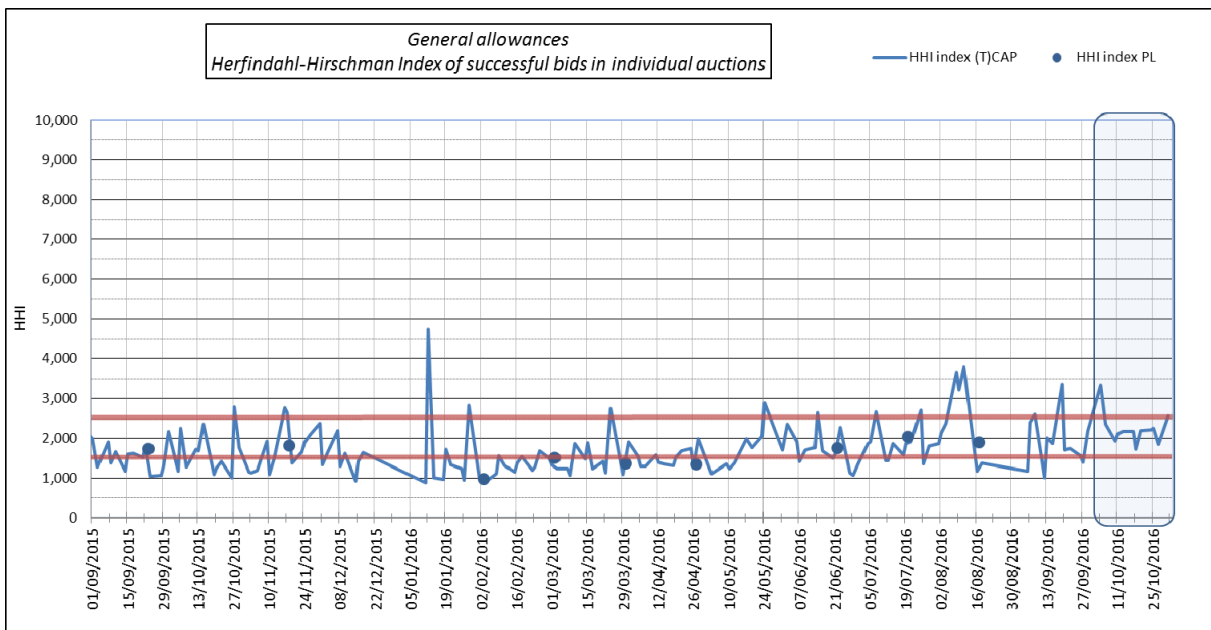
| Month | % volume won coming from bidding on behalf of a client | Bidder category | % volume won | Standard deviation of % of volume won |
|--------------|--|---|--------------|---------------------------------------|
| October 2016 | 7.45% | Operators (including Business groupings) | 32.8% | 9.2 % points |
| | | Investment firms (including persons exempt) | 25.7% | 8.5 % points |
| | | Credit institutions | 41.5% | 5.9 % 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

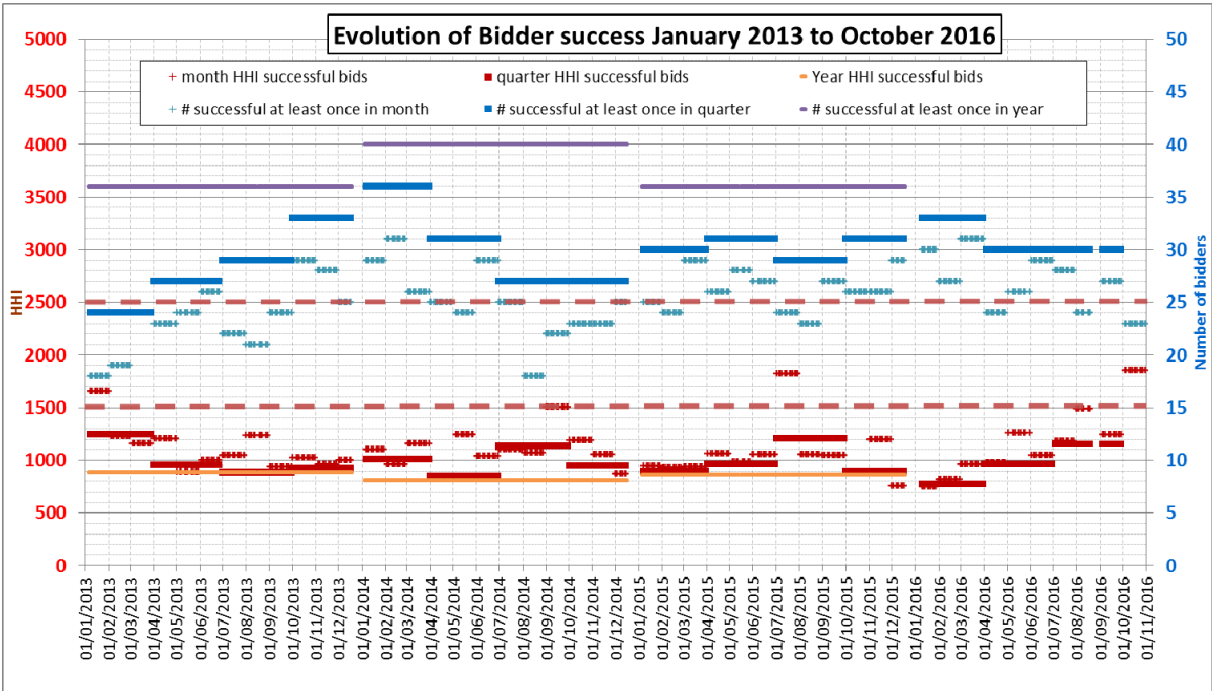
The Herfindahl-Hirschman Index (HHI) of successful bids is used to measure market concentration¹⁴. The HHI ranges from a value of 0 (perfect competition) to 10 000 (a single buyer). A common interpretation of the HHI is that a score below 1 500 is 'not-concentrated', between 1 500 and 2 500 is 'moderately 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 October 2015 to October 2016 is provided in Table 5.

No aviation allowances have been auctioned in October 2016.

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

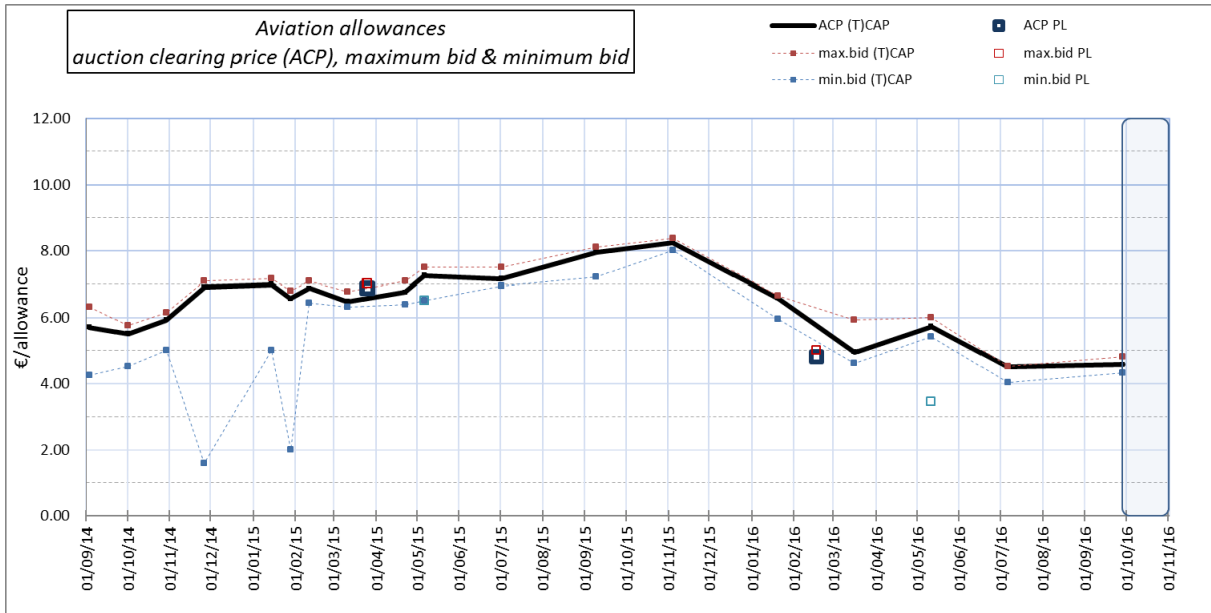
| Month | Total auction volume | Total bid volume | Total revenue (€) | Average Cover ratio ¹⁷ | Average number of bidders | Average number of successful bidders | Average auction clearing price (€) |
|-------------------|----------------------|-------------------|-------------------|-----------------------------------|---------------------------|--------------------------------------|------------------------------------|
| 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 | - | - | - | - | - | - | - |
| November 2015 | 933 000 | 3 754 000 | 7 697 250 | 4.0 | 11.0 | 3.0 | 8.25 |
| October 2015 | - | - | - | - | - | - | - |
| 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.

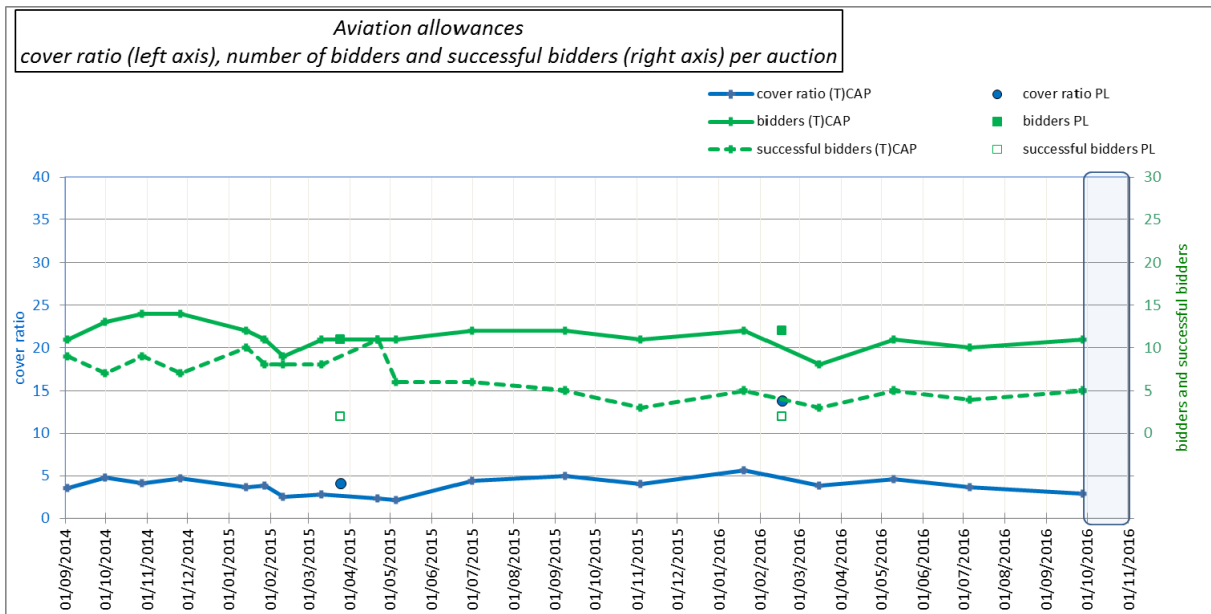
¹⁶ See also the regulatory update published by the Commission on 29 July 2014; http://ec.europa.eu/clima/news/articles/news_2014072901_en.htm.

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 October 2016

No aviation allowances have been auctioned in October 2016.

1.2.2 Bidding behaviour – aviation allowances

Table 6 provides monthly data on the bids submitted from October 2015 to October 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 |
|----------------|----------------|------------------------------|----------------------|---|--|--|--------------------------|--|--------------------------------|
| 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 | - | - | - | - | - | - | - | - | - |
| November 2015 | 1 | 11 | 3 754 000 | 341 273 | 341 273 | 271 392 | 37 | 3.4 ⁺⁺ | 101 459 |
| October 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.

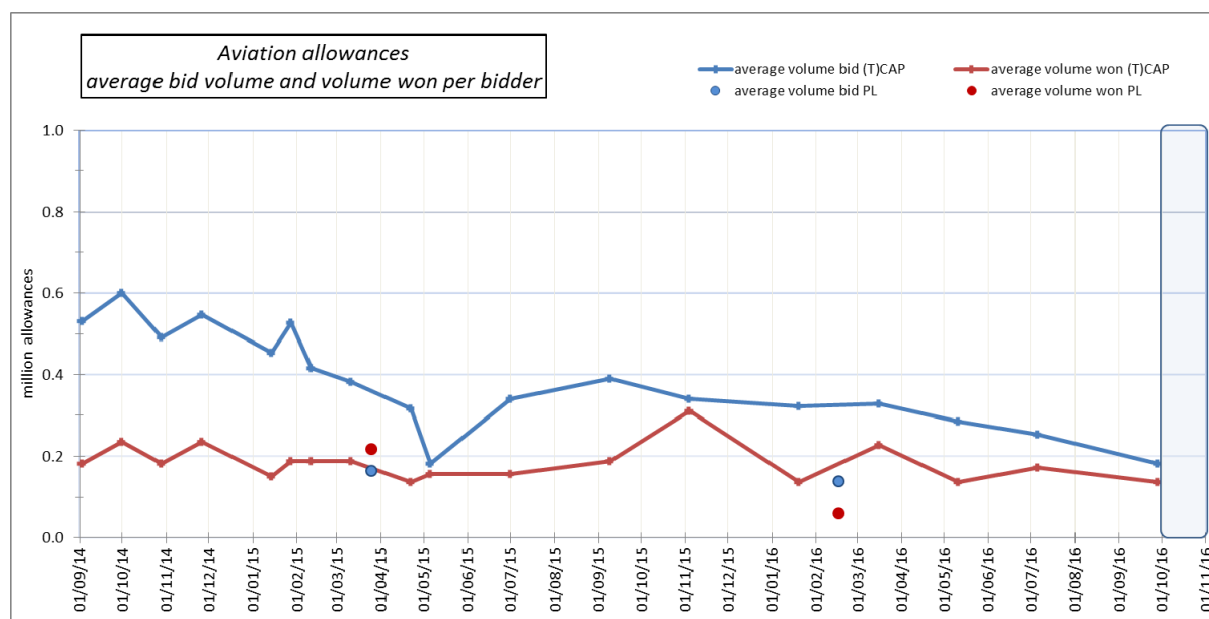
Table 7 provides monthly data on successful bids from October 2015 to October 2016. See also Graph 11.

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 |
|----------------|----------------|---|----------------------|---|--|--|-------------------------------------|
| 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 | - | - | - | - | - | - | - |
| November 2015 | 1 | 3 | 933 000 | 311 000 | 311 000 | 212 228 | 8 |
| October 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.

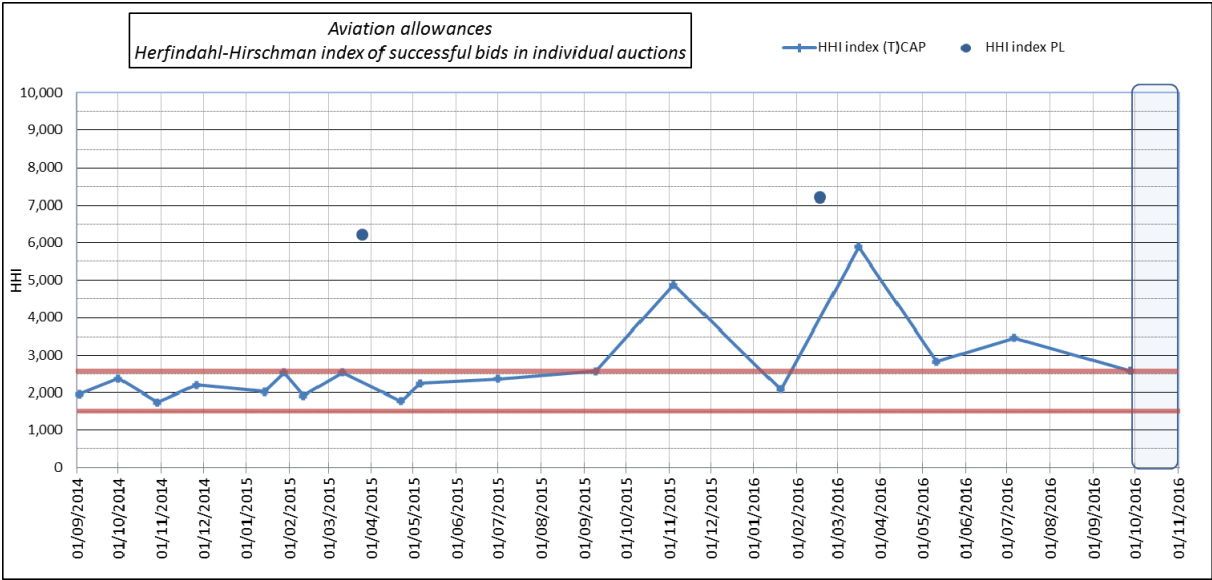
1.2.3 Type of bidders – aviation allowances

No aviation allowances have been auctioned in October 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 October 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 October 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> | | | | | | | 111 |
| Participants eligible to bid in the auctions | 49 | 1 | 9 | 4 | 0 | 5 | 68 |
| (Of which:) Participants eligible to bid in the auctions on behalf of clients | - | - | 1 | 2 | - | 1 | 4 |
| (Of which:) <i>Auction-only access</i> | 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.

Other 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: 30/01/2017

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 <i>common auction platform</i> 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 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 October 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 – September 2016 | October 2016 | 12 November 2012 – September 2016 | October 2016 | 12 November 2012 – October 2016 |
| Austria | 238 693 455 | 6 287 280 | 4 076 100 | - | 249 056 835 |
| Belgium | 428 235 300 | 11 412 780 | 5 361 015 | - | 445 009 095 |
| Bulgaria | 294 786 715 | 9 089 220 | 1 344 675 | - | 305 220 610 |
| Croatia | 101 239 990 | 2 152 710 | 621 600 | - | 104 014 300 |
| Cyprus | 2 359 150 | - | 2 047 585 | - | 4 406 735 |
| Czech Republic | 333 551 330 | 12 437 880 | 1 939 125 | - | 347 928 335 |
| Denmark | 212 010 530 | 5 603 880 | 4 494 100 | - | 222 108 510 |
| Estonia | 64 012 195 | 2 528 580 | 231 775 | - | 66 772 550 |
| Finland | 286 751 860 | 7 551 570 | 3 428 220 | - | 297 731 650 |
| France | 939 549 225 | 24 465 720 | 25 003 725 | - | 989 018 670 |
| Greece | 591 401 695 | 15 513 180 | 7 221 265 | - | 614 136 140 |
| Hungary | 224 081 160 | 6 731 490 | 1 503 255 | - | 232 315 905 |
| Ireland | 157 278 955 | 4 237 080 | 3 504 885 | - | 165 020 920 |
| Italy | 1 654 008 975 | 42 985 860 | 22 942 935 | - | 1 719 937 770 |
| Latvia | 46 007 375 | 1 264 290 | 790 700 | - | 48 062 365 |
| Lithuania | 84 022 855 | 2 221 050 | 410 040 | - | 86 653 945 |
| Luxemburg | 20 480 735 | 580 890 | 908 150 | - | 21 969 775 |
| Malta | 17 263 770 | 478 380 | 800 330 | - | 18 542 480 |
| The Netherlands | 573 878 685 | 15 103 140 | 9 993 715 | - | 598 975 540 |
| Poland | 587 438 565 | - | 3 558 480 | - | 590 997 045 |
| Portugal | 300 732 870 | 7 859 100 | 4 819 585 | - | 313 411 555 |
| Romania | 597 178 500 | 20 502 000 | 2 288 190 | - | 619 968 690 |
| Slovak Republic | 263 850 455 | 6 902 340 | 281 325 | - | 271 034 120 |
| Slovenia | 75 926 970 | 1 981 860 | 210 605 | - | 78 119 435 |
| Spain | 1 482 232 085 | 38 543 760 | 26 593 275 | - | 1 547 369 120 |
| Sweden | 152 710 970 | 3 963 720 | 5 471 775 | - | 162 146 465 |
| TOTAL | 9 729 684 370 | 250 397 760 | 139 846 430 | - | 10 119 928 560 |

Annex 2 Results of individual auctions on behalf of participating Member States and Poland in October 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 - October 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 |
| 04/10/2016 | 5.17 | 3.45 | 5.50 | 5.01 | 5.14 | 3 664 000 | 9 616 000 | 2.6 | 18 | 10 | 18 942 880 | 73 | 17 | 4.1 | 131 726 | 534 222 | 801 655 | 366 400 | 559 500 |
| 06/10/2016 | 5.68 | 3.45 | 5.90 | 5.39 | 5.62 | 3 664 000 | 9 570 500 | 2.6 | 20 | 10 | 20 811 520 | 65 | 16 | 3.3 | 147 238 | 478 525 | 808 910 | 366 400 | 427 545 |
| 10/10/2016 | 5.53 | 3.45 | 5.80 | 5.29 | 5.46 | 3 664 000 | 10 570 500 | 2.9 | 18 | 9 | 20 261 920 | 83 | 16 | 4.6 | 127 355 | 587 250 | 642 351 | 407 111 | 348 635 |
| 11/10/2016 | 5.58 | 3.45 | 5.90 | 5.35 | 5.52 | 3 664 000 | 9 654 500 | 2.6 | 18 | 10 | 20 445 120 | 89 | 23 | 4.9 | 108 478 | 536 361 | 683 572 | 366 400 | 386 035 |
| 13/10/2016 | 5.59 | 3.45 | 5.90 | 5.35 | 5.58 | 3 664 000 | 7 943 500 | 2.2 | 18 | 15 | 20 481 760 | 63 | 26 | 3.5 | 126 087 | 441 306 | 773 090 | 244 267 | 367 125 |
| 17/10/2016 | 5.84 | 3.45 | 6.10 | 5.55 | 5.80 | 3 664 000 | 10 020 500 | 2.7 | 18 | 12 | 21 397 760 | 66 | 20 | 3.7 | 151 826 | 556 694 | 878 788 | 305 333 | 387 209 |
| 18/10/2016 | 5.89 | 3.45 | 6.90 | 5.62 | 5.86 | 3 664 000 | 9 728 500 | 2.7 | 19 | 14 | 21 580 960 | 72 | 24 | 3.8 | 135 118 | 512 026 | 803 993 | 261 714 | 310 676 |
| 20/10/2016 | 5.70 | 3.45 | 6.10 | 5.43 | 5.65 | 3 664 000 | 9 947 500 | 2.7 | 19 | 12 | 20 884 800 | 65 | 20 | 3.4 | 153 038 | 523 553 | 831 440 | 305 333 | 390 206 |
| 24/10/2016 | 5.92 | 3.45 | 6.10 | 5.62 | 5.86 | 3 664 000 | 8 681 000 | 2.4 | 21 | 11 | 21 690 880 | 73 | 20 | 3.5 | 118 918 | 413 381 | 573 933 | 333 091 | 400 249 |
| 25/10/2016 | 5.78 | 3.45 | 6.10 | 5.53 | 5.78 | 3 664 000 | 8 648 000 | 2.4 | 16 | 12 | 21 177 920 | 70 | 36 | 4.4 | 123 543 | 540 500 | 847 604 | 305 333 | 400 121 |
| 27/10/2016 | 5.90 | 3.45 | 6.10 | 5.64 | 5.87 | 3 664 000 | 9 881 000 | 2.7 | 17 | 12 | 21 617 600 | 82 | 26 | 4.8 | 120 500 | 581 235 | 831 806 | 305 333 | 337 541 |
| 31/10/2016 | 5.76 | 3.45 | 6.10 | 5.47 | 5.73 | 3 664 000 | 10 878 500 | 3.0 | 15 | 9 | 21 104 640 | 64 | 16 | 4.3 | 169 977 | 725 233 | 934 152 | 407 111 | 465 539 |
| Monthly Value | - | - | - | - | - | 43 968 000 | 115 140 000 | - | 26 ⁽¹⁾ | 23 ⁽¹⁾ | 250 397 760 | 865 | 260 | 4.0 ⁽²⁾ | 133 110 ⁽³⁾ | 530 599 ⁽⁴⁾ | 788 774 ⁽⁵⁾ | 323 294 ⁽⁶⁾ | 401 178 ⁽⁷⁾ |
| Monthly minimum | 5.17 | 3.45 | 5.50 | - | - | 3 664 000 | 7 943 500 | 2.2 | 15 | 9 | 18 942 880 | 63 | 16 | 3.3 | 108 478 | 413 381 | - | 244 267 | - |
| Monthly average | 5.70 | 3.45 | 6.04 | 5.44 ⁺⁺ | - | 3 664 000 ⁺⁺ | 9 595 000 | 2.6 | 18.1 | 11.3 | 20 866 480 ⁺⁺ | 72 | 22 | 4.0 ⁺⁺ | 134 484 | 535 857 | - | 331 152 | - |
| Monthly maximum | 5.92 | 3.45 | 6.90 | - | - | 3 664 000 | 10 878 500 | 3.0 | 21 | 15 | 21 690 880 | 89 | 36 | 4.9 | 169 977 | 725 233 | - | 407 111 | - |

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 – October 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>

