

Brussels, 26 September 2011

## **Questions & Answers on the benchmark for free allocation to airlines and on the inclusion of aviation in the EU's Emission Trading System (EU ETS)**

### **1. How are the aviation allowances going to be distributed?**

Aviation has been included into the EU ETS by adding an additional amount of aviation allowances to the existing cap for stationary sources. This additional cap for aviation is based on the average emissions from the aviation sector over 2004, 2005 and 2006. In 2012, the aviation emissions cap will be set at 97% of the 2004-06 average aviation emissions and in the period from 2013 to 2020 the cap is reduced to 95%.

In 2012 85% of aviation allowances will be allocated for free to aircraft operators covered by the system. In the period 2013-2020 this percentage of free allocation will reduce to 82%. The free allocation is made on the basis of the airline's share of total amount of passengers and cargo transported in 2010 (measured in terms of tonne kilometres). Airlines that operate more efficiently will benefit relative to less efficient airlines.

15% of allowances will be auctioned each year. Auctioning of aviation allowances will start in 2012. As of 2013, the remaining 3% of allowances will be set aside into a special reserve for new entrants and fast growing airlines.

### **2. How will the special reserve work?**

The 3% of allowances allocated to the special reserve translate into approximately 50 million allowances, representing currently a market value of over €600 million. These will be distributed to qualifying airlines half way through the 2013 to 2020 trading period. The allocation of the special reserve will be based on a tonne kilometre benchmarking exercise carried out during 2014. The special reserve will benefit most those airlines whose operations covered by the EU ETS are growing fastest, such as those from emerging economies.

### **3. How has the benchmark been calculated?**

The benchmark is expressed as the number of aviation allowances allocated per tonne-kilometre of activity. It is calculated by dividing the total number of allowances to be distributed free of charge by the sum of all tonne-kilometres reported by aircraft operators.

The benchmark will be used to determine the number of aviation allowances to be allocated to each individual airline. Separate benchmark values have been calculated for 2012 and for the trading period 2013 to 2020.

Within three months of publication of the benchmark values, Member States will calculate the number of allowances to be allocated to each aircraft operator. This will be done by multiplying the benchmark by the verified tonne-kilometres reported by the operator.

#### **4. What is the value of the free allocation and the expected effect of inclusion of aviation in the EU ETS on the financial situation of airlines?**

At current market prices, the annual amount of free allocation represents a value of almost €2.3 billion. The Commission considers that the financial situation of airlines should be strengthened by free allocations<sup>1</sup>. This is because the aviation industry is expected to be able to pass on, to a large extent, the allowance value to their customers<sup>2</sup>.

#### **5. What use will be made of revenue from auctioning aviation allowances?**

There is a significant number of allowances from the stationary ETS cap that will be auctioned. Electricity generators included in the ETS do not receive any free allocation from 2013 and other sectors do not necessarily receive a full free allocation. Auction revenues from aviation allowances, therefore are estimated to make up only 6% of overall EU ETS auction revenue that Member States have agreed should be used to tackle climate change. Member States have agreed that all auction revenue from aviation allowances should be used to tackle climate change, while at least half of the auction revenue from other sectors should also be used for that purpose. There are legally binding requirements for Member States to report on how revenues are used to tackle climate change, and the Commission intends to monitor how Member States live up to this commitment.

#### **6. Which airlines and routes are affected by the EU ETS?**

The EU ETS covers any aircraft operator, whether EU or foreign-based, that chooses to operate flights on routes to, from, or between EU airports. All airlines will be treated equally so as to avoid distortions of competition.

There are some exemptions, for example very light aircraft are not covered. Similarly, military, police, customs and rescue flights, flights on state and government business, and training or testing flights are also exempted. The smallest commercial aircraft operators with a small number of flights (around 2 flights a day or less on average) or with emissions below 10,000 tonnes per year of CO<sub>2</sub> will also be exempt.

#### **7. How will this affect flights from countries outside the EU?**

Alongside the 30 countries applying the EU ETS in national law, 62 countries have commercial carriers covered by the system because of the levels of their activities to and from EU airports, while 98 countries have no commercial air carriers covered by the EU ETS. Of this total 75 have no commercial airlines operating to Europe and 23 have carriers that operate to Europe but which are exempted based on their low levels of activity in the EU.

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<sup>1</sup> [http://ec.europa.eu/commission\\_2010-2014/kallas/headlines/news/2010/04/doc/information\\_note\\_volcano\\_crisis.pdf](http://ec.europa.eu/commission_2010-2014/kallas/headlines/news/2010/04/doc/information_note_volcano_crisis.pdf), paragraph 34.

<sup>2</sup> [http://ec.europa.eu/clima/documentation/transport/aviation/index\\_en.htm](http://ec.europa.eu/clima/documentation/transport/aviation/index_en.htm)

## **8. What impact will inclusion in the EU ETS have on ticket prices?**

Including aviation in the EU ETS should have a rather limited impact on the price of air tickets.

Airlines will receive the majority of aviation allowances free of charge. In the first year 85% of aviation allowances issued will be distributed for free and 82% in subsequent years. Because of this, the actual cost should be low: at current carbon prices it should be below €2 per passenger each way on a transatlantic or other long-haul flight. This is less than most airport taxes and charges. There will be no net cost increases to airlines as any costs for purchasing the allowances that will not be distributed for free will be passed over to the customers.

As experience has shown in the past, in particular in the power sector, companies have also passed the value of free allowances to their customers. If there would be a full pass through by airlines, the actual cost to passengers could rise to around €12 per passenger each way on a transatlantic or other long-haul flight. Compared to the current ticket price for such a flight, this would still be a very modest increase. In this case, airlines could realise additional revenues of up to more than €20 billion over the decade until 2020. This additional revenue could be used, for instance, to modernise the fleet, improve fuel efficiency and use non-fossil aviation fuels.

## **9. Why does EU not regulate the aviation emissions on an airspace basis?**

In EU ETS, aviation emissions are calculated on the basis of the whole flight between two airports. Calculating accurately the emissions for specific portions of the flight associated with the nationality of airspace through which the plane is flying would create significant administrative and enforcement difficulties. Moreover, an airspace approach has been considered 'impracticable' at an international level in the ICAO guidance on emissions trading.

## **10. How does the expected revenue from auctioning aviation allowances compare to the revenues that third countries will have from the use of credits from projects in developing countries?**

The EU ETS is currently the main source of demand for international credits (e.g. from the Clean Development Mechanism – CDM). By April 2011, the EU ETS companies have surrendered some 300 million credits<sup>3</sup> from international projects, i.e. more than entire number of aviation allowances that will be offered at auction from 2012 to 2020. Around 51% of these originated in China, 20% in India, 16% in South Korea and 7% in Brazil. Up to 2020, the EU ETS allows for the surrender and use of significant additional international credits, in total around five times the entire number of aviation allowances that will be offered at auction from 2012 to 2020.

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<sup>3</sup> <http://europa.eu/rapid/pressReleasesAction.do?reference=IP/11/581&format=HTML&aged=1&language=EN&guiLanguage=fr>

### **11. How will airlines contribute to emissions reduction and where will the revenues from aviation be used?**

The aviation sector is fast growing and emissions from the sector are predicted to grow in the future. Now that aviation is a part of EU ETS, even in the case emissions from the sector continue to grow, the total emissions from all the sectors covered by EU ETS will not exceed the overall cap.

To cover growing emissions, aircraft operators can reduce their emissions themselves or acquire allowances from stationary sources in the secondary market. In such a way they will contribute to verified emissions reductions in those economic sectors where reductions are cheaper. They may also acquire a number of approved international credits that represent verified reductions in third countries. They may also, if they wish, acquire allowances from auctions that Member States will hold. 15% of aviation allowances will be auctioned, with the legislation stating that Member States should spend all the revenues to tackle climate change in the EU and third countries, including on research and development in aeronautics and air transport. Member States are obliged to report to the Commission how revenues are spent. These reports should also be made public so stakeholders will be able to see how revenues have been used in each Member State.

### **12. What will the effect be on aviation emissions?**

The environmental impact of including aviation in the EU ETS will be significant because aviation emissions, which are currently growing rapidly, will be capped at below their average level in 2004-2006. By 2020 it is estimated that a total of 72 million tonnes of CO<sub>2</sub> will be saved per year on the flights covered, a 26% reduction compared with business as usual. This is equivalent, for instance, to twice Austria's annual greenhouse gas emissions from all sources. Some of these reductions are likely to be made by airlines themselves. However, participation in the EU system will also give them other options: buying additional allowances on the market – i.e. paying other participants to reduce their emissions - or investing in emission-saving projects carried out under the Kyoto Protocol's flexible mechanisms. Aviation will need to decouple its growth from its emissions but emissions trading provides flexibility for operators in when and how they do this.

### **13. What is Europe doing to support the development of sustainable biofuels?**

The development of sustainable biofuels is encouraged by the EU ETS because they are considered to be zero emissions for compliance purposes. To the extent biofuels are used by airlines, aircraft operators do not need to surrender any allowances or international credits in respect of the proportion of biofuels used during their flights. This in effect provides an incentive to airlines for the use biofuels and also incentivises fuel producers to invest in the production of sustainable biofuels.

Flights using a proportion of sustainable biofuels have already taken place across the Atlantic, and commercial services within Europe using sustainable biofuels are entering into operation.

#### **14. Have Member States implemented this legislation nationally?**

To ensure the implementation of the Directive, all Member States have to transpose the requirements of this legislation into national law. All 27 Member States have now transposed the Directive. The aviation part of the EU ETS has been extended to the European Economic Area countries, which transposed the European law into their national legislation in the first half of 2011<sup>4</sup>.

#### **15. Is inclusion of aviation into the EU ETS the only action that the EU takes to reduce aviation emissions?**

To tackle aviation emissions the EU is engaged in multiple actions, to have integrated and coherent response. We have adopted a 'comprehensive approach' to reduce environmental impacts of aviation. This approach includes air traffic management measures, such as Single European Sky and SESAR; it also includes promotion of the research and development in cleaner aeronautics, for instance with the Clean Sky Programme and through work to promote the development of sustainable biofuels. Market based instruments, such as inclusion of aviation in the EU ETS also belongs to the comprehensive approach.

#### **16. How big is EU aviation's contribution to climate change?**

Direct CO<sub>2</sub> emissions from aviation account for about 3% of the EU's total greenhouse gas (GHG) emissions. The large majority of these emissions come from international flights, i.e. flights between two Member States or between a Member State and a non-EU country. This figure does not include indirect climate effects, such as those from NO<sub>x</sub> emissions, contrails and cirrus cloud effects. The overall impact is estimated to be higher. The Intergovernmental Panel on Climate Change (IPCC) has estimated that aviation's total impact is about 2 to 4 times higher than the effect of its past CO<sub>2</sub> emissions alone. Recent EU research results indicate that this ratio may be somewhat smaller (around 2 times). None of these estimates take into account the uncertain but potentially very significant effects of cirrus clouds.

EU emissions from international aviation are increasing fast – almost doubling since 1990 – as air travel becomes cheaper without its full environmental costs being addressed. Emissions from aviation are higher than from other major sectors covered by the EU ETS, for example refineries and steel production. In the EU ETS it is forecast that aviation will be the second largest sector in terms of emissions, second only to electricity generation.

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<sup>4</sup> At present, no flights arriving or departing from Liechtenstein are covered by EU ETS

## **17. Aviation is an international business – why not conduct emissions trading at global level?**

The EU is the strongest advocate for global action to reduce climate impacts of aviation. States have not so far been able to agree on a common global system through either the United Nations Framework Convention on Climate Change (UNFCCC) or the International Civil Aviation Organization (ICAO). In the Resolution on climate change adopted at its most recent ICAO Assembly in October 2010, states in ICAO called for further work to explore the feasibility of a global market-based measure. The Resolution also recognized that states may take action prior to 2020 and that market based measures such as ETS are one of the policies that states may choose to implement to limit aviation emissions. The EU ETS provides a good model for applying market-based measures to tackle aviation emissions. Development of other national programmes covering international aviation, compatible with the EU ETS, are a pragmatic way in which global action can be implemented.

## **18. How is EU responding to negative voices against aviation inclusion to EU ETS?**

The EU is committed to tackling climate change in a comprehensive and cost-effective manner, and we have implemented economy wide legislation to reduce emissions. The EU's 2009 law including aviation into the EU ETS is a non-discriminatory measure that applies to airlines which fly to or from EU airports. The EU ETS has been operating since 2005, with many installations included that are owned by companies based in third countries.

The EU has no intention to amend its legislation. The EU ETS legislation contains provisions which allow the EU to take into account measures adopted by third countries in relation to incoming flights to the EU with a view to exempting them from the system. Such measures must apply in a non-discriminatory way for all aircraft operators with flights departing from that State. Such exemptions would follow consultations with these States, and the EU is ready to engage constructively in such consultations so as to reach agreement.

For more than 15 years, the EU has been seeking global agreement through the United Nations to tackle aviation's increasing contribution to greenhouse gas emissions, in particular through the International Civil Aviation Organisation (ICAO). The EU remains committed to reaching global agreement and to supporting work within ICAO. To date, a breakthrough has not been achieved in ICAO and the States represented there have been unable to agree on binding global goals and measures for international aviation. The 2010 Assembly Resolution on climate change made progress in terms of establishing the principle of national action plans on aviation and climate change that should be reported to ICAO. It also recognises that some States are acting on aviation emissions before 2020. The EU Member States are planning to submit action plans, and the EU is committed to a comprehensive range of policy measures to reduce aviation emissions of which the EU ETS is only one element.

## **19. What about the litigation by some US airlines against the EU Directive?**

While a number of airlines support action by the EU to address the climate change impacts from aviation, a challenge to the Directive has been launched by some US airlines. This has been referred to the European Court of Justice, and the European Commission, European Parliament, Council and a number of Member States have submitted observations, in addition to other organisations intervening in the case. The airlines involved are complying with the Directive's requirements in full pending the resolution of this challenge.

During the 5 July court hearing, the Advocate General indicated that her opinion will be delivered on 6 October 2011. The judgment of the European Court of Justice is expected in 2012.

## **20. What are the next steps?**

Airlines have been monitoring their emissions during 2010, and reported these emissions to their administering Member States by 31 March 2011. Many airlines also applied for free allocations of emissions allowances on the basis of their activities in 2010. Based on information submitted by the Member States, the European Commission has now calculated the benchmark that will define how many free allowances aircraft operators will receive.

Within three months from the publication of the benchmark, Member States will calculate and publish the amount of allowances to be allocated to individual airlines.

## **21. Where can I find further information?**

Aviation and climate change:

[http://ec.europa.eu/clima/policies/transport/aviation/index\\_en.htm](http://ec.europa.eu/clima/policies/transport/aviation/index_en.htm)

EU ETS:

[http://ec.europa.eu/clima/policies/ets/index\\_en.htm](http://ec.europa.eu/clima/policies/ets/index_en.htm)

## Annex I: Quantified information on the inclusion of aviation in the EU ETS

The European carbon market produces a daily price signal for allowances for stationary sources and for CDM credits. At this stage, contracts are actively traded for delivery up to 2015.

Monetary figures below have been derived based on the most recent market prices at the time of publication of this Q&A.

**Table 1: Estimated market value of allowances allocated for free**

| Year   | 2012        | 2013        | 2014        | 2015        |
|--|-------------|-------------|-------------|-------------|
| Aviation allowances allocated for free (in million allowances) | 182.6       | 172.5       | 172.5       | 172.5       |
| Value of free allocations to airlines (in million euro)        | <b>2160</b> | <b>2180</b> | <b>2304</b> | <b>2465</b> |

**Table 2: Projected change in aviation emissions**

| Year   | 2012  | 2013  | 2014  | 2015  |
|--|-------|-------|-------|-------|
| Increase in aviation emissions above 2004-6 levels   | +9%   | +11%  | +14%  | +16%  |
| Increase in aviation emissions above total free allocations (in million tonnes CO <sub>2</sub> ) | +60.1 | +75.6 | +81.1 | +86.6 |

**Table 3: Projected sources of emission reduction for the aviation sector (in million tonnes CO<sub>2</sub>)**

| Year   | 2012 | 2013  | 2014  | 2015  |
|--|------|-------|-------|-------|
| Maximum reductions through CDM and other international credits | 36.4 | > 3.7 | > 3.8 | > 3.9 |
| Abatement or allowances purchased from stationary sources      | n.a. | 31.8  | 45.8  | 51.2  |
| Aviation allowances offered at auction                         | 32.2 | 31.6  | 31.6  | 31.6  |

**Table 4: Monetary value of allowances from the different sources of emission reductions for the aviation sector (in million euro)**

| Year   | 2012       | 2013       | 2014        | 2015        |
|--|------------|------------|-------------|-------------|
| CDM and other international credits          | 303        | 34         | 36          | 38          |
| Purchased allowances from stationary sources | n.a.       | 402        | 612         | 731         |
| Auctioning of aviation allowances            | 381        | 399        | 421         | 451         |
| <b>Total</b>                                 | <b>684</b> | <b>835</b> | <b>1069</b> | <b>1221</b> |

**Table 5: Revenues streams from overall EU ETS to tackle climate change (in million euro)**

| Year  | 2012 | 2013 | 2014 | 2015 |
|---|------|------|------|------|
| Market value of CDM or international credits generated by total EU ETS demand | 1441 | 1291 | 1332 | 1371 |
| Estimate of total auction revenues from EU ETS used to take climate change    | 900  | 6842 | 7113 | 7484 |

Notes:

Market prices are based on the forward curve for allowances and credits.

| Year                      | 2012  | 2013  | 2014  | 2015  |
|---------------------------|-------|-------|-------|-------|
| allowance price (in euro) | 11.83 | 12.64 | 13.36 | 14.29 |
| CER price (in euro)       | 8.33  | 9.20  | 9.49  | 9.76  |

Source: ICE website, 23 September 2011, all prices for contracts delivered in December

The projected change in aviation emissions is based on the PRIMES model.

The estimates for the use of CDM or international credits are based on the equal annual consumption of 1400 million credits in the period 2011 to 2020, taking into account the amount of international credits surrendered up to 2010.

The estimate of EU ETS revenues that Member States have agreed that they should use to take climate change is based on Member States' legal commitments that they should use 100% of aviation auction revenues to tackle climate change, and at least 50% of other EU ETS auction revenues including all those resulting from the EU's internal redistribution of auction rights.

## Annex II: List of 98 States with no commercial carriers covered by the EU ETS

|                                       |                                  |                                    |
|---------------------------------------|----------------------------------|------------------------------------|
| <i>Afghanistan</i>                    | Gabon                            | Palau                              |
| Andorra                               | Gambia                           | Panama                             |
| Antigua and Barbuda                   | Ghana                            | Papua New Guinea                   |
| Bahamas                               | Grenada                          | Paraguay                           |
| Barbados                              | Guatemala                        | Peru                               |
| <i>Bangladesh</i>                     | Guinea-Bissau                    | <i>Philippines</i>                 |
| Belize                                | Guinea                           | Rwanda                             |
| Benin                                 | Guyana                           | Saint Kitts and Nevis              |
| Bhutan                                | Haiti                            | Saint Lucia                        |
| <i>Bolivia</i>                        | Honduras                         | Saint Vincent and the Grenadines   |
| Botswana                              | Iraq                             | Samoa                              |
| Burkina Faso                          | <i>Jamaica</i>                   | San Marino                         |
| Burundi                               | Kiribati                         | Sao Tome and Principe              |
| Cambodia                              | Kyrgyzstan                       | <i>Senegal</i>                     |
| Cameroon                              | Lao People's Democratic Republic | Sierra Leone                       |
| Central African Republic              | Lesotho                          | Solomon Islands                    |
| Chad                                  | Liberia                          | Somalia                            |
| <i>Chile</i>                          | Madagascar                       | Swaziland                          |
| Comoros                               | Malawi                           | <i>Sudan</i>                       |
| <i>Congo</i>                          | Maldives                         | <i>Suriname</i>                    |
| Cook Islands                          | <i>Mali</i>                      | <i>Tajikistan</i>                  |
| Costa Rica                            | Marshall Islands                 | Timor-Leste                        |
| <i>Cuba</i>                           | Mauritania                       | <i>Togo</i>                        |
| <i>Côte d'Ivoire</i>                  | Micronesia (Federated States of) | Tonga                              |
| Democratic People's Republic of Korea | Monaco                           | <i>Trinidad and Tobago</i>         |
| Democratic Republic of the Congo      | <i>Mongolia</i>                  | Uganda                             |
| Djibouti                              | <i>Mozambique</i>                | <i>United Republic of Tanzania</i> |
| Dominican Republic                    | Myanmar                          | Uruguay                            |
| Ecuador                               | <i>Namibia</i>                   | Vanuatu                            |
| El Salvador                           | Nauru                            | <i>Yemen</i>                       |
| Equatorial Guinea                     | Nepal                            | <i>Zimbabwe</i>                    |
| <i>Eritrea</i>                        | Nicaragua                        | Zambia                             |
| Fiji                                  | Niger                            |                                    |

75 States have no commercial operator with flights to the EU and 23 States have commercial aircraft operators which fall under the de minimis provisions in the EU ETS and are thus exempt from EU ETS (in italics).

Source: Eurocontrol, September 2011