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# CO<sub>2</sub> emissions from aviation

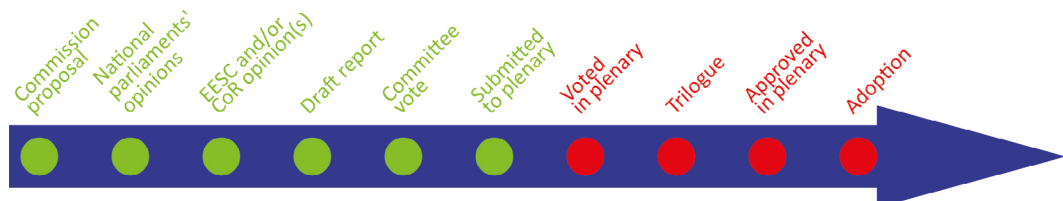
CO<sub>2</sub> emissions from all flights to and from airports in the European Economic Area (EEA) have been included in the EU Emissions Trading System (ETS) since 2012. Although this would include flights between an airport within the EEA and an airport outside it, the application of the ETS to such flights was temporarily suspended, until the end of 2016, to allow for the development of emission-reduction measures with a global scope by the International Civil Aviation Organization (ICAO), and to avoid conflicts with international trading partners. In October 2016, ICAO adopted a global market-based measure (GMBM), which would become operational in 2021. In February 2017, the European Commission proposed a regulation to prolong the derogation for extra-EEA flights, gradually reduce the number of aviation allowances from 2021 onwards, and prepare for the implementation of the GMBM. In July 2017, the European Parliament Committee on Environment, Public Health and Food Safety adopted a report amending the proposal.

### Proposal for a regulation of the European Parliament and of the Council amending Directive 2003/87/EC to continue current limitations of scope for aviation activities and to prepare to implement a global market-based measure from 2021

COM(2017) 54, 3.2.2017, 2017/0017(COD), Ordinary legislative procedure (COD) (Parliament and Council on equal footing – formerly 'co-decision')

Committee responsible:	Environment, Public Health and Food Safety (ENVI)
Rapporteur:	Julie Girling (ECR, United Kingdom)
Shadow rapporteurs:	Peter Liese (EPP, Germany) Seb Dance (S&D, United Kingdom) Gerben-Jan Gerbrandy (ALDE, The Netherlands) Merja Kyllönen (GUE/NGL, Finland) Bas Eickhout (Greens/EFA, The Netherlands) Mireille d'Ornano (ENF, France)
Next steps expected:	Vote in plenary and then trilogue negotiations

11 September 2017  
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The 'EU Legislation in Progress' briefings are updated at key stages throughout the legislative procedure. Please note this document has been designed for on-line viewing.



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## Introduction

In 2008, the EU decided to include CO<sub>2</sub> emissions from aviation in the EU Emissions Trading System (ETS) starting from the third phase (2012–2020) of the ETS. Since 2012, aircraft operators have had to report their CO<sub>2</sub> emissions and surrender allowances for the emissions from all flights departing from or arriving at an airport in the European Economic Area<sup>1</sup> (EEA), including for parts of flights that are outside EEA territory.

However, the application of the ETS to flights that depart from or arrive at an airport outside the EEA ('extra-EEA flights') had been suspended until the end of 2016, to allow for the development of comparable measures with global scope by the International Civil Aviation Organization<sup>2</sup> (ICAO), and to avoid conflicts with international trading partners. In October 2016, ICAO adopted a global market-based measure (GMBM), which would become operational in 2021. In February 2017, the European Commission proposed a regulation to prolong the derogation for extra-EEA flights, gradually reduce the number of aviation allowances from 2021 onwards, and prepare for implementation of the GMBM.

## Context

### Greenhouse gas emissions from aviation

Aviation accounts for approximately 2.1 % of global CO<sub>2</sub> emissions – roughly equivalent to Germany's total emissions. International flights account for around 1.3 % of emissions. With the anticipated growth in air traffic, emissions in 2050 are expected to be seven to ten times higher than 1990 levels, according to ICAO projections.<sup>3</sup> In the EU, direct CO<sub>2</sub> emissions from aviation account for about 3 % of total emissions. At the same time, the sector supports around 5 million jobs and contributes €110 billion per year to EU GDP.

The EU was the world's first region to address CO<sub>2</sub> emissions from international aviation, by including aviation in the EU ETS, with effect from 1 January 2012. However, the United States and other nations opposed the inclusion of extra-EEA flights in the EU ETS, as they regarded it as a violation of their sovereignty.<sup>4</sup>

The [Paris Agreement](#) on climate change, adopted in 2015 under the United Nations Framework Convention on Climate Change (UNFCCC), does not make explicit reference to international aviation, despite the fact that its target of limiting global warming to well below 2 degrees Celsius or even 1.5 degrees will become

- 1 The European Economic Area (EEA) consists of the 28 EU Member States, Iceland, Liechtenstein and Norway.
- 2 ICAO is a specialised UN agency, established in 1944 to manage the administration and governance of the Chicago Convention on International Civil Aviation. ICAO works with the member states to the convention and the relevant stakeholders to develop standards and recommend practices and policies to ensure that international civil aviation is safe, efficient, secure, economically sustainable and environmentally responsible.
- 3 Besides CO<sub>2</sub>, aviation is responsible for other greenhouse gases (such as water vapour, aerosols and nitrogen oxides) that contribute to global warming. A 1999 special report on aviation, prepared by the International Panel on Climate Change (IPCC), estimated the impact of aviation on the climate to be two to four times higher than that of CO<sub>2</sub> emissions alone. However, the contribution of non-CO<sub>2</sub> emissions on warming can vary depending on the conditions (such as flight altitude, time of day or year) under which they are emitted, and understanding the mechanisms through which their impact is accomplished would require further research.
- 4 In January 2012, The United States Congress adopted a law [prohibiting US airlines](#) from participating in the EU ETS. China reportedly threatened to cancel orders for aircraft it had placed with EU-based Airbus Group.



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harder to achieve if CO<sub>2</sub> emissions from aviation keep growing at the projected rates.<sup>5</sup> The UNFCCC and ICAO cooperate to address the climate impacts of international aviation.

## Development of a global market-based measure by ICAO

In October 2013, the [38th ICAO Assembly](#) decided that, together with its member states and the relevant stakeholders' organisations, it would start developing a global market-based mechanism to address international aviation emissions, with the objective of delivering carbon-neutral growth from 2020.

In October 2016, the 39th ICAO Assembly reached an [agreement](#) to tackle international aviation emissions by establishing a global market-based measure in the form of the Carbon Offsetting and Reduction Scheme for International Aviation ([CORSIA](#)), in order to monitor, report and offset any annual CO<sub>2</sub> emissions from international civil aviation that are above 2020 levels. It will only apply to international flights, not domestic ones. Participation will be voluntary during the pilot and first phase (2021-2026), and will become mandatory for all states in the second phase, as of 2027. Exemptions would apply to flights from and to small-island developing states, least developed countries, landlocked developing countries, and countries with low levels of aviation activity. Since 12 October 2016, 66 states, including all EU Member States, have expressed their intention to participate voluntarily in the scheme from the start. These states account for more than 86 % of global aviation activity.

Contrary to the ETS, which is a 'cap and trade' scheme that sets an upper limit for the total amount of emissions, CORSIA is an 'offsetting scheme', implying that emissions can grow, but must be compensated by offsets. To compensate for CO<sub>2</sub> emissions above 2020 levels in international aviation and achieve carbon-neutral growth over time, emitters (that is, airlines) would buy 'emissions units' arising from different sources of emission reductions achieved through mechanisms (such as the UNFCCC's Clean Development Mechanism), programmes (such as REDD+ for forest management), or projects.<sup>6</sup>

In 2018, ICAO and participating states are expected to adopt the implementing tools and measures that are needed to start collecting emissions data in 2019 and to make the offsetting scheme operational in 2021. The ICAO agreement requires a regular review of the scheme.

In addition, the 39th ICAO Assembly agreed on CO<sub>2</sub> standards for aircraft, which are dependent on the aircraft's weight and on whether it is a 'new type' of aircraft or one already 'in production'.

The EU has strongly [supported](#) the adoption of the ICAO global scheme, highlighting the need for international aviation to contribute to achieving the goals of the Paris Agreement on climate change. Emissions from aviation are also addressed in the Commission's 2015 [aviation strategy for Europe](#) and in its 2016 [European strategy for low-emission mobility](#). A delegation of four Members of the European

5 Emissions from international aviation are calculated as part of the national greenhouse gas inventories of the UNFCCC parties, but are excluded from national totals and reported separately. They are not subject to the limitation and reduction commitments under the UNFCCC and are generally not included in the nationally determined contributions (NDC) to the Paris Agreement. However, emissions from domestic flights are part of the national totals, reduction commitments and NDCs.

6 For a more detailed analysis of the provisions of CORSIA and its expected impacts on the aviation industry, see the reports by [ReedSmith](#), a law firm, and [Verifavia](#), a provider of environmental verification, certification and auditing services, and a comparison between CORSIA and the EU ETS for Aviation by [CE Delft](#).

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Parliament, led by Julie Girling (ECR, UK), attended the 39th session of the ICAO Assembly in Montreal to observe the negotiations as part of the EU delegation, and to meet with high-level ICAO representatives, ICAO members and observers, and stakeholders.

## Existing situation

The [ETS Directive](#) (2003/87/EC) was amended by [Directive 2008/101/EC](#), to include aviation activities in the EU ETS. Since 2012, emissions from all flights within, from and to the EEA have been included in the ETS, regardless of whether the aircraft operator is based inside or outside the EEA. Aircraft operators must monitor, report and verify their emissions, and surrender emission allowances corresponding to these emissions.<sup>7</sup> Starting in 2013, the total number of allowances (the cap) has been set at 95 % of historic emissions in the years 2004-2006. Aircraft operators receive free allowances calculated on the basis of their activity in 2010. Free allocation accounts for 82 % of emission allowances and auctioning for 15 %. The remaining 3 % go to a special reserve for later distribution to new entrants and fast-growing airlines.

In December 2011, the Court of Justice of the EU ruled that the inclusion of extra-EEA flights in the EU ETS does not violate international law ([Case C-366/10](#)).

However, the application of the EU ETS to extra-EEA flights was suspended by 'stop-the-clock' [Decision No 377/2013/EU](#) for emissions occurring in 2012, and by [Regulation \(EU\) No 421/2014](#) for emissions occurring in 2013-2016, in order to give ICAO time to develop and agree a global market-based measure. Flights between airports inside the EEA remain covered by the ETS.

## European Parliament's starting position

The Parliament called for global environmental solutions, such as a global market-based measure, in its [resolution](#) of 11 November 2015 on aviation.

Parliament's [resolution](#) of 6 October 2016 on the implementation of the Paris Agreement, adopted ahead of the 2016 UN Climate Change Conference (COP22), expressed regret that international aviation and shipping are not mentioned in the Paris Agreement, and insisted on the adoption of policies aimed at lowering emissions from the transport sector. Regarding the aviation sector, it called on UNFCCC parties to work through ICAO to develop a global policy framework and to set adequate emission reduction targets before the end of 2016. It asked the ICAO Assembly to adopt a fair and robust GMBM to be implemented at the international level from 2020 onwards, but expressed deep disappointment with the proposal discussed at ICAO and recalled that 'any amendment of the existing legislation on including aviation in the EU ETS can only be considered if the GMBM is ambitious, and that, in any case, intra-European flights will continue to be covered by the EU ETS'.

<sup>7</sup> Airlines can use any EU emission allowances for compliance purposes, but fixed installations, such as power plants and industry, cannot use aviation allowances.



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Parliament's [first-reading position](#) on ETS reform of 15 February 2017 calls for tackling aviation emissions by gradually decreasing the allocation of allowances to the aviation sector, starting in 2021, with 10 % fewer allowances than the 2014-2016 average. A greater proportion of the aviation allowances should be auctioned, and auctioning revenue should be spent on climate action in the EU and in third countries. The global market-based measure agreed by ICAO would be taken into account.

Parliament's [resolution](#) of 16 February 2017 on an 'Aviation strategy for Europe' welcomes the ICAO agreement and the commitment of 65 countries to participate voluntarily in the pilot and first phase. It also notes the role of better air traffic management, more efficient aircraft and alternative fuels in reducing emissions.



## Proposal

### Preparation of the proposal

An online [public consultation](#) on market-based measures was held from March to May 2016. While most stakeholders agreed on the need for ambitious targets and the appropriateness of market-based mechanisms for reducing emissions, there were different opinions about the desirable level of ambition and the specific mechanisms. Some stakeholders considered that the ETS should be restricted to intra-EEA flights after 2017, others thought that it should revert back to its original scope (that is, including extra-EEA flights). Many respondents noted that the post-2020 approach should depend on the ambition level, scope, nature and environmental integrity of the agreement reached at the 39th ICAO Assembly.

The Commission's [impact assessment](#) accompanying the proposal considered various options for the scope of the ETS in the 2017-2020 period (intra-EEA flights only, flights departing from EEA airports, and all flights arriving at and departing from EEA airports) and post-2020 (to apply the ETS to intra-EEA flights only; to align the ETS as it applies to intra-EEA flights with the GMBM, and to apply the GMBM to intra-EEA flights). The preferred option is to continue restricting the ETS to intra-EEA flights until there is enough clarity about the implementation of the GMBM.

The regulatory scrutiny board issued a positive opinion of the impact assessment, and made some recommendations that were addressed in the final version. An [initial appraisal](#) of the Commission's impact assessment, prepared by EPRS, is generally positive, but questions the selection of policy options regarding the 2017-2020 period and notes certain omissions.

### The changes the proposal would bring

The [proposal](#) would prolong the derogation for flights departing from or arriving at airports outside the EEA. There is no fixed date for when the derogation would end, but the proposed regulation is subject to review, depending on progress with the GMBM.

Flights within the EEA would remain subject to the ETS. Until 2020, the cap and the free allocation to aviation operators would remain the same as today. From 2021, the same linear reduction factor for the cap would apply as to all sectors under the EU ETS Directive.<sup>8</sup>

The Commission should report on progress with the GMBM, consider ways to implement it in EU law through revision of the ETS Directive and possibly through new legislative proposals. The Commission would be empowered to adopt delegated acts to provide for the monitoring, reporting and verification of emissions for the purpose of implementing the GMBM.

<sup>8</sup> In its [proposal](#) for a post-2020 reform of the ETS Directive, the Commission proposed a linear reduction factor of 2.2 %.



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In order to reduce the administrative effort, Annex I of the proposed regulation would extend the current exemption for non-commercial aircraft operators emitting less than 1 000 tonnes of CO<sub>2</sub> per year, from 2020 to 2030. Although this provision applies to 2 200 aircraft operators, they are responsible for only 0.2 % of the emissions from aviation.

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## Views

### Advisory committees

The European Economic and Social Committee (EESC) adopted its [opinion](#) (rapporteur: Thomas Kropp, Group I – Employers, Germany) on 31 May 2017. It supports the approach proposed by the Commission, which it sees as enabling EU-led support and implementation of the GMBM, by maintaining the leverage which the Commission has built up with the EU ETS while avoiding the risk of international trade disputes.

### National parliaments

The [national parliaments](#) of 11 Member States scrutinised the proposal by the subsidiarity deadline of 3 April 2017, and none submitted reasoned opinions on grounds of subsidiarity.

### Stakeholders' views<sup>9</sup>

The International Air Transport Association ([IATA](#)) welcomes the ICAO agreement, although it would have preferred a more ambitious timeline, and urges governments to commit to their voluntary participation as soon as possible.

The Airlines for Europe ([A4E](#)) association welcomes the proposal to continue the application of the EU ETS only to flights within the EEA and calls for swift adoption of the legislation. It expects the GMBM to be the only measure applicable to emissions from flights within the EEA from 2021. The International Air Carrier Association ([IACA](#)) shares the expectation of a smooth transition from the current EU ETS to the GMBM agreed by ICAO. The European Regions Airline Association ([ERA](#)) calls for the suspension of the EU ETS ahead of the implementation of the GMBM, arguing that the ETS restricted to intra-EEU flights has only limited environmental effectiveness, yet causes considerable administrative burden.

The NGO Transport & Environment ([T&E](#)) welcomes the proposal of a declining emissions cap after 2020, but argues that the agreed GMBM falls short of the required ambition and calls for a comprehensive plan to cut subsidies and tax breaks for the aviation sector.

<sup>9</sup> This section aims to provide a flavour of the debate and is not intended to be an exhaustive account of all different views on the proposal. Additional information can be found in related publications listed under 'EP supporting analysis'.





## Legislative process

The Commission's explanatory memorandum highlights that the proposal should be swiftly agreed between Parliament and the Council of the EU (ideally, by the end of 2017), in order to provide legal certainty for compliance. Otherwise, airlines would have to report their 2017 emissions from extra-EEA flights and surrender emission allowances in March and April 2018.

In the European Parliament, the proposal was referred to the Committee on Environment, Public Health and Food Safety (ENVI), which adopted its [report](#) (rapporteur: Julie Girling, ECR, United Kingdom) on 11 July 2017. It would limit the derogation for extra-EEA flights until the end of 2020. By January 2019, the Commission would have to report on the relevant developments in implementing the GMBM agreed by ICAO. By 1 March 2020, the Commission would be required to report on the adequacy, ambition and environmental integrity of the GMBM and present legislative proposals to amend, delete, extend or replace the derogations, consistent with the EU climate targets. The derogations should not be extended for any country that does not participate in the GMBM.

The number of allowances to be allocated to aircraft operators in 2021 would be set at a level 10 % below the average allocation for the years 2014 to 2016, and decreased annually at the same rate as the total cap for the EU ETS. The allowances for extra-EEA flights could be adjusted taking into account the GMBM. Half of the allowances would be auctioned from 2021. The remaining free allocations should be used, if needed, to avoid the application of the cross-sectoral correction factor in the EU ETS between 2021 and 2030 (for background, see the EPRS briefing [Post-2020 reform of the EU Emissions Trading System](#)). The auctioning revenues would have to be spent on climate action in the EU and third countries, and might be used for contributions to the Global Energy Efficiency and Renewable Energy Fund.

The Committee report is expected to be put to a vote during the September plenary session in Strasbourg, enabling the start of negotiations with the Council.

On 21 June 2017, the Council of the EU [agreed](#) its negotiating position, which supports the main elements of the Commission proposal, and amends it, in particular to clarify the review process.



## References

### EP supporting analysis

[The International Civil Aviation Organization](#), EPRS, October 2016.

[ICAO Agreement on CO<sub>2</sub> emissions from aviation](#), EPRS, October 2016.

[Decision-making processes of ICAO and IMO in respect of environmental regulations](#), Study for the ENVI Committee, European Parliament, September 2016.

[Emission reduction targets for international aviation and shipping](#), Study for the ENVI Committee, European Parliament, November 2015.

[Main options for a GMBM at ICAO during its High-level Meeting in May 2016](#), Briefing, European Parliament, DG IPOL, April 2016.

### Other sources

[EU Emissions Trading System \(EU ETS\): continuing current limitations of scope for aviation activities and preparing to implement a global market-based measure from 2021](#), European Parliament, Legislative Observatory (OEL).

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