

For our Environment

As of 29. Juni 2023

Aviation in the EU ETS and CORSIA in the 'Fit for 55' package

The EU agreement of June 2023

The European Commission, the European Parliament and the Council agreed on a series of legislative proposals as part of the 'Fit for 55' package, which are intended to align energy and climate policy instruments with the new climate target of reducing emissions by at least 55% compared to 1990 levels by 2030.¹ This factsheet presents key aspects of the agreement on aviation in the framework of the European Emissions Trading Scheme (EU ETS) under Directive 2003/87/EC² and the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) of the International Civil Aviation Organisation (ICAO) in a condensed form. It further outlines interaction with other 'Fit for 55' elements for the use of sustainable fuels in aviation, the Energy Tax Directive and the Renewable Energy Directive. Further factsheets provide information on the cap and market stability reserve, maritime transport, the border adjustment mechanism and the creation of a new emissions trading system for buildings and road transport.

The most important elements at a glance

- ▶ EU ETS and CORSIA rules apply depending on the route: as a general rule the EU ETS is applied for intra-European flights, and the CORSIA rules apply for flights to and from third countries.
- ▶ **EU emissions trading** covers flights in and between countries in the European Economic Area (EEA) and to the UK and Switzerland. Flights to and from outermost EU regions will be added from 2024. The cap will decrease by 4.3% annually from 2024 and by 4.4% annually from 2028 onwards i.e. the same linear reduction factors as for the stationary sector. Free allocation is to be phased out by 2026 and replaced by auctioning all emission allowances earmarked for aviation (except of 20 million SAF allowances until 2030). A monitoring and reporting requirement for non-CO₂ effects applies from 2025 onwards; the Commission shall report on how to mitigate non-CO₂ effects, e.g. by fully including them into the EU ETS, by 2027.
- ▶ Under **CORSIA**, aircraft operators are subject to reporting and cancellation obligations in their home countries. The reporting obligation has applied since 2019. From 2021, aircraft operators should have cancelled offsets for a part of their emissions on routes between countries participating in the CORSIA cancellation obligation to offset emissions growth in the sector. For EEA aircraft operators, the list of permissible offsets differs from that of ICAO for various reasons, e.g. to use more advanced measures to avoid double counting of emission reductions. From 2027, participation in CORSIA will be mandatory for almost all countries except certain developing countries. Emissions trading rules will apply from 2027 for routes to and from countries not covered by CORSIA and not exempted from CORSIA as developing countries.
- ▶ **ReFuelEU Aviation,** the **Energy Taxation Directive** and the **Renewable Energy Directive** provide important stimuli for the use of sustainable fuels. A minimum quota for sustainable

¹ https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021DC0550

² https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32023L0959

fuels and minimum taxes for fossil fuels should help create a secure sales market that contributes to the reduction of greenhouse gases in the aviation sector itself.

1 Key elements of the revised aviation EU ETS and CORSIA in the 'Fit for 55' package

The 'Fit for 55' package extends the coverage of carbon pricing of aviation to flights from and to countries outside the European Economic Area: EU emissions trading in aviation will be supplemented with rules in accordance with CORSIA. Furthermore, the non-CO₂ effects of aviation shall be monitored and reported, and the EU Commission shall propose how to mitigate them. In addition, a number of other measures also have an impact on emissions in aviation (see Section 2).

1.1 Scope of the EU ETS and CORSIA

The revised EU ETS Directive foresees that CO_2 emissions from flights are subject to different rules depending on the routes. The temporary limitation of EU emissions trading to routes within and between EEA countries will be phased out by the end of 2026 (Article 28a(1)). In simplified terms, from 2027 onwards all flights by EEA operators are covered either by CORSIA or the EU ETS. Only domestic flights in non-EEA countries and flights to and from certain developing countries are exempted. From a European perspective, this is intended to fulfil several objectives at the same time:

- ▶ The Paris Agreement stipulates that no country may enter into a less far-reaching commitment than in the preceding period ("no backsliding"). The EU ETS for aviation has a higher surrender obligation than the cancellation obligation under CORSIA, therefore the EU emissions trading rules continue to apply to international flights within the EEA. CORSIA cancellation obligations apply to international flights to and from third countries participating in CORSIA, those flights are exempt from EU emissions trading.
- ▶ EEA aircraft operators and third country operators shall be treated equally on the same routes: EU ETS surrender obligations apply to routes in and between EEA countries, CORSIA cancellation obligations apply to routes to and from participating third countries. However, non-EEA aircraft operators may be subject to further CORSIA reporting and cancellation obligations in their home country for international intra-European flights.
- ► There is no double regulation for operators on routes to and from third countries. Aircraft operators are subject to reporting and cancellation obligations in their home country.

Routes subject to EU emissions trading rules

Flights within EEA countries and to the UK and Switzerland are covered by EU emissions trading. Flights from the UK and Switzerland to EEA countries are covered by their national emissions trading systems in accordance with the agreements with these countries.

From 2024 onwards, additional flights to and from outermost regions will be covered by the EU ETS unless they connect to the respective mainland (the Member State to whose territory they belong).³ This will increase covered emissions by around 8%, and the EU ETS will then cover

³ Outermost regions are: Canary Islands (Spain), French Guyana, Guadalupe, Martinique, Mayotte, Réunion and Saint-Martin (France) and Azores and Madeira (Portugal) (Article 349 of the Treaty on the Functioning of the European Union (TFEU)). The derogation also covers flights between aerodromes that are both located in the same outermost region or in different outermost regions in the same Member State.

almost a third of total aviation emissions.⁴ This is due in particular to flights to the Canary Islands, Madeira and the Azores. The exemption for connections to the respective mainland will apply until 2030.

In the special case of non-EEA-based aircraft operators operating international routes within the EEA, a CORSIA cancellation obligation from their home country may additionally apply.

Table 1: Overview of the scope of the EU ETS and CORSIA by route

| Period/routes | 2021-2023 | 2024-2026 | From 2027 | | |
|---|---|--|--------------------------|--|--|
| Flights within and between EEA countries and to UK and Switzerland | All operators: EU ETS Non-EEA-based operators: additional CORSIA on international routes if applicable | | | | |
| Flights from EEA countries to/from outermost regions (without mainland connections) | Exempt | All operators: EU ETS Non-EEA-based operators: additional CORSIA if applicable | | | |
| Flights to/from and between third countries participating in CORSIA | All operators: CORSIA (Administration in the home country in each case) | | | | |
| Flights to/from third countries NOT participating in CORSIA | Exempt | | All operators: EU ETS | | |
| Flights to/from least developed countries and small island states | Exempt | | | | |

Source: Öko Institut presentation

Routes subject to CORSIA

EEA-based operators and operators from other countries on flights to and from states outside the European Economic Area participating in CORSIA have to cancel CORSIA offsets for these flights if the emissions of the entire sector are higher than in the baseline year 2019, minus 15% ("Carbon Neutral Growth")and are exempted from the surrender obligation of the Emissions Trading Directive (Article 25a(4)). Since non-EEA operators are already subject to the obligation to cancel offsets under CORSIA in their home country, this avoids double surrender or cancellation regulation and double reporting.

Flights to and from countries that do not participate in the route-based cancellation obligation under CORSIA are initially exempt from all surrender obligations (Article 25a(5) and 28). From 01/01/2027, however, they will be covered by EU emissions trading. This will imply a much higher surrender obligation than under CORSIA.

Routes exempted

Flights to and from least developed countries and small island states are permanently exempted as long as their gross domestic product per capita does not exceed the EU average (recital 26 and Article 25a(6)). The share of these flight connections in global emissions is very small.

1.2 Implementation of CORSIA in the EU

CORSIA is implemented within the framework of the Emissions Trading Directive. The obligations to report and surrender emission allowances (EU ETS) or cancel offsets (CORSIA) differ in several aspects:

⁴ Estimation based on the AERO MS model with emission data for 2016 based on landing and departing flights, calculation by André van Velzen (TAKS), September 2021.

- Administration: each aircraft operator reports in the country in which they are registered, i.e. EEA aircraft operators are covered by CORSIA's reporting and cancellation obligation in the EEA while third country operators are regulated in their home countries.
- ▶ Deadlines: In line with ICAO's CORSIA provisions, the EU Member States inform national operators of their cancellation obligation by 30th November each year. Cancellation takes place after notification of the total offsetting obligation for the full three year compliance cycle (Article 12.6).
- ► Certificates to be cancelled: While aircraft operators surrender allowances for all emissions in the EU ETS⁵, under CORSIA operators only offset a part of the emissions: the increase compared to the baseline.
- ► The surrender obligation in the EU ETS is based on the individual emissions of the respective aircraft operator whereas CORSIA uses the annual CO₂ emissions of an operator multiplied with the sector's emissions growth to determine the cancellation obligation up to 2032. This takes into account the earlier growth of airlines in industrialised countries compared to developing countries. From 2033 onwards, the multiplied growth factor is not only based on a sectoral growth factor but is a combination of the sectoral growth (85%) and an individual operator's emissions growth factor (15%).6
- ► Acceptable offsets: ICAO decides which offsets are acceptable under CORSIA. The revised ETS Directive includes different offset requirements for EEA aircraft operators (Article 11a(2,3)): only offsets from countries party to the Paris Agreement that participate in CORSIA⁷ and comply with advanced standards to avoid double counting of emission reductions can be used. In addition to the offsets according to the ICAO list, the EU ETS Directive allows further offsets to be used (Article 11a(1)): These are offsets from an international mechanism established under Article 6(4) of the Paris Agreement, projects in third countries given the aircraft operator has not used up their 2008-2012 budget and emission reductions from projects in EU Member States according to Article 24a. The EU Commission will via implementing acts draw up a list of acceptable offsets for use under CORSIA (Article 11a(8)).
- ► The use of sustainable fuels (CORSIA eligible fuels) can be credited within the framework of CORSIA but only according to the applicable EU-ETS provisions for biofuels.
- ▶ Under CORSIA no auction revenues arise for states.

In addition, similar to the EU ETS, government, humanitarian, medical, military or firefighting flights are exempted. Deviations resulting from rules in the revised EU ETS compared to the CORSIA regulations should be notified to ICAO.

⁵ Until 2025 inclusive, aircraft operators will receive free allocation of emission allowances and can use them to cover a part of their surrender obligation.

⁶ https://www.icao.int/environmental-protection/CORSIA/Documents/Resolution A41-22 CORSIA.pdf

 $^{^{7}}$ The criterion of participation in CORSIA only applies from the surrender for emissions from 2027.

Baseline

Initially, the average of 2019 and 2020 emissions was intended as the CORSIA baseline. As COVID-19 and the associated travel restrictions have resulted in unusually low emissions in 2020, the ICAO Council agreed to take 2019 emissions as the baseline for 2021-2023. This results in no offsetting requirements for the years 2021, 2022 and 2023 as the emissions subject to CORSIA offsetting requirements are lower in those reporting years compared to the baseline of 2019.8 The CORSIA baseline was basically not ambitious enough. In 2022, ICAO contracting states agreed on a CORSIA baseline of 85% of 2019 emissions for 2024 to 2035.9

Review of progress at ICAO and CORSIA implementation

The EU Commission is obliged to report from 2027 onwards every three years on any progress of the ICAO on implementing measures to achieve ICAO's long-term aspirational goal of net zero emissions in 2050, any progress on CORSIA participation and other third country market-based measures (Article 28b). If a report by the Commission due by 2026 shows that CORSIA has not been sufficiently strengthened and participation increased, a proposal shall be made to also apply the EU ETS on departing flights from the EEA to third countries (Article 28b(2,3)). CORSIA offsetting costs would be deducted on those routes to avoid double charging.

Further, the EU Commission can react via implementing acts to a distortion of competition regarding flights to/from third countries participating in CORSIA (Article 25a(7)). If CORSIA is less stringently applied or the country in question is failing to enforce it, the flights to/from this country are exempted from the cancellation obligation.

1.3 Implementation of the EU ETS for aviation

The rules for flights covered by the EU ETS remain largely in place. In addition to the changes regarding the scope (see above), the following changes are ahead. More detailed information can be found in the factsheets 'Alignment of the EU ETS and the Market Stability Reserve with the new EU climate protection target for 2030' on the German Environment Agency website.

Adjusting the cap

The cap defines the available number of emission allowances. The directive foresees a separate cap to be calculated for aviation as has been the case so far. However, emission allowances are free to trade with the other sectors within the EU emissions trading and can be used by all sectors to meet their emissions obligations.

From 2013 to 2020, the aviation cap was constant at 95% of the covered 2004–2006 emissions (Article 3c). From 2021, the cap has been reduced by 2.2% per year based on the 2020 allocation – the linear reduction factor is the same as for the stationary sector (Article 9). From 2024 to 2027, the reduction factor will be increased to 4.3% per year and related to the 2023 emission allowances for active aircraft operators. From 2028 the linear reduction factor shall be 4.4%. In addition, the cap will be corrected by newly covered flights from 2024. In contrast to the stationary sector, no one-off reduction in the number of emission allowances is envisaged.

Auctioning and free allocation

Up to now, the emission allowances in aviation have mainly been distributed free of charge to the operators, only 15% have been auctioned. In 2024 and 2025 the auction share should

 $^{^8}$ Total CO_2 emissions in baseline years: $\underline{https://www.icao.int/environmental-protection/CORSIA/Documents/CCR%20Info%20Data%20Transparency PartII Oct2022.pdf; Total <math>CO_2$ emissions for the reporting year 2021: $\underline{https://www.icao.int/environmental-protection/CORSIA/Documents/CCR%20Info%20Data%20Transparency PartIII Oct2022.pdf}$

⁹ https://www.icao.int/environmental-protection/CORSIA/Documents/Resolution A41-22 CORSIA.pdf

gradually increase: in 2024 25% of the amount previously allocated for free will be auctioned, in 2025 the share is increased to 50%. From 2026 onwards all allowances (except 20 million SAF allowances, see below) will be auctioned (Recital 14 and Article 3d(1)). The EU Commission's impact assessment concludes that CO_2 costs can be passed on and that there is thus no carbon leakage risk.

The free allocation of emission allowances in these two years is distributed according to the aircraft operators' share of 2023 verified emissions (Article 3d(1a)). Emissions from additional routes covered from 2024 onwards will be included in the share calculation.

For the period 2024 to 2030 a maximum of 20 million allowances out of the total quantity of allowances for aviation shall be allocated to commercial aircraft operators for the uplifting of sustainable aviation fuels to cover part of or all the price difference to the use of fossil kerosene (Article 3c(5a)).

Furthermore, 5 million allowances relating to aviation allocation in 2026 as well as allowances not issued due to closure of aircraft operators shall be made available for innovation support (Article 10a(8)). The innovation fund may inter alia support production of low- and zero carbon fuels in aviation as well as electrification and actions to reduce the overall climate impacts of aviation.

Consideration of air traffic demand in the Market Stability Reserve (MSR)

In the event there is an emission allowances surplus, the national auction quantities will be reduced by a certain percentage via the MSR mechanism. Depending on the total number of allowances in circulation (TNAC), emission allowances will be added to the reserve or redistributed if the TNAC exceeds or falls below a specified threshold. In the past, the net demand of aviation was not considered when calculating the TNAC. However, from the time that the reform comes into force, the allowances for aviation and maritime transport will be included in the calculation of the TNAC. If aviation and maritime transport cause higher emissions than their share of the cap, then this will reduce the quantity in circulation. As long as the TNAC is above the applicable thresholds, as is currently the case, this leads to a lower reduction in auction volumes by the MSR.

Distribution and use of auction revenues

The revenues from auctioning aviation allowances have so far entirely flowed to the Member States' budget. In future, the Member States shall use the revenues for climate protection purposes or social compensation (Article 3d(4)). The EU Commission has also announced a proposal that in the future a part of the EU ETS auctioning revenues should be used for EU's new Own Resources (Article 3d(3)).

Non-CO₂ effects from aviation

The EU Commission emphasises in the explanatory part to the proposed directive that non- CO_2 effects have at least the same climate impact as CO_2 emissions. A staged approach is envisaged: the Commission has to first set up a monitoring, reporting and verification framework until August 2024, and building on it, when appropriate, shall submit a legislative proposal to expand the scope of EU ETS to include non- CO_2 aviation effects. The monitoring and reporting shall cover non- CO_2 effects from 2025 onwards (Recital 11 and Article 14). The Commission shall submit annually from 2026 a report on the results of the application of the monitoring, reporting and verification framework including non- CO_2 aviation effects and by 2027 an impact assessment and where appropriate a legislative proposal to cover non- CO_2 aviation effects in the EU ETS.

2 Interaction with other elements of the 'Fit for 55' package

The 'Fit for 55' package contains a number of elements that influence aviation. The Commission refers to ReFuelEU Aviation, the Energy Taxation Directive, the Renewable Energy Directive and other initiatives as support for sustainable fuels, promotion of technology development, for example via the Horizon Europe Programme and operational measures like the Single European Sky Initiative.¹⁰ The draft regulation on the establishment of infrastructure for alternative fuels should enable the supply of electricity for air traffic whilst parked at airports.

2.1 ReFuelEU Aviation

The regulation on ensuring a level playing field for sustainable aviation (ReFuelEU Aviation)¹¹ foresees an increasing blending rate of sustainable aviation fuels (SAF) by distributors at EU airports. In addition, a sub-quota for renewable fuels of non-biological origin (RFNBOs) is set as well. In order to avoid circumvention through strategic refuelling outside the EU, airlines will be obliged to refuel at least 90% of the required fuel volume for outgoing flights at EU airports on an annual average. If a distributor does not meet the quota for sustainable fuels, penalties will be due, and the missing volume must be additionally placed on the market in the following year. The regulation creates a market for sustainable fuels with a long-term perspective by setting quotas up to 2050 (Table 2).

Table 2: Quota for placing sustainable aviation fuels on the market

| | 2025 | 2030 | 2035 | 2040 | 2045 | 2050 |
|--|------|--------------------------------|------|------|------|------|
| Quota for sustainable aviation fuels | 2% | 6% | 20% | 34% | 42% | 70% |
| Sub-quota of renewable fuels from non-biological origins | | 1.2% (2030-31) 2% (2032-35) | 5% | 10% | 15% | 35% |

Source: Regulation on ensuring a level playing field for sustainable air transport (ReFuelEU Aviation): https://www.europarl.europa.eu/RegData/commissions/tran/inag/2023/06-16/TRAN AG(2023)750011 EN.pdf

The quota only applies to passenger aircraft: cargo flights and small airports are exempted. Quota and sub-quota refer to the volumetric share on the total amount of fuel. The definition of SAF and RFNBOs, like power-to-liquid (PtL) is provided by the Renewable Energy Directive. The airlines should present the quantities of sustainable fuels used for flights under the EU ETS or CORSIA as part of their annual reporting. Airlines can receive free allowances under the EU ETS for their uptake of SAF (section 1.3).

2.2 Energy Taxation Directive (ETD)

The Energy Taxation Directive sets minimum rates of taxation for energy sources used in transport and heat production. According to the COM proposal from July 2021^{12} , aviation should be included in Article 14 for the first time and differentiation of tax burden is envisaged according to energy content. The minimum tax rates correspond to those of road and rail

¹⁰ The following section is based on the following analysis by the Öko-Institut: Kasten, Peter; Göckeler, Katharina; Jakob, Michael; Wissner, Nora: Climate protection architecture for the transport sector in the EU Commission's Fit for 55 package. (Klimaschutzarchitektur für den Verkehrssektor im Fit for 55-Paket der EU-Kommission.) Impact mechanisms and interactions of the individual regulatory proposals of the EU Commission in the framework of the Fit for 55 package. Berlin. The study had not yet been published at the time of writing.

¹¹ Regulation of the European Parliament and of the Council on ensuring a level playing field for sustainable air transport: https://www.europarl.europa.eu/RegData/commissions/tran/inag/2023/06-16/TRAN AG(2023)750011 EN.pdf

¹² Proposal for a Council directive restructuring the Union framework for the taxation of energy products and electricity (recast) https://ec.europa.eu/info/sites/default/files/revision of the energy tax directive 0.pdf

transport. The minimum tax rate for aviation fuel should be gradually introduced over a period of 10 years. Deviating from this, the minimum taxation for sustainable and low-emission aviation fuels (incl. PtL) should be reduced to zero during this period. Electrical power for aircraft can also be fully or partially exempted during this period. The full minimum tax rate for fossil kerosine is 10.75 €/GJ which corresponds to an implicit CO_2 price of $145 €/t CO_2$ compared to fuels in the lowest tax bracket.

The tax would cover transport within the EU. Taxation of purely cargo flights within the countries would be optional for Member States, and on intra-European routes with Member States that agree to it. Private flights for non-commercial purposes would be exempt. The Directive foresees the option of also taxing flights to and from third countries and proposes the minimum tax rate here as well. This presupposes relevant adjustments to intergovernmental agreements. A unanimous decision is required in tax matters in the European Council.

2.3 Renewable Energy Directive (RED)

The scope of the transport target in the Renewable Energy Directive (RED) should include aviation on a mandatory basis in the future. Up to now it referred to road and rail transport, and the inclusion of aviation and maritime transport was optional. In Germany, RED was implemented via the greenhouse gas quota which so far only refers to road transport and fuels in rail transport.

For the RED transport target, EU Member States should implement an obligation for fuel distributors to reduce the emission intensity of energy sources used in the transport sector. They should reduce greenhouse gas intensity through the use of alternative fuels¹³ and electricity by 14.5% by 2030 compared to relevant historical emissions. In addition, the directive foresees a minimum quota for advanced biofuels and renewable fuels from non-biological origins (hydrogen and e-fuels) for distributors. The minimum energy quota for advanced biofuels incl. biogas is 0.2% in 2022, 0.5% in 2025 and 5.5% in 2030.¹⁴ For hydrogen and e-fuels, the minimum energy quota is 1% in 2030. To what extent aviation's minimum quantities will go beyond the ReFuelEU Aviation targets will depend in particular on whether sub-targets will be defined for the transport sectors. If not, road transport will likely cover this.

¹³ In addition to biofuels (including biogas) and e-fuels, this also includes 'recycled carbon fuels'.

¹⁴ https://www.consilium.europa.eu/en/press/press-releases/2023/03/30/council-and-parliament-reach-provisional-deal-on-renewable-energy-directive/

3 Next steps and key issues

Further details of the amendments to the Emissions Trading Directive are implemented via delegated and implementing acts. The ambitious implementation and alignment of the aviation ETS with other parts of the Fit-for-55 package, particularly the ReFuelEU Aviation Initiative, are important to create a coherent regulatory framework for aviation in the EU.

Key issues for future policy-making:

EU ETS:

- ▶ Is the price signal from the EU ETS sufficient to mitigate emissions from flights within the EEA? What other options are there to achieve the desired additional steering effect in the sector (surcharge for ultra-short routes, banning of domestic short-haul flights (like France) etc.)?
- ► How can social justice questions be better addressed –e.g. how will business jets bring their share to emission reductions/will take part in the polluter pays principle?
- ▶ In the past the aviation sector has been a net buyer of allowances from the stationary sector as mitigation cost tend to be more expensive. Why is there no limit for operators to purchase EUAs from other sectors to ensure reductions in the aviation sector itself?
- Non-CO₂ effects from aviation will be monitored and reported from 2025. Will the final monitoring rules reflect different mitigation measures accurately? The obligation to surrender allowances corresponding to those emissions may start in 2028 how will this obligation consider uncertainty in the quantification of these emissions?

CORSIA:

- ► How quickly can a substantial steering effect be expected in international aviation given the fact only, if any, can be expected for offsets, particularly in the first years, and thus also little incentive to reduce emissions for aircraft operators for international routes to and from third countries?
- ► How does the EU Commission justify the use of additional offsets for CORSIA compared to ICAO? What advantages does this have? How does one counter the danger that other countries will also unilaterally allow additional programmes with possibly low-quality levels?
- ► From 2027, flights to and from countries that are neither covered by CORSIA nor exempt from CORSIA as developing countries, will be subject to EU emissions trading. Flights to and from countries that implement CORSIA insufficiently will be subject to a lesser or no obligation to cancel allowances. Should they not be treated equally?

Interaction with other directives:

▶ What are the interactions between the EU ETS and other directives? For example, what emission reduction does the blending quota or the taxation of kerosine lead to and what effects does this have on the demand for emission allowances from aviation?

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