

# Global and EU climate schemes compared

## And how will Covid impact aviation mitigation measures

September 2020

### Summary

A study commissioned by T&E and conducted by TAKS analysed the cost impact for airlines of applying two options to integrate ICAO's offsetting scheme (Corsia) alongside the EU Emissions Trading System (EU ETS). It analysed the cost for airlines if Corsia was applied **only to outbound flights** or if it was applied **on outbound and intra-EU flights covered by the ETS** as well. It included **low and high price scenarios** for ETS allowances and Corsia offsets. The study is also accompanied by an **add-on analysis which compares the financial impact Corsia and ETS was expected to have before and after COVID**. It takes into account the reduction in air traffic, expected to bounce back to 2019 levels in 2024 and ICAO's change to Corsia's baseline, which will result in reduced offsetting obligations for airlines.

### Main findings of the study

- ❖ One of the European Commission's options of applying Corsia only to outbound flights ('clean cut') and gradually phasing out free allowances for aviation will result in minimal costs for airlines.
- ❖ Applying Corsia to outbound flights would result in the whole airline sector only paying between **€47.6 (low price scenario) and €70.6 million** per year for their pollution, which **represents only 0.2% of airlines' operating costs**.
- ❖ **Applying both Corsia and ETS on intra-EU flights would also only have a minimal cost impact for airlines, especially after COVID**, the extra cost would represent between 0.1% - 0.2% of airlines' operating costs.
- ❖ **The demand for Corsia offsets will be 50% lower than originally expected for 2021-2030 mainly** because of ICAO's decision to change Corsia's baseline to 2019 only.

### Policy recommendations

- ❖ The European Commission cannot rely on Corsia to price aviation emissions effectively. As airlines have received **at least €32 billion of bailout money from European governments alone without effective binding climate conditions**, it seems increasingly untenable socially and politically to rely on cheap offsetting schemes to address aviation pollution. The **EU ETS will provide more effective carbon pricing signals than Corsia ever will, and should therefore be strengthened and extended**.
- But in order to effectively price aviation's pollution, the European Commission needs to ensure additional carbon pricing measures such as a kerosene tax are also applied to the aviation sector as well as sustainable aviation fuel mandates.

# 1. Objective & assumptions of the study

The study conducted by TAKS analysed the cost impact of the different schemes, including the option of applying both schemes by integrating Corsia alongside the EU ETS, either by applying Corsia only to outbound flights or applying Corsia on outbound and intra-EU flights covered by the ETS as well.

## Scenarios & price ranges for EUAs and international Corsia credits

The two policy scenarios analysed by the study were the following:

1. **Retain existing EU ETS for aviation and apply Corsia for outbound** (“clean cut” option as signalled by the European Commission’s inception impact assessment<sup>1</sup>). This option considered that the EU ETS will be retained for most intra and domestic EEA flights, in line with its current application, as well as for flights between the EEA and Switzerland. And Corsia will only apply to outbound flights between EEA member states and other participating ICAO member states.
2. **Retain the EU ETS for aviation and Corsia for intra and outbound** (option not yet analysed by the European Commission). The EU ETS would retain its current scope of application and include flights between the EEA and Switzerland. Corsia would apply to intra EEA flights and outbound flights.

In analysing these scenarios, the study assesses different price variations for both ETS and international credits:

- **For the higher price scenario:** ETS allowances up to around €43 (in real terms) in 2024/2025 followed by a price stabilisation 2025-2030. Prices for offsets in this scenario would be 8 US\$ in 2020 raising to 15 US\$ in 2030<sup>2</sup>.
- **For the lower price scenario:** ETS allowances trading at €20 (in real terms) for an EU ETS allowance for the whole period 2021-2030. Prices for offsets in this scenario are estimated to be 6 US\$ and 10 US\$ in respectively 2020 and 2030.

### Assumptions:

- **EU ETS:** When it comes to the EU ETS, the study takes into account a reduction of the percentage of free allowances by 8.5% per year over the period 2021 – 2030, implying that by 2030 all aviation allowances will be auctioned. Such a reduction is committed to in the European Green Deal<sup>3</sup>.

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<sup>1</sup> European Commission (2020), [Inception Impact Assessment on EU ETS, updated rules for aviation](#)

<sup>2</sup> Based on low and alternative low IEA scenarios, ICAO (2018) [Carbon Offsetting and Reduction Scheme for International Aviation \(CORSIA\) - Frequently Asked Questions \(FAQs\)](#)

<sup>3</sup> European Commission (2019), [Communication on the European Green Deal](#)

- **UK/Switzerland:** The study assumes that the United Kingdom will still be part of a similar system as the EU ETS during 2021-2030. The study includes flights from the EEA to Switzerland, as per their ETS linking agreement<sup>4</sup>.
- **COVID:** in terms of the recovery scenario for aviation, the study estimates that a “medium” recovery scenario would take place (as suggested by IATA and ACI Europe<sup>5</sup>), where international aviation gradually recovers over the period 2021-2024, and that by 2024 aviation emissions are back to the levels of 2019. In addition, the study assesses the impact of ICAO’s decision to change Corsia’s baseline to 2019, which heavily impacts airlines’ demand for credits. **The study finds that the demand for Corsia credits will be 50% lower for 2021-2030 than originally anticipated, and that this is mainly due to Corsia’s change of baseline to 2019.** The demand for Corsia credits is expected to fall, going from 122.2 Mt to 64 Mt of CO<sub>2</sub> if only applied to outbound flights and then going from 201.7 Mt to 100 Mt if applied to intra-EEA flights as well.

## 2. Applying both Corsia and ETS on intra-EU flights only has a minimal cost for airlines, especially after COVID

### a) COVID expected to further cheapen the cost of pollution for airlines

The demand for Corsia related international credits is considered to be affected by COVID-19 but **worsened by resulting changes adopted by ICAO**. Compared to the findings of the study before COVID, for **the full period 2021-2030, demand for Corsia offsets is reduced by about 50% and in the first 4 years of Corsia (2021-2024) there will be no offsetting obligations for airlines**. The study states that the reduction in Corsia offset demand is not so much directly related to the lower levels of emissions expected due to reduced traffic from COVID-19, but much more caused by ICAO’s decision to change Corsia’s baseline from the average of 2019/2020 to 2019. **The study also points out that the recovery could take longer which would mean a longer period without any offsetting obligations under Corsia.**

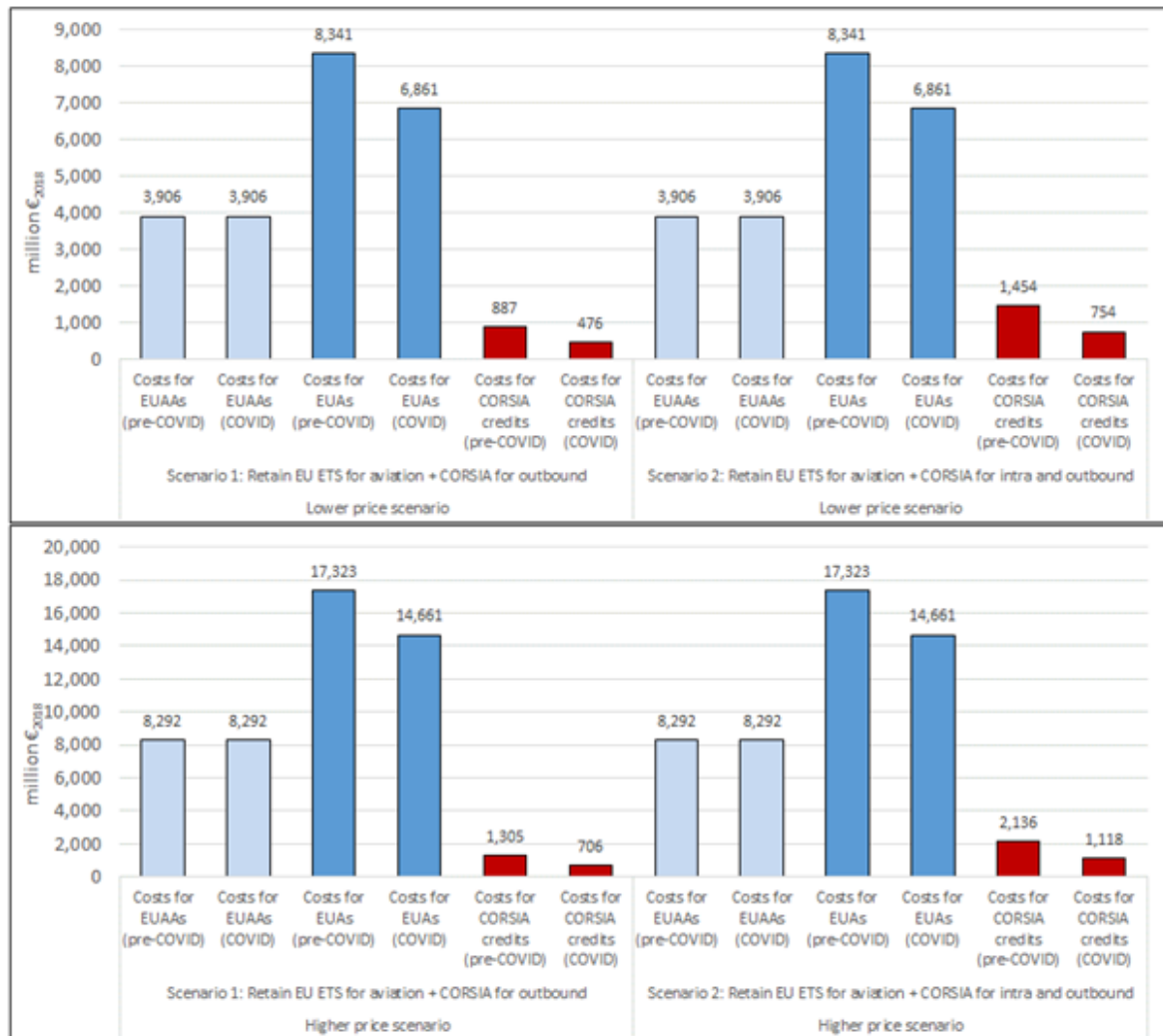
As shown by Graph 1 below, the cost of applying Corsia to only extra-EU flights would **amount to €476 (low price scenario) and €706 million (high price scenario) over 10 years after COVID, representing only 0.2% of airlines’ operating costs** (see Table 2). Having the whole airline sector

<sup>4</sup> EU, 2017, [Agreement between the European Union and the Swiss Confederation on the linking of their greenhouse gas emissions trading systems](#)

<sup>5</sup> IATA, 2020. [Recovery Delayed as International Travel Remains Locked Down](#) and ACI Europe (July 2020) [European airports revise recovery projection to 2024 whilst reporting only marginal traffic increase for June](#)

pay only between **€47.6 (low price scenario) and €70.6 million** per year for their pollution through Corsia when they have received **at least €32 billion<sup>6</sup> of bailout money from European governments alone without effective binding climate conditions**, seems increasingly untenable from a social and political perspective.

**Graph 1. Costs for allowances and international credits for both scenarios (cumulative 2021-2030) (before & after COVID)**



According to graph 1 above, if the European Commission proposes to apply Corsia only to outbound flights and revise the EU ETS to gradually reduce free allowances to the aviation sector, this will only result in a cost ranging between €11.2 to €24.1 billion for the whole 10-year period (2021-2030), which is much less than the €32 billion they have received in one year through

<sup>6</sup> T&E (2020), [Bailout tracker](#)

governments during this COVID crisis. According to table 1 below, paying between €1 and €2.4 billion euros per year for the whole airline sector **only represents 1.7% to 3.4% of airlines' operating costs for intra-EU flights and practically nothing (maximum 0.2%) of their operating costs on outbound flights.**

**Table 1. Costs for allowances & international credits as a percentage of total airline operating costs (after COVID)**

	Scenario 1. Retain EU ETS for aviation + CORSIA for outbound		Scenario 2. Retain EU ETS for aviation + CORSIA for intra and outbound	
	2021	2030	2021	2030
	<b>Lower price scenario</b>			
Intra EEA flights	0.8%	1.7%	0.8%	1.8%
Outbound EEA flights <sup>5</sup>	0.0%	0.1%	0.0%	0.1%
<b>Higher price scenario</b>				
Intra EEA flights	1.2%	3.4%	1.2%	3.5%
Outbound EEA flights	0.0%	0.2%	0.0%	0.2%

<sup>5</sup> Only flights subject to CORSIA

## **b) Applying Corsia on top of the ETS would have minimal impact on airlines' operating costs**

Taking COVID into account, the study also showed that for 2021-2030 the extra cumulative costs of applying Corsia on intra-EU ETS routes, go from €278 million for European airlines for the lower price scenario to €412 million for the higher price scenario. Table 1 above shows that this extra-cost only represents **0.1% of airlines' operating costs. This confirms the insignificance of Corsia's offsetting scheme when it comes to pricing aviation emissions, as applying Corsia to intra EEA flights in relative terms will only have a very limited additional cost for airlines.**

**The study finds that retaining the EU ETS for aviation ensures that in the coming years there is at least some form of effective regulation for European aviation emissions and overall the EU ETS will result in faster and more effective emissions reductions than Corsia.**

**But the upcoming revision of the EU ETS needs to be much more ambitious than planned, in order to effectively price aviation emissions and shift the sector towards cleaner, and currently more expensive alternative fuels.** (Find out more about T&E's views on [how to make the EU ETS bigger and better](#))

### 3. Inclusion in the EU ETS doesn't exclude sectors from additional carbon pricing measures

The study also showed that in many countries in the EU, many companies face complementary pricing on either their energy inputs or CO2 outputs<sup>7</sup>. For electricity companies, 24% (in Sweden) to 100% (in Greece) of the emissions in EU28 member states face both participation in the EU ETS and a mix of energy input or CO2 output taxes. For industry, the degree of double taxation is lower but still substantial and ranging between 8% in Denmark to 57% in Greece.

Although CO2 taxes have often been introduced using exemptions for companies participating in the EU ETS, the study observes a recent trend in complementary CO2 pricing being planned in many European countries which would apply on top of the EU ETS.

Finally, it should be noted that climate policies are not excluded from these instruments. Another important climate measure adopted by many countries is the phasing out of coal plants such as the Netherlands, Austria, Denmark, the UK and France. The fact that coal fired power plants take part of the EU ETS does not free them from additional climate policies. Participating in the EU ETS does not exempt companies from other forms of environmental, climate or energy related taxes and measures.

### 4. T&E's policy recommendations

Having airlines pay only between **€47.6 and €70.6 million** per year for their pollution through Corsia **would add a maximum of €0.17 cents on the price of international tickets for passengers after COVID**<sup>8</sup>. This seems increasingly untenable from a social and political perspective, when airlines have already received at least **€32 billion**<sup>9</sup> of bailout money from governments in 2020 without effective binding climate conditions and enjoy a €27 billion tax break<sup>10</sup> per year on their polluting fuel. Ensuring aviation effectively pays for its pollution and contributes to national budgets post COVID is key in insuring European governments get their bailout money back. T&E recommends the following policies to ensure aviation's emissions don't continue rising after COVID:

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<sup>7</sup> OECD (2016), Share of emissions priced and average price signals from taxes and ETS, all country data.

<sup>8</sup> Eurostat reported over [410 million passengers in 2018](#) on extra-EU routes. Corsia's cost, if only applied to outbound flights, would reach €70.6 million per year, which would represent an additional cost of approximately €0.17 for passengers on those routes. This would be a maximum added cost given the high scenario prices are very conservative in the study, and the passenger numbers used are from 2018, while the study assumed demand would continue to grow.

<sup>9</sup> T&E (2020), [Bailout tracker](#)

<sup>10</sup> European Commission (2019), [Taxes in the field of aviation and their impact](#)

- **Establish a bigger and better EU ETS<sup>11</sup>**
  - ❖ **Strengthening the EU ETS for aviation by:**
    - Removing free allowances for aviation and using the revenues to develop and deploy Sustainable Alternative Fuels.
    - Applying discounting factors to aviation emissions given non-CO2 impacts.
    - Reducing the aviation ETS cap & limiting the use of allowances from the stationary ETS
    - Establishing a minimum price for CO2 allowances
    - Enabling voluntary cancellation of allowances to take into account any future reduced aviation demand
  - ❖ **Countering any international attempts to undermine the ambition of the EU ETS** as a tool to regulate aviation emissions
    - Consider options to reintegrate long haul aviation emissions through the ETS until Corsia actually starts requiring airlines to purchase quality offsets (not before at least 2027)
    - Reject any attempts to replace the EU ETS by Corsia’s ineffective offsetting scheme (i.e. options 3, 5 and 6 of the European Commission’s Inception Impact Assessment)
    - Assess the cost impact of applying both ETS & Corsia on the same routes given the change to Corsia’s baseline year due to COVID19 has further cheapened the scheme, resulting in next to no financial impact for complying airlines.
- **Introduce kerosene taxation to reduce the cost-gap with cleaner more expensive sustainable aviation fuels (SAF)<sup>12</sup>.** Member states can already implement bilateral taxation agreements today, while waiting for the EU to agree to an EU wide kerosene tax when revising the Energy Taxation Directive.
- **Stimulate the creation of SAF fuels<sup>13</sup> by establishing mandates** for clean alternative fuels, such as synthetic kerosene, in the context of the EU’s RefuelEU initiative.

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## Further information

Jo Dardenne, Manager Aviation

**Transport & Environment**

[jo.dardenne@transportenvironment.org](mailto:jo.dardenne@transportenvironment.org)

Mobile: +32(0)475 76 84 31

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<sup>11</sup> T&E (2020), [Revision of the ETS for aviation](#)

<sup>12</sup> T&E (2020), [Implementing jet fuel taxation in Europe today](#)

<sup>13</sup> T&E (2020), [How EU legislation can drive an uptake of sustainable advanced fuels in aviation](#)