How can the EU Emissions Trading System drive the aviation sector's decarbonisation?

This policy paper complements the briefing "A New Hope - recommendations for the EU Emissions Trading System review"

Introduction:

The aviation sector is responsible for nearly 4% of the EU's total CO_2 emissions, and is the second biggest contributor to transport emissions, after road transport. While in flight, planes emit CO_2 and also impact the climate in other ways, including through nitrogen oxides (NOx), water vapour, and soot particle emissions, which interact with the atmosphere at high altitudes. These effects are estimated to triple the "warming" impact of aviation, i.e. the total impact of the sector on climate change is three times higher than that generated by its CO_2 emissions alone. The aviation sector has benefitted from large exemptions under the EU Emissions Trading System (EU ETS), in addition to being favoured by fuel tax and VAT exemptions and large subsidies to regional airports. These measures are incompatible with the EU's stated climate ambition and the application of the polluter pays principle.

International aviation emissions are exempted from EU ETS obligations since 2012 under the "stop the clock" measure, which ends in 2023. The exemption was established to allow time for the adoption and implementation of an international deal at the UN level: the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), which was adopted by the International Civil Aviation Organisation (ICAO) in 2016. However, CORSIA will be ineffective in tackling international aviation emissions. The scheme's objective of "carbon neutral growth" will only require that airlines compensate the growth in their emissions above a 2019 baseline, and participation by countries is voluntary until 2027. This system is expected to cover only around 6% of CO_2 emissions from outbound European Economic Area (EEA) flights, and a report prepared for the European Commission found that CORSIA's environmental integrity was much weaker than that of the EU ETS. In addition, the carbon credits eligible to offset airline emissions under CORSIA are of questionable quality. Relying on CORSIA alone would therefore jeopardise the attainment of European climate goals and the implementation of the Paris Climate Agreement.

The EU ETS cap for aviation was based on 95% of the sector's total emissions between 2004-2006 and - contrary to other sectors under the ETS - has not declined since then. It will only start decreasing in 2021, at the same speed as the rest of the ETS cap (2.2% annually). Airlines receive 85% of the emission allowances under this cap for free. However, since airlines have consistently exceeded their cap, they have had to purchase some allowances from other sectors. In reality, airlines have therefore been paying for only around half of their emissions covered under the EU ETS (47.5% in 2019).

In 2017, the costs related to EU emissions trading for airlines represented 0.3% of their total operating costs. As the prices of the EU ETS allowances (EUA) have strongly increased since then, this share of operating cost is likely to be higher today; one recent study estimated those costs as 1.2% of total operating costs in 2021, rising to 3.4% of total operating costs in 2030. However, this is still very limited compared to fuel costs.

The two key elements in the revision of the EU ETS for aviation are: 1) the implementation of CORSIA and the treatment of international flights, and 2) the reduction of free allocation to airlines.

While the European Commission has not discussed the "non-CO_2" impacts of aviation in the context of the EU ETS revision, it should be noted that there is an urgent need for these to be addressed as well. For aviation, the EU ETS only covers CO_2 emissions. Additional instruments, such as a NOx charge and the optimisation of flight paths and schedules, should be adopted to address non-CO_2 effects.

Key recommendations:

- Bring international aviation back under the EU ETS
- End the distribution of free allowances to airlines
- Do not allow CORSIA to undermine EU ambition by making sure it does not replace the EU ETS
- Adapt the aviation ETS cap in line with the overall cap (e.g. applying a higher linear reduction factor, and a one-off reduction)
- Adopt additional measures to address the non-CO_2 effects

Including international flights under the EU ETS

The EU ETS and CORSIA both aim to regulate a portion of international aviation emissions, and therefore could overlap. The EU ETS currently applies to all flights within the EU (+ countries of the European Free Trade Association (EFTA)). In addition, international flights leaving from or arriving in the EU should be covered, but are currently exempted until 2023. CORSIA covers all flights between two participating States, which includes all EU countries, as well as many countries outside of the EU, such as the US. Countries like China, Russia, Brazil, and India have not volunteered to participate in CORSIA, and therefore would only be part of the scheme once it becomes mandatory, in 2027.

The EU, therefore, faces two key questions. First, should international flights be covered by the EU ETS? Second, can CORSIA and the EU ETS overlap?

The answer to the first question is clearly "yes". The EU ETS is much more effective than CORSIA, and therefore should be prioritised. In addition, the current stop-the-clock measure was adopted as a "wait and see" to leave time for the implementation of a meaningful global agreement. But the global agreement, CORSIA, fails to cover a significant portion of emissions from international flights, relies on questionable carbon offsets, and therefore cannot justify further exemptions from the EU ETS. Applying only CORSIA to international flights would leave a vast majority of emissions unpriced.

The second question, whether CORSIA and the ETS can overlap, matters more for political than environmental reasons, because CORSIA is unlikely to deliver any climate benefits. CORSIAcredits can currently be purchased for around 2 USD and offsetting obligations will be limited to the growth in emissions. CORSIA is therefore highly unlikely to represent a material financial strain on airlines. In addition, since by definition only airlines that grow will need to offset some of their emissions, CORSIA will not place financial burdens on struggling airlines. Applying CORSIA to flights already covered by the EU ETS is therefore unlikely to have a significant economic impact on airlines. The cost of implementing CORSIA on flights currently covered by the EU ETS is estimated to be equivalent to 1.8% of the EU ETS' costs.

Despite this, should the EU find it unacceptable to regulate airline emissions twice, then the EU ETS should be prioritised, and CORSIA should not be implemented.

The bottom line is that CORSIA, unless significantly reformed, will be ineffective in tackling the aviation sector's climate impact, and the EU ETS must hence return to its initially planned full scope application in 2024 as foreseen in the current legislation.

Finally, it should be noted that, given that the EU ETS already covers all flights between EEA countries, implementing CORSIA on these flights as a substitute to the EU ETS, would de facto mean that the EU reduces its own climate ambition. That goes against the Paris Agreement's Article 4 stating that national climate pledges (Nationally Determined Contributions, NDCs) must be progressively increased over time.

The best of both worlds

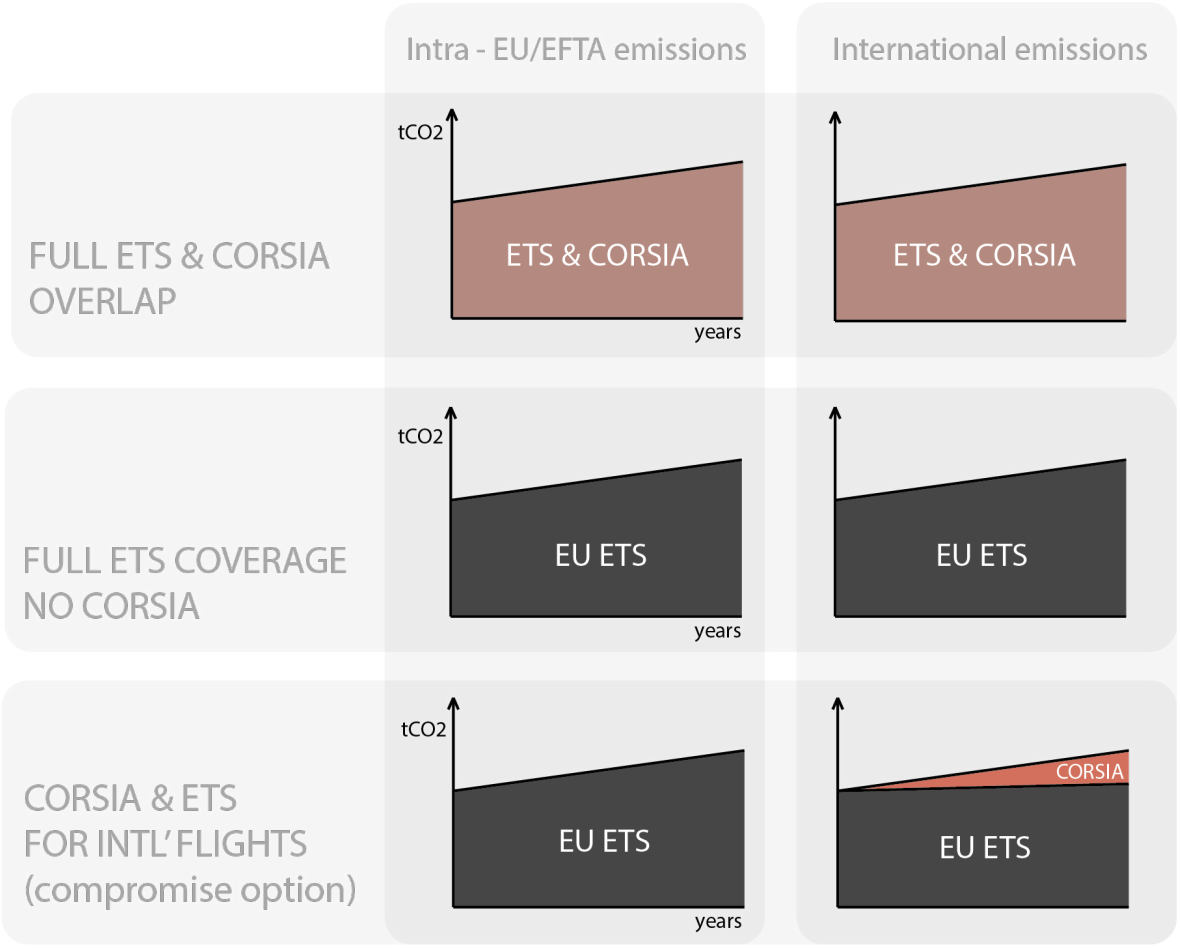
Having both EU and international aviation emissions covered by the EU ETS would be the most environmentally effective option.

However, the EU has been a vocal supporter of CORSIA, and EU policymakers have repeatedly said they would implement the scheme, despite its shortcomings. Therefore, Carbon Market Watch proposes a practical solution as follows:

- Flights within the EU/EFTA remain covered by the EU emissions trading scheme only
- Flights leaving from or arriving in the EU/EFTA will be covered by CORSIA, with additional coverage by the EU ETS for the portion of emissions not priced by CORSIA, i.e. emissions below the 2019 baseline.

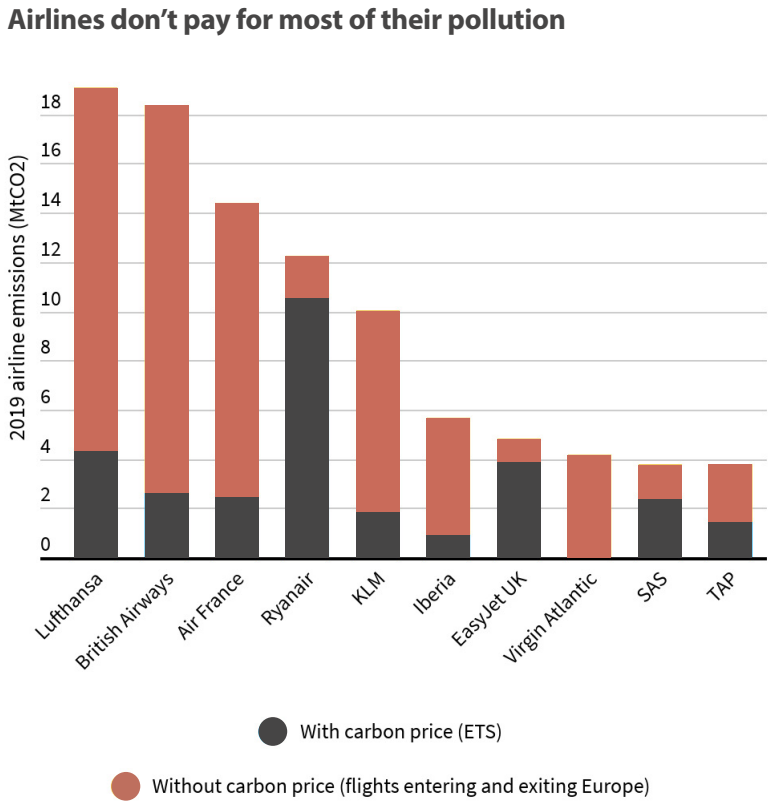
This solution would both allow the EU to show its political support for multilateral climate action, by implementing CORSIA, while at the same time limiting the extent to which it would undermine EU regulation. This will ensure that the vast amount of emissions left unpriced by CORSIA, will be covered by the EU ETS.

Three options for ensuring environmental integrity of aviation climate action in Europe



Phasing out free allocation to airlines

In addition to being exempted from carbon pricing for their international emissions, airlines also receive a large share of their EU ETS allowances for free. In 2019, this resulted in the three largest European airlines - Lufthansa, Air France and British Airways - paying for less than 25% of their total emissions. As is the case for Europe's heavy industry, the EU ETS is also failing to make polluters pay in the aviation sector.



Note: T&E analysis of commercial aviation CO_2 emissions. Sources: CORSIA airline emission reports provided by governments after Freedom of Information requests; in-house calculation of emissions based on ICAO emission calculator methodology, using AIS aircraft data purchased to PlaneFinder.

Free allocation to the aviation sector was adopted to prevent "carbon leakage". This hypothetical risk could in theory materialise through two main channels. First, flights from airports located close to the EU border could shift to airports outside the EU. Second, flights which use airports in the EU as a connecting hub could be re-routed to use hubs outside of the EU. However, such relocations are highly cumbersome for airlines, and incur costs, e.g. administration and staff costs related to the need to establish new routes and develop activities at new airports, as well as possible additional fuel costs due to rerouting of flights. The European Commission found in its previous impact assessments from 2006 and 2017 that there was no material risk of carbon leakage, at least in the price range considered in their study (25-30€/tCO2e).

In addition, airlines could pass the carbon costs to their customers, i.e. increase ticket prices as a result of having to purchase allowances. A recent study for the EU Commission found that, although the rate varies significantly between routes, "many airlines will pass on the majority of the additional carbon costs to passengers". The same study finds that the monetary impacts of a full phase-out of free allocation on ticket prices paid by passengers remain very small (below EUR2 for the case study included in the report).

It is therefore unlikely that ending free allocation to airlines would lead to significant carbon leakage. At the same time, taking this step would better price pollution in the EU, and has the potential to generate significant revenues. A full and immediate phase-out of free allocation to airlines should therefore be a priority for the EU.

Conclusions

International talks to regulate global aviation emissions have not delivered a policy that will drive reductions in the aviation sector. The UN aviation offsetting scheme CORSIA will not provide meaningful benefits for the climate, and it is therefore time for the EU to reclaim its past leadership in tackling aviation emissions.

International aviation should therefore be brought back under the EU emissions trading scheme. CORSIA will be both very ineffective from a climate perspective, and very cheap for airlines to comply with. Therefore, whether or not CORSIA is implemented makes little difference to emissions. The key objective should be to maintain the integrity of the EU ETS, and increase its scope.

In addition, the distribution of free allowances should be ended, given that there is no credible risk of carbon leakage in the aviation sector.

Finally, the EU should further investigate and adopt policies to cover all global warming impacts (so-called "non-CO_2 effects"), which continue to be ignored under the EU ETS.

Suggested amendments to the EU Emissions Trading System Directive 2003/87/EC (consolidated version):

Revert back to a full scope coverage of flights:

- No change to article 28a(1) which foresees that the exemption for international flights will end on December 31st 2023.

Phase-out free allocation :

- Insert between paragraphs 2 and 3 of article 3d *"From 1 January 2023, 100% of allowances shall be auctioned."*
- Delete articles 3e(1), 3e(2), 3e(3)(d), 3e(3)(e)
- Delete the first sentence of article 28a(2): *"By way of derogation from Articles 3e and 3f, aircraft operators benefiting from the derogations provided for in points (a) and (b) of paragraph 1 of this Article shall be issued, each year, with a number of free allowances reduced in proportion to the reduction of the surrender obligation provided for in those points."*

Reduce the aviation cap in line with the overall ETS cap:

- Maintain the third sentence of article 28a(2): *"From 1 January 2021, the number of allowances allocated to aircraft operators shall be subject to the application of the linear factor referred to in Article 9, subject to the review referred to in Article 28b"*
- Add a new paragraph to account for a one-off reduction of the cap which should be adopted for the overall ETS cap and would need to be applied equally to the aviation cap.

References

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