NAVIGATING THE GIVEN EXTERNAL CONSIDERATIONS

CORSIA: ENVIRONMENTAL IMPLICATIONS AND COMPLIANCE CHALLENGES

by Adam Hedley & Amber Davies

Takeaways

- Demand for carbon credits to meet CORSIA obligations will increase annually in line with the growth trajectory of the aviation industry
- Competition for CORSIA-compliant carbon offsets is expected to increase as national and corporate carbon reduction initiatives start to make an impact
- Fuel price volatility is expected to have more impact on international aviation than carbon offsetting costs; however, offsetting costs will inevitably need to be pushed onto customers, creating additional price pressures
- Sustainable aviation fuels will help reduce carbon emissions, but may not be sufficiently developed to negate the need for the CORSIA past its projected end date of 2035

The Carbon Offsetting and Reduction Scheme for International Aviation

The CORSIA is a global scheme to address carbon emissions from air travel, running from 2021 to 2035. It complements a broader package of measures to help the International Civil Aviation Organisation (ICAO) achieve its goal to make all growth in international flights carbon-neutral from 2020 onwards. The CORSIA is a market-based mechanism that relies on the use of emissions units (carbon credits) from the voluntary carbon market to offset the amount of CO_2 emissions that cannot be reduced through technological and operational improvements, and sustainable aviation fuels (SAFs).

The CORSIA, implemented in phases, compares the total CO_2 emissions for a year against a baseline. From 2021, any CO_2 emissions from flights that exceed the baseline will have to be offset by operators governed by the scheme.

Phase	Timeframe	Participation
Pilot	2021 to 2023	Voluntary (i.e., at the discretion of the member states)
First	2024 to 2026	Voluntary (i.e., at the discretion of the member states)
Second	2027 to 2035	Mandatory (except for exempt states)

Approved carbon offsets under the CORSIA

Only certain approved types of carbon credits that meet the strict ICAO emissions unit criteria can be used to meet the compliance obligations under the CORSIA. So far, ICAO has approved credits issued under the following voluntary carbon market programs for the pilot phase:

- American Carbon Registry
- China GHG Voluntary Emission Reduction Program
- Clean Development Mechanism
- Climate Action Reserve
- The Gold Standard
- Verified Carbon Standard

According to ICAO, the pilot and first phases will be identical, save for how the offsetting requirement for operators is determined. While this implies that the approved list of eligible carbon credits will not expand ahead of the first phase, ICAO is required to review the CORSIA every three years, beginning in 2022. The review will consider its impact on aviation growth and recommend, as necessary, adjustments to the scheme. This may result in changes to the existing list of approved offset programs.

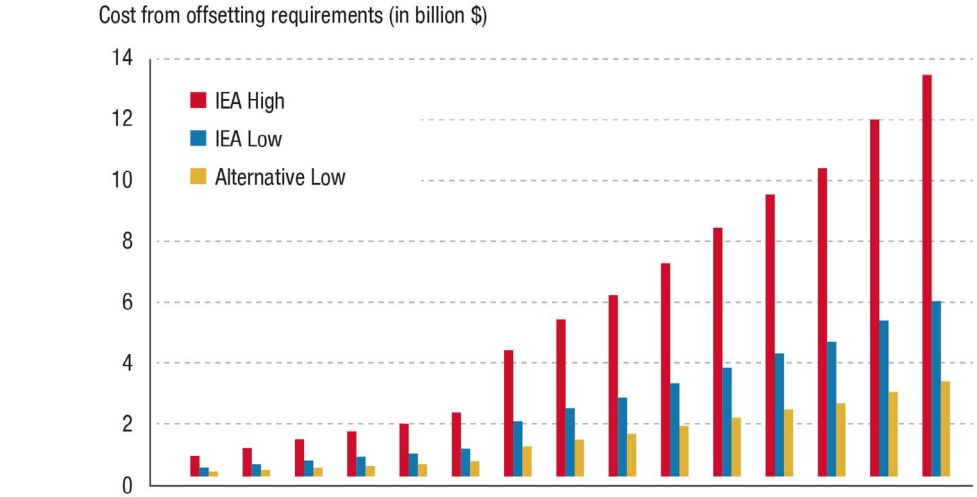
Current and future demand for carbon offsets

There is a projected demand for around 1.6 billion carbon credits under the CORSIA over its current lifetime. Currently, there is sufficient supply of carbon offsets on the market to meet demand, as fewer credits will be required to be surrendered in the early phases of the scheme. However, demand for credits will increase every year in line with aviation growth, due to the nature of the carbon-neutral growth objective.

Prices for carbon offsets on average stand at just $3 to $5 per metric ton of CO_2 at present, reflecting a well-supplied market. However, prices are starting to increase across both the regulated and voluntary carbon markets as other drivers of demand start to make an impact, most notably, the Paris Agreement commitments and market mechanisms under Article 6. These are expected to become operational shortly and to significantly increase demand for carbon offsets. Currently, it is not clear how the Paris Agreement commitments and mechanisms will interact with the voluntary carbon market, but they create a potential threat to the supply of carbon credits to the CORSIA. There has also been a huge increase in demand for credits from the private sector, as businesses pursue carbon neutrality and ESG goals that will need to be met, in part, through acquiring offsets. The demand for offsets from CORSIA-obligated aviation operators has been significantly lower than was originally forecast, partly as a result of the pandemic. The sector's emissions fell sharply in 2020 due to widespread travel restrictions, which has effectively pushed expected demand for credits back by a few years. ICAO has responded by adjusting the scheme's pilot phase – the emissions baseline is now based on 2019 emissions only, rather than the average of both 2019 and 2020. However, the surplus will not last forever, as demand grows in the wake of COVID-19.

Compliance with the CORSIA

The ICAO estimated the costs from CORSIA offsetting, assuming carbon prices range from a low of $6 to $12, to a high of $20 to $40, per metric ton of CO_2. The analysis shows that the cost of carbon offsetting for operators could range from approximately 0.4 percent to 1.4 percent of total ICAO forecast revenues from international aviation in 2035.



IEA High	20	33	40
IEA Low	8	16	20
Alternative Low	6	10	12

Carbon price assumptions (in $ per ton)

The low estimate is based on the CAEP's "optimistic" CO_2 scenario and IEA's low carbon price forecast. The high estimate is based on CAEP's "less optimistic" CO_2 scenario and IEA's high carbon price forecast. Source

According to a cost analysis conducted by IATA, the costs from CORSIA offsetting are expected to have less impact on aviation than fuel price volatility. The estimated offsetting cost in 2030 is equivalent to a $2.60 rise in jet fuel price per barrel. This in turn means that an extra $10 per barrel on the price of jet fuel would cost the industry about four times the estimated cost of offsets in 2030. Over the past 10 years, the standard deviation of jet fuel price annually has been up to $40 per barrel, meaning that airlines have coped with oil price volatility of more than 15 times the size of the projected offsetting cost in 2030.

Many airlines already offer some form of point-of-sale carbon offsetting option for customers, but that practice is not consistent and is much less prevalent in the air freight sector. The reality is that the air freight offsetting cost will need to be pushed onto customers, and however small the additional cost in percentage terms, it will create additional price pressures in the industry.

Will SAFs negate the need for the CORSIA post-2035?

The CORSIA's projected end date is 2035. However, a special review will be conducted by the end of 2032 to consider terminating, extending or improving the scheme. UK authorities have expressed concern that the "medium-term" nature of the CORSIA is not enough to ensure that aviation contributes to the global temperature goals of the Paris Agreement. As such, the UK government is negotiating with ICAO to agree a long-term emissions reduction goal for aviation, and to align the CORSIA to this goal, by its 2022 Assembly. Furthermore, various UK, EU and global climate change targets and policies tend to extend further than the CORSIA's projected end date. This may suggest that 2035 is not a realistic end date and, as such, ICAO should take a longer-term approach.

ICAO recognizes SAFs as an important long-term tool for reducing emissions. It has imposed a number of obligations on member states to accelerate the development and deployment of SAFs, with a significant proportion of conventional aviation fuels to be substituted with SAFs by 2050.

The use of SAFs in achieving climate goals is supported by both the EU and UK. In 2020, the European Commission published the Sustainable and Smart Mobility Strategy, with the objective of increasing the uptake of SAFs. As with the 2050 ICAO Vision for Sustainable Aviation Fuels, the strategy is based on a number of key milestones which continue up until 2050. The UK government recently proposed a Sustainable Aviation Fuels Mandate as part of the UK's wider de-carbonization strategy. Under the proposed mandate, jet fuel suppliers will be required to blend an increasing proportion of SAFs into aviation fuel from 2025. In addition, the consultation paper describes SAFs as key to the de-carbonization of the aviation sector beyond 2050.

While it is clear that SAFs will go some way to helping the sector reduce emissions, longer-term climate targets imply that they will not be sufficiently developed or deployed to negate the need for the CORSIA past 2035.

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Adam has 10+ years of experience advising on a broad spectrum of UK, EU and international environmental, health & safety, product compliance and climate change law matters. He is a UK-recognised lawyer for his expertise handling environmental matters and has regularly been ranked as a 'rising star' by *Legal 500* and as 'up and coming' by *Chambers UK*. In the latest *Legal 500 UK* edition, Adam has been ranked as a 'Next Generation Partner' and described as "an exceptional professional. We appreciate the quality of his insight and his approachability and availability".

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