

# What will airlines buy to offset their pollution?



TODAY'S SUPPLY OF CARBON CREDITS AND TOMORROW'S DEMAND FROM CORSIA

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## Summary

The concern that too few credits will be available to meet demand from airlines under the future aviation carbon market CORSIA is misplaced. Today's supply from the three largest voluntary programs alone is enough to cover CORSIA's demand until well into 2025.

This would leave five years for new projects to start and generate credits for the rest of CORSIA. The eligibility decision to be taken by States at the International Civil Aviation Organisation (ICAO) should, therefore, focus on the quality of the units, rather than agreeing on a weak interpretation of the criteria in order to inflate the supply of credits. In addition, allowing the use of CDM credits could flood the market with billions of units and undermine the integrity of CORSIA.

Finally, clear rules to govern the invalidation of CORSIA units must be agreed given that, presently, there are no rules in place to prevent double-counting of emission reductions.

## CORSIA in a nutshell

From 2021, airlines will have to compensate for the growth in their emissions from international flights between certain countries, under an international agreement called the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). Until 2026, this will be the case for flights between countries which have volunteered to participate in the system. From 2027, offsetting obligations will become mandatory for all international flights. CORSIA has been in the making since 2016. The 36 member states of the International Civil

Aviation Organisation (ICAO) Council are about to make a key decision to determine which offsets can be used by airlines under this system.

## **1. Where could the offsets come from?**

Currently, 14 initiatives have submitted an application to ICAO, for their offset credits to be recognised as CORSIA eligible. In order to be eligible, these organisations must be “carbon-offsetting programmes”, i.e. standard-setting bodies which guarantee the quality of carbon offsets, and must meet a set of criteria adopted by the ICAO Council.

Currently, none of the programmes meets all the quality criteria set by ICAO<sup>1</sup>. While some come close, it is currently impossible to prevent double-counting of emission reductions, and hence none of the programs actually qualify for CORSIA eligibility. Double-counting occurs when a country reduces its emissions, counts the reduction towards its own domestic climate target, and sells the reduction to an airline which also counts it towards its target. More on this and how to deal with the current situation in question 4 below.

Until the ICAO Council formally decides which programmes are eligible under CORSIA, it is impossible to say with certainty which offsets will be used by airlines. However, it is clear that some programmes, such as the Clean Development Mechanism (CDM), fall short of the quality criteria on multiple levels, and should therefore not be recognised as eligible. This is particularly important since the CDM is the largest carbon market to date and the volume of offsets it could potentially supply to CORSIA, most of which are of very low quality, would flood the market.

## **2. Will there be enough credits to cover demand?**

Assessing the level of supply currently available on the voluntary market is key to alleviate concerns regarding liquidity, i.e. ensuring that there are enough credits to cover transactions in the first years of the scheme.

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<sup>1</sup> Öko-Institut, Perspectives and Stockholm Environment Institute (2019): [\*“Lessons learned from the first round of applications by carbon-offsetting programs for eligibility under CORSIA”\*](#)

The demand for carbon credits under CORSIA over its current 15-year lifetime (2021-2035) is around 1.6 billion credits<sup>2</sup>. The available supply of credits from the three largest programs on the voluntary market, and their associated standard - the Voluntary Carbon Standard, the Gold Standard, and the Climate Action Reserve, alone is 126.9 million (VCS 74.8 million, CAR 14.7 million, and Gold Standard 37.4 million credits)<sup>3</sup>.

This number excludes all projects based on “Agriculture, Forestry and Land Use” (AFOLU) under VCS, because this program has excluded a large majority of these projects from its program application to ICAO<sup>4</sup>. It also does not include credits which have already been verified but not yet issued, i.e. where project developers have had their emission reductions verified but are yet to formally issue the units. For the VCS alone, this latter category could add tens of millions of units to this total<sup>5</sup>. It also excludes units issued by programs for the purpose of specific compliance systems (for example CAR issues offsets which are specifically aimed for use under the California cap-and-trade system and which are not being considered for eligibility under CORSIA).

This is, therefore, a very conservative estimate of the volume of credits available today (January 2020) on the market, and which would be available to airlines if these programs were deemed eligible under CORSIA.

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<sup>2</sup> Calculations by ICAO show demand of around 2.5 billion credits. However, this calculation is based on ICAO’s earlier projection of emissions growth, which was updated in 2019 with a lower expected emissions growth, in part due to lower growth projection in air traffic (see paragraph 2.1 of the draft resolution A40-WP/54). ICAO’s offset demand projection is therefore overestimated as it has not yet been updated to reflect the organisation’s new growth projection.

<sup>3</sup> The VCS registry can be accessed [here](#), and a summary of issued and cancelled units can be found on the same page. Data from the CAR registry can be found [here](#) for units issued and [here](#) for retired units. The Gold Standard Registry can be accessed [here](#).

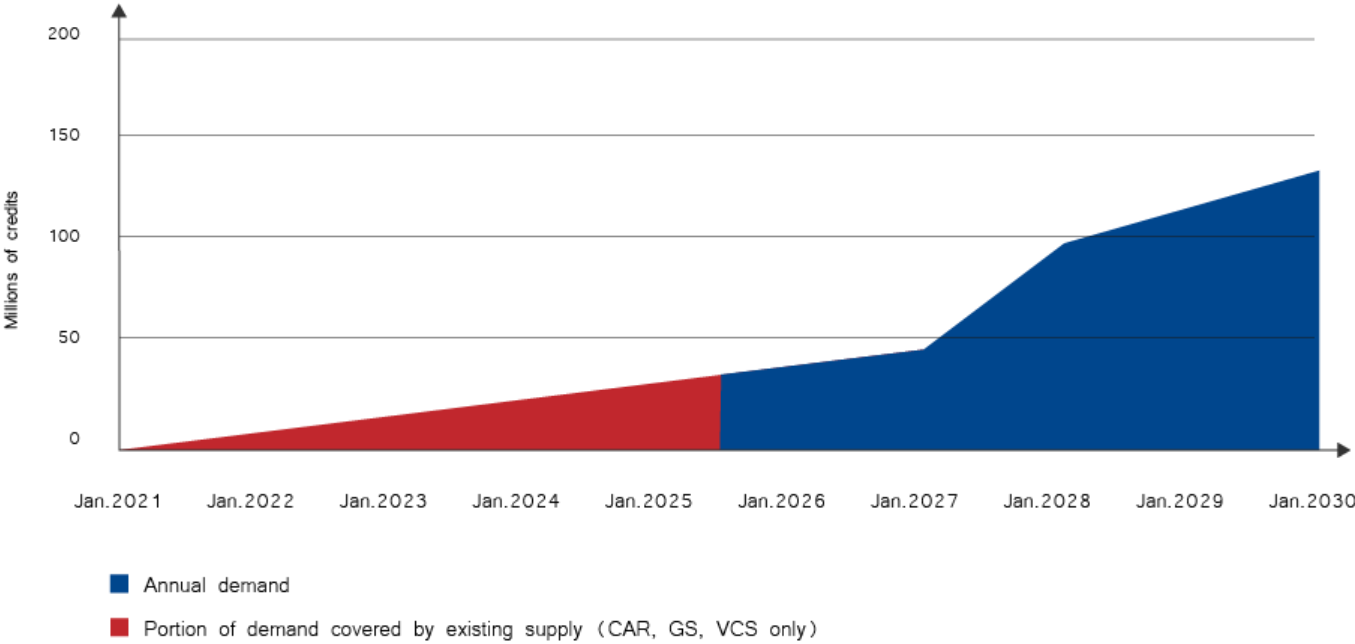
<sup>4</sup> P.13 of the [VCS application](#) to ICAO summarizes the types of projects which have been excluded from the application. Our estimate is conservative because VCS excluded a large majority of its AFOLU credits, but not all, while we excluded all credits.

<sup>5</sup> Based on information included in project documents, available through the VCS registry, the total number of verified but unissued units is 152.7 million. These include units from forestry projects which have been excluded by VCS from its CORSIA application. Currently, these projects constitute 42% of all issued VCS credits. Applying this same rate to the number of credits verified but unissued, this would mean that 88.7 million credits would be non-AFOLU, verified, non-issued credits under VCS.

While the total demand over the duration of CORSIA is significant, it is important to realise that few credits will be needed at the beginning of the period. First, this is because annual demand increases every year due to the nature of the carbon neutral growth objective, which also means that cumulative demand increases at an increasing rate over time. Second, CORSIA participation is voluntary until 2026 (included), and only 81 States have currently volunteered their participation (as of July 2019, according to [ICAO data](#)<sup>6</sup>). The actual coverage of CORSIA in the 2021-2026 period is estimated to be the growth of around 44% of total international aviation emissions.

Breaking down the expected demand of CORSIA by year, it appears that the supply from the three largest voluntary programs alone would be enough to cover demand until the end of 2024, when cumulative demand reaches 113 million credits, and well into 2025 (cumulative demand by the end of 2025 will have reached 160 million). The pilot phase would hence be fully covered.

### ANNUAL CORSIA DEMAND VS EXISTING OFFSET SUPPLY



<sup>6</sup> Note that, while it is stated on the ICAO website that volunteering states represent 76.63% of international aviation activity (as of January 2020), this does not mean that CORSIA will cover this portion of activity, because only flights between two volunteering states will be covered by CORSIA. The number reported on the ICAO website includes all international flights landing or departing from these states, including those to and from non-volunteering states, which would not be covered by CORSIA.

This would leave five years for new projects to be started, registered, and issue new credits. Such lead time is enough to ensure that new projects will start and meet the CORSIA demand.

Therefore, the concern of not having a sufficient number of credits available to cover CORSIA demand is misplaced and dangerous as it could push for recognising low integrity programs - such as the CDM - simply on the basis of ensuring sufficient supply in the market.

### **3. Is there a risk of oversupply?**

If the Clean Development Mechanism (CDM) was considered eligible under CORSIA, with its existing and potential supply, it *alone* could easily supply more than 10 billion credits over the period 2013-2035<sup>7</sup>. This would crash the market, taking away any incentive for airlines to reduce emissions.

As of June 2019, there were 861 million CDM credits remaining on the market<sup>8</sup>. These units alone would be enough to cover demand until 2031.

### **4. How can double counting be avoided under CORSIA given that countries have so far failed to agree on such rules for global carbon markets?**

One of the offset eligibility criteria agreed by ICAO is that one emission reduction cannot be claimed towards multiple climate commitments.

The only way to prevent such double-counting would be to require countries to apply so-called corresponding adjustments, i.e. make a correction to the level of emissions they report to make sure that they do not also count the reductions which have been counted by an airline already.

To operationalise this, an international agreement must be found between governments at the UNFCCC. However, so far countries have been unable to agree to this, which means that there

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<sup>7</sup> NewClimate Institute et al. (2019): "Offset credit supply potential for CORSIA"

<sup>8</sup> Based on IGES (2019): "[Kyoto Units All Transaction Data for the First Commitment Period](#)"

is currently no way to prevent double-counting between CORSIA and national climate targets under the Paris Agreement.

Ignoring the double-counting criteria is not an option since without robust rules CORSIA would increase global carbon pollution instead of offsetting emissions. Establishing comprehensive international accounting rules which exclude any possibility to double count emission reductions must be the first objective.

A second-best option is to make a conditional eligibility decision. This means that a credit should be granted only a partial eligibility until the host country has proven that it has applied corresponding adjustments. If it turns out later that this was not the case, the credit must be invalidated and replaced. For this, ICAO needs to adopt rules to deal with the invalidation of credits, and their necessary replacement. A “rainy day fund” could be established, whereby a small fraction of each purchase of offsets is placed in a reserve which can be accessed to replace invalidated credits.

However, this approach would only help cover small-scale invalidation of credits. It would not be effective to mitigate a situation where a large quantity of conditionally eligible offsets is found to breach the ICAO criteria. In such a situation, it would be difficult to maintain the integrity of the system as a whole. Agreeing on rules against double-counting at the international level, therefore, remains the most sensible solution to ensure credit eligibility and smooth functioning of CORSIA.

## Conclusions

Based on the data outlined above, it is extremely unlikely that CORSIA will face a shortage of carbon credits. Therefore, the priority for ICAO must be to only recognise high quality offsets. Watering down the ICAO quality criteria, or adopting a weak interpretation of it in order to mitigate misplaced concerns of a lack of supply would be a blow to the environmental integrity of CORSIA, and harm the credibility of ICAO’s climate commitment. While all programmes should be assessed in detail, the CDM is by far the most dangerous one because of the sheer volume of (junk) credits it could supply. It has

been clearly demonstrated in the past that the CDM does not meet ICAO's quality criteria, and allowing airlines to rely on its credits to meet their CORSIA obligations would rid the system of any effectiveness.

The failure to agree on international carbon market rules at COP25 creates a difficult context for the member states of the ICAO Council to decide on programme eligibility, given that it is currently impossible to rule out double-counting. Establishing international rules remains the highest priority. Failing that, a second-best option would be to recognise certain programs on a conditional basis if they meet all other quality criteria, and adopt clear and strict rules on credit invalidation, which will ensure that any credit which is found not to meet the quality criteria, even after the credit has been retired towards a CORSIA obligation, will be invalidated and replaced. An insurance fund, supplied by diverting a share of credits from each purchase, would be one avenue to remedy this situation.

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