



# Greenwashing Fact Sheet Series

'Greenwashing' is misinformation presented by an organisation in order to mislead others about the environmental impact of its current or future activities.

Globally, the aviation industry plans to triple in size by 2050. If this happens, we could see aviation fuel consumption and therefore greenhouse gas (GHG) emissions double by 2050. Governments, lobbied by

the industry, use unrealistic distracting promises of technological solutions and offsets to greenwash this growth. They also use economic growth and job arguments to justify subsidies and tax breaks for airports, airlines, manufacturers and fossil fuel companies. In this series of Fact Sheets, we examine these claims and debunk common myths and misconceptions.

## Fact Sheet 7 - Carbon Offsets

A carbon offset is a 'unit' of greenhouse gas (GHG) emissions that is (allegedly) reduced, avoided, or removed from the atmosphere by one entity and purchased by another entity to try and compensate for its own emissions.

Carbon offsets play an important role in many current emission reduction plans and can be part of cap and trade schemes like in California. Based on projects that are mostly located in the Global South, offsets are being used by states and companies (mainly in the Global North) to achieve compliance. Most trades take place on dedicated carbon markets.

The aviation sector makes extensive use of carbon offsetting. The responsible UN body, the ICAO (International Civil Aviation Organisation), has agreed upon a common scheme for international flights called CORSIA (Carbon Offsetting and Reduction Scheme for International Aviation). Some countries or regions have specific offset schemes for flights within their boundaries.

Air travellers may also be offered to purchase offsets when they buy tickets from airlines or travel agencies, or they might even come included in their package.

Airports are also directly utilising offsets to cover ground emissions and using that as an incentive for people to use their 'Green Airport', irrespective of aircraft emissions.



## WHAT THEY TELL YOU

**Essential:** Aviation emissions are 'hard to abate', so carbon offsets will be essential to achieve 'carbon-neutral growth' under CORSIA (2021-2035)<sup>1</sup> and 'Net-Zero CO<sub>2</sub> emissions by 2050'<sup>2</sup>.

**Certified:** The quality of carbon offsets is guaranteed through global standards and third-party certifications.

**Immediate action:** Large quantities of carbon credits from valuable projects are available on the market and waiting to be funded.

**Fair:** As flying is so important to society and the global economy – rather than flying less – it is fair to keep increasing aviation emissions and pay to reduce emissions elsewhere, or to remove CO<sub>2</sub> from the atmosphere, when it is more cost effective.

**Better than taxes:** Offsetting is a better alternative to green regulations, like taxes and limits on air traffic growth, that reduce profit available for aviation companies to invest in new technologies and fuels.

## WHAT THEY **DON'T** TELL YOU

**Fundamentally flawed:** Carbon offsetting does not reduce emissions. It diverts projects that are essential to achieving global climate objectives to justify further growth in air transport. Furthermore, tree planting and forest protection projects, the most popular categories, have no guarantee of permanence and cannot be scaled up globally due to the lack of available land.

**Ineffective or fraudulent:** Many offset projects do not meet quality standards and open the door to fraud.

**Postpone action:** Offsets distract from the urgent need to reduce aviation emissions to meet climate targets. They increase the risk of climate chaos, postpone action and serve as a licence to pollute.

**Unfair:** Carbon offsets are unjust as they justify high emissions from a wealthy minority, while grabbing resources that are essential to the majority, like land for growing food or restoring biodiversity.

**Far too cheap:** Carbon credits are so cheap that offsetting schemes will not reduce demand, which is essential to reduce emissions.

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## CORSIA

CORSIA is a global market-based scheme designed to offset the fraction of CO<sub>2</sub> emissions from international flights exceeding 85% of their 2019 level. It requires airlines to purchase carbon credits.

**Carbon neutral growth:** CO<sub>2</sub> emissions that will exceed 85% of baseline 2019 emissions will be offset (2023-2035).

**Worldwide agreement:** CORSIA offers a harmonised way to reduce emissions from international aviation, minimising market distortion<sup>3</sup>.

**Carbon budget fully spent by 2030:** Only a small part of emissions will be offset by CORSIA's 2035 deadline. The bulk will neither be abated nor offset causing the carbon budget of aviation to be fully spent by 2030.

**Weak agreement:** CORSIA is a minimal agreement for international flights only (not to mention exemptions) aimed at minimising the sector's costs. It will not be mandatory until 2027 and is not legally binding. It doesn't cover non-CO<sub>2</sub> emissions ( $\frac{2}{3}$  of the total climate impact of aviation).<sup>4</sup>

## OFFSETTING IS FUNDAMENTALLY FLAWED

Let's compare the atmosphere with a tank being filled with CO<sub>2</sub> through a number of pipes, one for each economic sector. The tank is expected to overflow in less than ten years if CO<sub>2</sub> continues to flow at the current rate. While most of the sectors are reducing their flow rates, the aviation sector is instead continuing to increase its flow and claims that offsetting some of it will do!

There are two general types of offsetting: one is avoiding or reducing existing emissions in other sectors; and the other is removing carbon from the atmosphere. So either paying other sectors to turn down their own taps, or investing in 'sponges' to absorb CO<sub>2</sub> and store it in supposedly safer tanks.

The issue with the first option, **aviation requesting other sectors to reduce or avoid their own emissions** (by financing e.g. wind turbines in India) is that it consumes for itself and cancels out, emission reductions of projects that are urgently needed to meet the tough global climate targets. Worse still, this diversion is used to justify actually growing aviation emissions.

The second option, **removing CO<sub>2</sub> from the atmosphere, cannot restore the atmosphere to a pre-flight state**. The only 'sponge' that can be utilised today is vegetation biomass. Artificial processes like DACCS (Direct Air Carbon Capture & Storage) are only at the demonstration stage and have not yet been proven to be deployable on a large scale. Building up carbon storage in trees or other biomass is a slow process and there is no guarantee the carbon will be stored long term. It usually takes decades before significant amounts of absorbed carbon are stored in a tree. They may also fall victim to fire, drought, disease, etc. and may eventually be cut down.

Another issue with planting trees is that land managed by humans is today a net global carbon emitter, due in particular to deforestation and forest fires. This will remain so for many years before the situation is possibly reversed and biomass becomes a net carbon absorber. **Actions to restore or increase biomass must first compensate for its continuing destruction** and aviation cannot appropriate the scarce resource of land needed for that purpose, whilst restoring biodiversity and feeding people.

United Airlines CEO, Scott Kirby: *"Traditional carbon offsets are mostly about planting trees, and there's nothing wrong with planting trees, but the truth is most of those carbon offsets aren't real. Those are trees that were going to be planted anyway, or trees that were never going to be cut down. But the bigger point is that the system can't scale. If we planted every square inch of the planet that could grow trees, it would account for less than 5 months of mankind's emissions. By the way we'd all starve to death because we just covered up all of the farms."*<sup>5</sup>

Faced with the climate and ecological emergencies, there is no time for half measures. There is no longer any give or flexibility in the system. All levers of action must be used. We need to thoughtfully restore ecosystems, stop deforestation and eliminate habitat destruction. We also need to replace fossil fuel power with truly renewable energy. We need to do all those things **in addition to reducing emissions from aviation**.

## A MAJORITY OF CARBON OFFSETS ARE INEFFECTIVE OR FRAUDULENT

Not only is the very principle of carbon offsetting strongly contested but it turns out that many of the projects financed do not deliver the expected results and are sometimes even fraudulent, despite their certification by official or independent bodies.

Several surveys have shown that certification is not a guarantee of quality. The criteria that projects are supposed to meet are often not met :

- The benefits of the project **cannot be measured and verified**;
- The project is **not additional**: it would have occurred anyway without the investment enabled by selling carbon credits;
- The alleged **emission savings are exaggerated**, resulting in the sale of millions of 'junk' credits;
- The project is **not permanent** or there is no guarantee that it will last as long as planned. Trees might die, burn down or be harvested prematurely and carbon be released again;
- The implementation of the project will cause indirect emissions that cancel out its benefits (**Carbon leakage**);
- The project's alleged emission savings are claimed by other organisations or counted in NDCs (Nationally Determined Contributions) (**Double counting**).

From the analysis of 1,350 wind farm projects in India under the Clean Development Mechanism (CDM), researchers concluded that more than 52% of the carbon credits issued were attached to projects that would otherwise have gone ahead and that the sale of these credits to regulated polluters had significantly increased global CO<sub>2</sub> emissions<sup>6</sup>. In 2023, an investigation by a consortium of journalists into Verra, the world's leading carbon standard for the rapidly growing voluntary offsets market, found that more than 90% of their rainforest offset credits – among the most commonly used by companies – **are unlikely to represent genuine carbon reductions**<sup>7</sup>.

**Even important players in the sector acknowledge that many offset projects are flawed** (see above, United Airlines CEO's statement) or, **like easyJet, have stopped using them**.

## NATURE BASED SOLUTIONS/NATURAL CLIMATE SOLUTIONS (NBS/NCS)

Nature Based Solutions refer to the sustainable management and use of nature for tackling socio-environmental challenges. Originally NBS encompassed environmental policies more broadly, whereas NCS were specifically carbon reduction but they are now pretty much used synonymously. NBS/NCS are important for mitigating climate breakdown impacts or other human-caused environmental problems, for example: reintroducing beavers to reduce flood risk; planting mangroves to absorb storm impact; flood reduction landscaping; planting to slow rainfall run-off; peat-bog, saltmarsh and wetlands restoration; etc. They can help restore biodiversity and remove carbon from the atmosphere, storing it naturally.

In principle NBS/NCS are a good thing. **However the dangers arise when they are used for offsetting emissions, particularly where they are commodified by market mechanisms and associated credits are traded and speculated upon.** Clearly NBS/NCS are something that should be encouraged as an **additional** aid to mitigating climate heating by storing carbon within Nature but not **instead** of emissions reductions allowing business-as-usual to continue.

The financialisation of nature (and its associated life support systems), assumes that it is impossible to halt destruction without putting a price on 'ecosystem services' and biodiversity, formulated by Costanza et al (1997).<sup>13</sup> This approach does lead to land grabbing and biodiversity loss and might lead to species gene banking and putting nature on sale like any other commodity<sup>14,15</sup> (the rarer the species, the higher the price).

Quantifying potential NBS/NCS carbon uptake from ecosystem protection or restoration and using this as

a lever to secure funding, puts the power in the hands of the finance providers. This makes any **safeguards impossible to enforce**.<sup>16</sup> In practice, those who have the most incentive to provide funding are those who wish to offset large-scale fossil fuel emissions. At COP25, a market for natural climate solutions<sup>17</sup> was jointly launched.<sup>18</sup> For COP26 a group of conservation and academic organisations wrote an open letter supporting NBS<sup>19</sup>, calling for a set of principles to be observed but **did not** rule out their use as carbon offsets. Some NGOs actively promote offsetting, carbon credits and have appointed corporate partners to aid such promotion.

There is a broad scope of schemes<sup>20</sup> and application processes. NBS/NCS are also increasingly used by airports like Heathrow,<sup>21</sup> who aim at achieving a "zero carbon airport by mid-2030s" to justify their growth plans and increased emissions.

NBS/NCS are not new but similar to previous measures<sup>22</sup> like the Tropical Forestry Action Plan (1985), the Clean Development Mechanism (Kyoto Protocol) and REDD (Reducing Emissions from Deforestation and forest Degradation).

We need to **push against false solutions, however they are rebranded** – and push for real solutions that are community led and come 'from the ground up'. Enabling self-determination and rights of indigenous peoples is one of the most effective uses of 'conservation' funding but very little is spent in this way. The 'Nature and Climate' framing was seen as a step forward from 'Climate' but it is still deficient. We still want to talk about nature but as part of an ecosystem culture - 'Nature, People and Climate'.

### CARBON OFFSETS POSTPONE ACTION

Offsetting emissions of flights, even when based on good quality projects, is **worse** than doing nothing, as it only postpones real action and increases the risks for younger generations. Passengers have no incentive to reduce their flights and rethink their travel habits; they think the emissions are offset and may even travel more, falsely believing their flights are guilt-free.

Governments hide behind offsetting to avoid taking measures that will actually reduce emissions, in order to protect the economic growth of sectors that they believe are important to their countries' GDP: tourism and air transport. Finally, for airlines, carbon offsetting is an easy way out that does not significantly weigh on demand.

### OFFSETTING INCREASES INEQUITY AND CREATES NEO-COLONIAL DEPENDENCIES

By giving a clear conscience to the wealthy minority who fly often, without encouraging them to take fewer flights, carbon offsetting allows air transport to continue to grow and worsen its climate impact. **The sector is thus increasing the inequities between this wealthy minority – which is enjoying the present – and the vast majority, who are most exposed to the current and future consequences of global heating.**

By constantly postponing efforts to reduce emissions, we will be leaving all ecosystems and both present and future human generations, with a carbon debt that they will need to pay off (if at all possible) by removing massive amounts of carbon from the atmosphere whilst having to cope with increasingly

harsh climatic conditions and resource shortages. It is also notable that aviation emissions are not currently being priced to set aside future money for this debt. Indeed, air travellers currently pay very little for their emissions, leaving future taxpayers and ecosystems to bear the consequences.

Since emission reduction projects are cheaper in the Global South, this is where most offset projects are located. They are a form of neo-colonialism and create new inequities between North and South. They demand to take over the management of large areas of land, usually in largely rural agrarian economy countries, and even dispossess local and indigenous peoples of their customary rights without their consent or sometimes even knowledge.

**CARBON CREDITS ARE FAR TOO CHEAP**

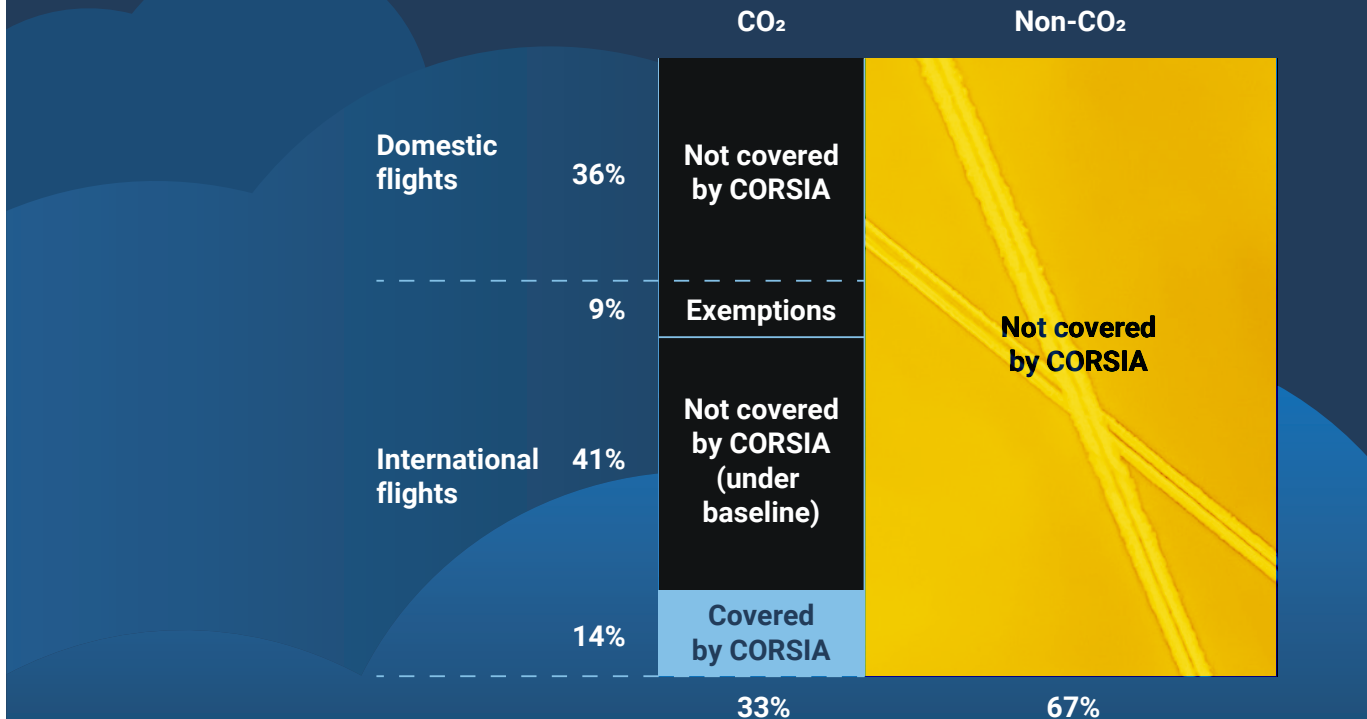
The carbon credits that can be used under CORSIA do not cost more than a few euros per tonne of CO<sub>2</sub>, while CO<sub>2</sub> permits were trading at a record high of €100/tonne in February 2023 on the European carbon market<sup>8</sup>. The NGO Transport & Environment calculated that **the impact on the cost of a Paris-New York ticket would probably not exceed €1.70 in 2030<sup>9</sup>**, a price that is totally insufficient to influence demand and bears no relation to the cost of CO<sub>2</sub> for the planet. As they are so cheap, they also stifle investment in systemic transformation which would always be more expensive.

Carbon offsetting serves as a means to avoid binding regulation and taxes such as frequent flyer levies, and limits on airport/airline expansion which would reduce emissions.

**Only 5% of the total climate impact of aviation may be covered by CORSIA in 2030**



Not only is CORSIA, the global carbon offsetting scheme for international aviation, inadequate to combat global heating but its coverage is very weak. It does not cover domestic flights, nor flights to smaller countries. Most importantly, it only covers CO<sub>2</sub> emissions above 85% of the level reached in 2019. This means that in total it may cover only 14% of CO<sub>2</sub> emissions and none of the non-CO<sub>2</sub> climate impacts, even though they are twice as large as that of CO<sub>2</sub>.



Sources:  
 ICCT (2020): <https://bit.ly/icct-CORSIA>  
 T&E (2022): <https://bit.ly/CORSIA-coverage>



## CORSIA: CARBON-NEUTRAL GROWTH IS A GROSSLY INSUFFICIENT GOAL

Carbon offsetting is, as we have seen, neither legitimate nor effective in reducing aviation emissions but even if it were, the sector's goal of 'carbon-neutral growth' is grossly insufficient anyway. Aiming for carbon-neutral growth<sup>10</sup> means offsetting only those emissions that exceed the base year emissions level. In order to avoid exceeding the Paris Agreement's 1.5°C global heating threshold, all emissions would have to be reduced by 55% by 2030. Without drastically reducing its (own) emissions, the aviation sector's carbon budget will be fully spent by 2030 (Fact sheet 06 Net Zero & Carbon Neutrality).

## CORSIA: A MINIMAL AGREEMENT

The sector is self-satisfied to have obtained an international

While dangling unrealistic technological greenwash solutions to establish an image of responsibility, **the aviation sector is masking its inability and unwillingness to reduce its CO<sub>2</sub> emissions within a timeframe compatible with the climate emergency by resorting to carbon offsetting**

While the development of new technologies and fuels may be helpful, it cannot be an excuse to delay emissions reductions that are needed NOW to mitigate the climate crisis. The only way to effectively reduce aviation emissions is to reduce air travel. To achieve this, we need effective regulations to limit air traffic.

agreement – which is admittedly difficult – but the consequence is a very weak agreement that resolves nothing. Worse still, it could prevent signatory countries from taking further steps via bilateral agreements or for their domestic flights.

Even when it becomes mandatory in 2027, CORSIA will only cover 14% of global CO<sub>2</sub> emissions from the aviation sector but as non-CO<sub>2</sub> impacts are not covered (and they account for 2/3 of the sector's total climate impact), CORSIA will in fact cover just 5% of the total climate impact of aviation (See infographic).

As it is applicable only to international flights, not legally binding, open to exemptions<sup>11</sup>, excluding non-CO<sub>2</sub>, limited to emissions exceeding those of the baseline (85% of 2019 emissions<sup>12</sup>) – and above all, based on the fallacy of carbon offsetting, CORSIA only adds to the sector's greenwashing toolbox.

**subterfuge. The only responsible solution would be to reduce air traffic** but it has chosen not to impact its immediate profits by instead paying derisory sums to have others do what it is unable or unwilling to do itself.

In our Degrowth of Aviation<sup>23</sup> report, we lay out how a set of measures could lead to a just reduction of aviation. In our Just Transition<sup>24</sup> paper, we present the idea of how a conversion of the aviation industry can guarantee security for the livelihood of workers.

## END NOTES & LITERATURE

<sup>1</sup> IATA (Nov. 2022): <https://bit.ly/CORSIA-fact-sheet>

<sup>2</sup> ICAO (7 Oct. 2022): <https://bit.ly/ICAO-net-zero>

<sup>3</sup> ICAO (2023): <https://bit.ly/CORSIA-overview>

<sup>4</sup> ICAO (2022): <https://bit.ly/CORSIA-FAQs>

<sup>5</sup> Washington Post Live "Buttigieg and the United Airlines CEO on state and future of aviation industry": <https://www.youtube.com/watch?v=b9x67JN-9hQ> (quote taken from 45 - 46 mins)

<sup>6</sup> Calel R. et al. (2021): <https://bit.ly/3NkAioN>

<sup>7</sup> The Guardian (2023): <https://bit.ly/43CB5HA>

<sup>8</sup> Carboncredits.com: <https://carboncredits.com/carbon-prices-today/>

<sup>9</sup> T&E (2022): <https://bit.ly/CORSIA-coverage>

<sup>10</sup> Since CORSIA was adopted in 2016, ICAO has committed in 2022 to a "long-term aspirational goal of net-zero emissions by 2050" (i.e. Carbon neutrality), but CORSIA's 'carbon-neutral growth' objective remains unchanged.

<sup>11</sup> Calel R. et al. (2021): <https://bit.ly/3NkAioN>

<sup>12</sup> The Guardian (2023): <https://bit.ly/43CB5HA>

<sup>13</sup> Costanza, R. et al (1997): [https://bit.ly/Costanza\\_R](https://bit.ly/Costanza_R)

<sup>14</sup> Banking Nature (2015): <https://youtu.be/y1EdZeRHgbM>

<sup>15</sup> Paulson Institute (2020): <https://bit.ly/FinancingNature>

<sup>16</sup> REDD-Monitor (2020): <https://bit.ly/redd-monitor>

<sup>17</sup> IETA (2019): <https://bit.ly/NCS-Initiative>

<sup>18</sup> In These Times (2019): <https://bit.ly/DivorcedReality>

<sup>19</sup> NBS Guidelines: <https://bit.ly/NBSguidelines>

<sup>20</sup> REDD-Monitor (2019): <https://bit.ly/ScopeSchemes>

<sup>21</sup> Heathrow Media Centre (2018): <https://bit.ly/UKpeatlands>

<sup>22</sup> World Rainforest Movement (2020): <https://bit.ly/WRM>

<sup>23</sup> Stay Grounded (2019): <http://bit.ly/DegAvR>

<sup>24</sup> Stay Grounded (2021): <https://bit.ly/JustTransitionAviation>

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