

# Airline Greenwashing Bingo

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## Our airline is committed to sustainability because...

We've bought new aircraft with lower emissions	We've signed a SAF offtake agreement	We offer recycled coffee cups on board	We have the lowest emissions of any airline
We're offering recycled tote bags to our passengers	Our emissions intensity is going down	We're enabling guilt-free flying	We're turning waste into fuel
We've done a trial flight using SAF	We're electrifying all our ground vehicles	We're reducing our emissions	We've signed up to Net Zero by 2050
We've invested in research into hydrogen aircraft	We give our passengers the option of offsetting their flights	We got rid of our printed magazines to save weight and fuel	Our emissions per passenger are lower than our competitors



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## Emissions

Let's talk emissions – what comes out the engine exhaust. The main one is CO<sub>2</sub>. (It's increasingly clear that non-CO<sub>2</sub> effects, especially contrails, may be very important too, and there's a lot of research going into these.)

Burning 1 kg of jet fuel produces 3.16 kg of CO<sub>2</sub> in the engine exhaust.

New aircraft are more efficient and burn less fuel, so they do have lower emissions – that's true. Airlines like to talk about “emissions intensity”, a measure of efficiency (typically stated as g CO<sub>2</sub>/pax-km: the grams of CO<sub>2</sub> emitted when carrying 1 passenger 1 km).

But when airlines buy new aircraft, it's to reduce their fuel bill by replacing older aircraft with less thirsty ones, or to expand their fleet and their activity. Sustainability is not the main consideration.

Replacing an older aircraft with a new lower-emissions one is good – but that older aircraft will probably go and fly for another airline. Airbus forecasts (in its 2023 Global Market Forecast) that almost 41,000 new airliners\* will be delivered between 2023 and 2042, and 58% of those will be for expansion rather than replacement. The global airliner fleet at the start of 2020 was about 23,000, and this is expected to grow to about 46,500 by 2042.

If an airline is buying new aircraft to grow, it doesn't really matter if the emissions intensity of the new aircraft is lower - the airline's total emissions are growing, and that's a problem. If your new aircraft have 25% less emissions than the old ones, but your fleet is now 50% bigger, your total emissions are bigger.

Some airlines are even more Orwellian: they say “our emissions are coming down” when they mean “our emissions intensity is coming down”. Their total emissions are going up, because they are getting more and more aircraft!

Some Low Cost Carriers point out their emissions intensity is lower than their competitors, so surely it's better to fly with them? That might be true if it's a zero-sum game and the market isn't growing, just moving from a less efficient airline to a more efficient airline, but usually the LCCs are aggressively growing the market with low fares and hence are increasing total emissions.

## Sustainable Aviation Fuel

Sustainable Aviation Fuel (SAF) is one of the main solutions to reduce aviation emissions.

It will be very important, but not nearly enough is available. Fuel producers are trying to raise money to build new SAF refineries but it's questionable whether there will be enough SAF to reach net-zero by 2050: there are still questions about availability of feedstock and of renewable energy.

Lots of airlines are signing “offtake agreements”: agreements to buy SAF from a producer. This is good **if** the agreement is a binding long-term contract which helps the producer raise money to build their refinery, but most offtake agreements are just short-term deals, or – even worse - non-binding MOUs which don't commit either side and are just for PR.

In the same way, when an airline makes a big deal about “we've done a trial flight with SAF”, that doesn't prove anything. We know SAF is safe to use in existing engines as it's been extensively tested and approved – airline SAF trial flights are about PR more than anything.

## Net zero

The airline industry has committed to reaching net zero CO<sub>2</sub> emissions by 2050. (“Net zero” doesn't mean zero, as some remaining emissions may still be compensated via offsets or carbon pricing.)

But to reach (near) zero, total emissions have to come down. And virtually every airline's total emissions are still going up, because their fleet growth outweighs any efficiency gains from their new aircraft. That means that airlines are heading in the wrong direction to meet this target.

Remember: how much the planet warms by is not determined by how much CO<sub>2</sub> we put in the atmosphere this year, but by the total we've put there. The longer we keep adding to the amount of CO<sub>2</sub> into the atmosphere, the hotter the planet will get, and the longer the road back.

**So a question for any airline CEO who talks about sustainability: “In what year do you expect your airline's total emissions to peak and start falling?”**

## It's all about context

In making sustainability claims, context is all-important.

Aviation's biggest contributor to climate change, **by far**, is engine emissions from aircraft.

That doesn't mean that other steps to reduce waste aren't useful – any business should be doing this, whether it's switching to electric vehicles or increasing recycling. The problem is when the airline pats itself on the back for small changes without putting them in context: "we've got rid of our printed magazine to save weight and fuel and emissions, and that proves we're committed to sustainability" is misleading, whereas "we know that we have to decarbonise flying, and that's the big goal, but in parallel we are making small changes like recyclable coffee cups" is acknowledging the context.

One large airline has been running an extensive advertising campaign about how it turns waste into fuel. That's a promising SAF pathway – but in tiny print at the bottom of the webpage it acknowledges "SAF represents less than 0.1% of our fuel."

Airlines have to start somewhere. But when they give the impression they're moving the sustainability needle more than they really are, it's greenwashing.



Altair Advisory is a specialist consultancy, led by Patrick Edmond, focused on aviation strategy and sustainability. We're based in Ireland, with clients across Europe and further afield. We work with airports, airlines, OEMs, public bodies and other aviation stakeholders to develop solutions for a sustainable future.

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## Hydrogen

A huge amount of investment (and public subsidy) is going into developing a hydrogen economy.

But today, hydrogen is a problem, not a solution. Hydrogen is used in industries like steel mills and fertiliser production, and virtually all of that hydrogen is made from coal or gas, with very high emissions. In fact, worldwide hydrogen production today has similar emissions to the global aviation industry. So when "green" hydrogen (hydrogen made using renewable electricity) becomes available, the most important use for it will be to decarbonise those existing highly-polluting industries.

Of course hydrogen may have a role in aviation. Initially, it'll be limited to small regional aircraft. It's likely to be 2040 or later before we see hydrogen-powered aircraft with more than 100 seats – they'll need to be all-new designs, and the logistics of hydrogen storage and distribution are challenging. Hydrogen is more likely to be used in "power-to-liquid" SAF.

Airlines can certainly invest in hydrogen research. But hydrogen-powered planes won't make any meaningful change to aviation emissions for fifteen years or more. See also "It's all about context."

## Guilt-free flying

Flying causes emissions, and it will do for the foreseeable future. Even the most ambitious SAF scale-up plan, the EU's Refuel-EU Aviation programme, only calls for 70% SAF by 2050, and even SAF isn't usually emissions-free. Especially with the projected growth of air travel, that's still a lot of emissions.

Some airlines offer to "compensate" or "offset" their emissions by funding other projects to capture CO<sub>2</sub> or prevent it being released, for example forest protection schemes. The effectiveness of these schemes is very questionable. The agencies that certify them are tightening their standards, but offsets aren't yet a reliable or trustworthy solution.

Many of our daily activities generate emissions, and flying is a big one. The best way to fly guilt-free today is to only fly when necessary, to try to reduce the amount of flying that's necessary, and to hold airlines (and others) accountable for their greenwashing, in order to speed up real emissions reductions.