



When will it be safe to fly again?

YouTube video presentation @ <https://youtu.be/31T7VFKmNf4>
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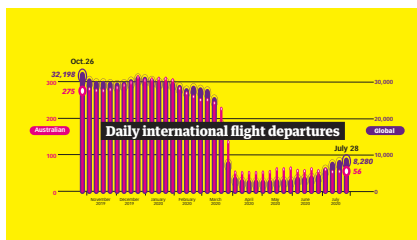


Welcome. And thanks for your interest in asking when it will be safe to fly again.

I'm Mark Carter, a crew member of Flight Free Australia. We're part of a growing global network of groups campaigning to raise awareness of aviation's contribution to the climate crisis.

To kick off this presentation I want to first acknowledge Aboriginal sovereignty over the land on which we live. And pay my respects to all Aboriginal Elders, past and present.

We also want to acknowledge the difficulties front of mind for you all right now in coping with the worrying pandemic.



It's certainly made the international aviation industry shudder like never before. And we're all well aware these days of how few flights there are.

Qantas CEO Alan Joyce **says** [1] flight demand won't get back off the ground for another year at the earliest. And with profit margins dependent on high – but **not** [2] symptoms-tested or socially-distanced – occupancy rates, who knows how many carriers will even be on the runway then.

But what if a Covid vaccine is developed? If flying can be virus-free, will it be safe to fly again?

Those champing at the bit, planning and dreaming of that holiday, and the opportunity to escape from worries, may hope so. How bad are aviation emissions anyway? Will they be jumping from the frying pan into the fire?

To appreciate the hazards of aviation emissions, we need to first understand our broader climate predicament.



We're in **a climate emergency** [3].

The Earth is already too hot. And, from a prudent risk management point of view, **we can emit no more carbon** [4] without breaching the Paris limits, without warming beyond 2°C.

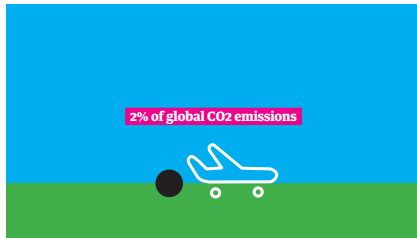
For our **long term safety** [5], we should have reduced emissions to zero **yesterday** [6]. So now we must cut them **as fast as socially, economically and technically possible** [7]. Long-term deadlines delay reductions.



And any practical short-term deadline is dependent on our capacity to get all hands on deck, with a total focus on the “zero” priority. It's dependent on, not “doing as much as we can under business as usual”, but, as much as is necessary in emergency circumstances. That is, cutting emissions at **unprecedented rates** [8].

Anything short of that is deckchair shuffling.

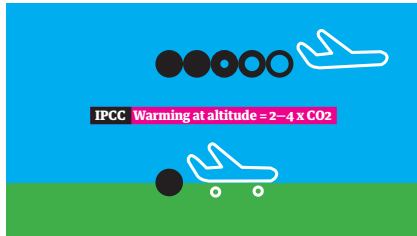
So it's within this context that we can now assess the hazards of aviation emissions.



The big thing about them is: they're far more warming than you've been told.

The **aviation industry** [9] wants us to believe it's two percent global CO2 emissions, means it's only responsible for two percent of global warming.

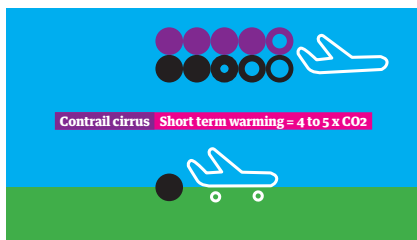
But at altitude it's *non-CO2* emissions are more warming than CO2 alone.



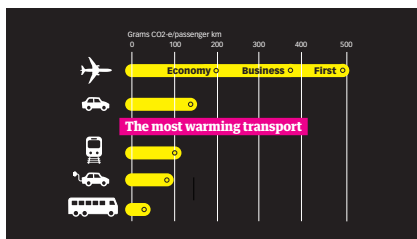
Estimates vary on by how much. The **IPCC says** [10] by between 2 and 4 times as much. But that estimate doesn't include warming from contrail cirrus. The exhaust trails you see criss crossing the sky.



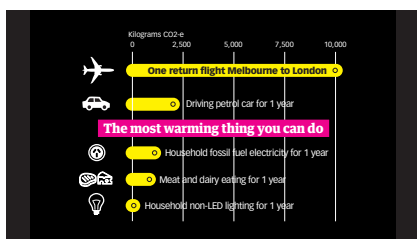
A 2019 **study** [11] reported warming from contrail cirrus, out to 2050, as twice that from CO2 alone.



And a 2010 **study** [12], reported short term warming of contrail cirrus at four to five times that of CO2 alone.

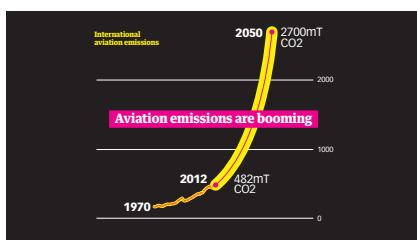


This is what makes flying the **most warming** [13] form of transport,



and the **most warming** [14] single thing you can do. For example, a London return flight increases an average Australian's contribution to warming by **50%** [15].

So emissions are far more warming – *and* there's more of them.



Before the pandemic aviation emissions were the **fastest growing** [16] in the transport sector, increasing about 6% a year and projected to be **nearly a quarter** [17] of all carbon emissions by 2050. With the richest 10% of us responsible for **three quarters** [18] of them.

Australia's domestic aviation emissions have **grown** [19] over 3 times since 1990. And mid-Covid **industry projections** [20], as of late July, have passenger numbers rising between 60 and 100% over the next 20 years.

Now these projections may or may not be realised post-Covid. But whatever their emissions, the industry's responsibility is to get them to zero.

So how are they doing with that?

Well, not so well. First up, flying can't be emissions-free anytime soon.

Sustainable Aviation Fuels including biofuels, can only reduce CO2 emissions marginally, and they still create global heating ozone and contrails. And their deployment at scale is problematic, if not impossible – for **biofuel** [21], for **fuel from waste** [22], for **eFuels** [23], and for **battery power** [24].

So is the industry *reducing* its emissions at all?

It's emissions reduction response is CORSIA. The Carbon Offsetting and Reduction Scheme for International Aviation.

But CORSIA will only regulate **less than 5% of projected CO2 emissions** [25] from all international aviation between 2015 and 2050.

And, it ignores aviation's non-CO2 emissions. The ones with the bigger warming effect.

CORSIA is too little, and too late.

The aviation industry is acting with no urgency. Like they did in January when they **resisted cancelling** [26] flights that could've reduced **the spread of the virus** [27]. Their industry association, the IATA, **aims** [28] only to cut *net* CO2 emissions in half by 2050.

And **Qantas** [29] aims for net zero CO2 emissions by 2050. They are among hundreds of businesses around the world who've signed up to this net zero 2050 goal through the **UN's "Race to Zero"** [30], and the **"Science Based Targets Initiative"** [31].

But net zero emissions is not zero emissions. First, it ignores aviation's more warming non-CO2 emissions.

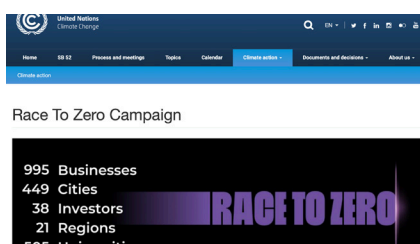
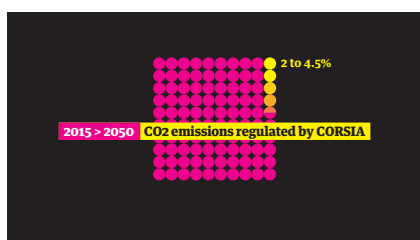
Second, it relies on offsetting CO2. On scientifically invalid carbon accounting. Create 10 tonnes of CO2 emissions now – and it's associated warming. Then pay others for the 10 tonnes they'll either avoid down the track, or, that'll be drawn down when the trees are fully grown – if they don't burn or die.

At a time when *all* sectors must rapidly **reduce their emissions** [32], offsetting is a cheat because it allows ongoing emissions.

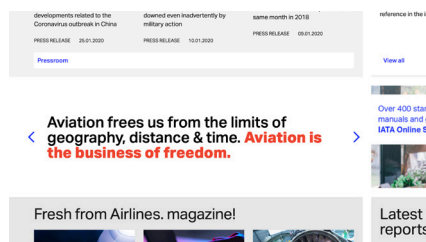
We need to avoid emissions anyway. And we need to draw them down anyway – through the natural carbon cycle– to reduce the existing carbon in the atmosphere that's already made warming dangerous.

Net zero also relies on pie in the sky hopes. That **Negative Emissions Technologies** [33] such as Carbon Capture and Storage will remove CO2 from the atmosphere some time in the future.

Net zero is a pathway to catastrophe. Ongoing emissions to 2030 or 2050 **won't prevent** [34] heating above 2°C. The net zero by 2050 plan is like a plan to stop your car in 50 metres when there's a precipice in 10 metres.



So the industry's emissions reduction response to our climate predicament is irresponsibly inadequate.

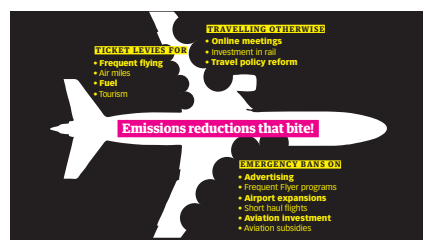


The IATA, proudly declares that “Aviation frees us from the limits of geography, distance and time.” This delusion – that we can exist outside physical realities – reveals their mindset.

The difficult truth – the reality we have to get our head around – is that the aviation industry, like coal, like fracking, like oil and gas exploration, has no short term future if climate catastrophe is to be avoided – even if it's Covid-safe.

For those of us wanting to avoid that catastrophe what can be done to cut emissions to zero?

Of course development of emissions free eFuels should be continued, but in the meantime flight demand can be **decreased** [35] in a number of ways. By ticket levies including on frequent flying, by bans including on airport expansions, and by providing alternatives to flight. But banning all but essential flights is really what's now necessary for safety – what we've done to stop Covid spread, now we need to do to stop aviation emissions.



These policy responses are more likely to get off the ground if those proposing them **walk the talk** [36]. If our behaviour matches our words.

So, we can only get to zero if, when we *can* fly, we choose *not* to.



In any emergency we change our behaviour. Why would others believe there's a climate emergency, if we just get back on board after the pandemic? If we were at war then holidaying overseas wouldn't be our priority. But hang on, we are at war – against greenhouse gas emissions!

For safe climate campaigning, while other emissions are out of the spotlight, but with flying in the news, right now is **Pledge Time** [37].



Pledging to stay grounded, during and after Covid.

Pledging is the single largest emissions reduction you can make. It's an inspiring example to friends and colleagues. It's walking the talk to government and business. It's an immediate climate emergency response.



And it embodies the necessary behaviour change – of collective voluntary restraint.

What could be more **empowering** [38] than acting now to avoid climate collapse by staying grounded?



Thanks.

The *fully referenced text of this presentation* is on our website as a PDF.



ENDNOTES

- [1] <https://www.telegraph.co.uk/travel/news/qantas-grounds-long-haul-fleet-three-years-coronavirus/>
- [2] <https://www.qantas.com/au/en/travel-info/travel-updates/coronavirus/health-while-flying.html>
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- [4] <https://www.resilience.org/stories/2020-07-16/as-warming-approaches-1-5c-talk-of-a-carbon-budget-for-the-paris-targets-is-delusional/>
- [5] <https://www.pnas.org/content/115/33/8252>
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- [7] https://52a87f3e-7945-4bb1-abbf-9aa66cd4e93e.filesusr.com/ugd/148cbo_eeb612ebbede44fda1455ec0bf54421e.pdf
- [8] <https://www.tandfonline.com/doi/full/10.1080/14693062.2020.1728209>
- [9] <https://www.iata.org/en/programs/environment/climate-change/>
- [10] <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32008L0101> (Paragraph 19)
- [11] <https://www.aerosociety.com/media/12007/greener-by-design-report-2018-2019.pdf>
- [12] <https://pubs.acs.org/doi/10.1021/es9039693>
- [13] <https://www.transportenvironment.org/what-we-do/flying-and-climate-change>
- [14] <https://stay-grounded.org/get-information/#footprint>
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- [17] <https://www.carbonbrief.org/aviation-consume-quarter-carbon-budget>
- [18] <https://www.nature.com/articles/s41560-020-0579-8>
- [19] <https://ageis.climatechange.gov.au>
- [20] <https://www.climatechangenews.com/2020/07/31/air-travel-bounce-back-faster-domestic-markets-industry-forecasts/>
- [21] <https://www.transportenvironment.org/what-we-do/aviation-and-eu-ets>
- [22] <https://waste-management-world.com/a/in-depth-waste-to-aviation-fuel-time-for-take-off>
- [23] <https://www.transportenvironment.org/publications/how-decarbonise-european-transport-2050>
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- [25] <https://stay-grounded.org/corsia-baseline-change-aviations-climate-regulation-is-broken-beyond-repair/>
- [26] <https://ricochet.media/en/2983/air-travel-has-rapidly-spread-covid-19-but-industry-has-been-reluctant-to-limit-flights>
- [27] <http://visionofhumanity.org/app/uploads/2020/06/COVID19-and-Peaceweb.pdf>
- [28] <https://www.iata.org/en/programs/environment/climate-change/>
- [29] <https://www.qantasnewsroom.com.au/media-releases/qantas-group-to-slash-carbon-emissions/>
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- [31] <https://sciencebasedtargets.org>
- [32] https://unfccc.int/sites/default/files/english_paris_agreement.pdf
- [33] <https://royalsocietypublishing.org/doi/10.1098/rsta.2016.0447>
- [34] <https://www.youtube.com/watch?v=x94fcoIG9GQ>
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- [36] <https://www.politico.com/news/magazine/2020/04/21/earth-day-individual-climate-impact-198835>
- [37] <http://www.flightfree.net.au/all-causes/flight-free-2020-pledge/>
- [38] <https://newsociety.com/books/f/facing-the-climate-emergency>