"Plane stupid" talk at SLF 2019 *Off the grid* session
4pm on Saturday 9 February 2019 by Mark Carter

Hi, Thanks for coming today. It's encouraging to see such a turn out.

Six years ago I wrote a long letter to an old friend in London explaining why I wouldn't be flying over for his 50th birthday … because of the warming effects of aviation emissions.

It was my first line in the sand. Then I shut up. I found it difficult to say the same thing face to face at home. How could I undermine friends travel plans or their exhilarating adventures overseas?
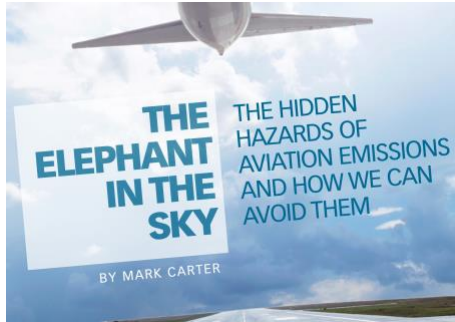
Then, I took another step. I researched and wrote *The elephant in the sky*, informing myself, and those who read it, of the work of many in cataloguing the dangers of aviation emissions.

A proxy, I kidded myself, for speaking out loud.

My next move was suggesting to the organisers of this Festival, that they consider running a no-fly festival next year.

They replied: why don't you first, do a talk on aviation emissions, this year.

Check, mate.

So here I am today. Hoping to enthuse you too, to talk about — and even take action — on that taboo topic.

So what does the research tell us?

First, in a world needing to reduce its emissions, what's happening with those from aviation?

Second, what aviation emissions reduction are possible? What reductions are necessary?
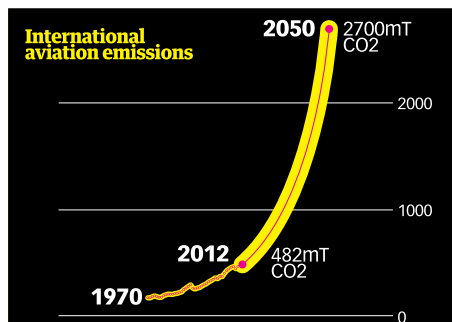
And **third**, what response can provoke the required aviation emissions reductions?

Ok, first, what's happening with aviation emissions?

Well, they're booming, and they'll be catastrophic.
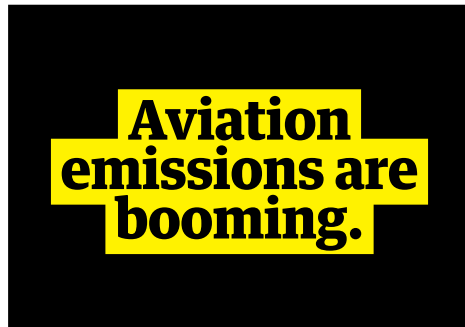
· Within 30 years, aviation emissions are projected to be over 3 times greater than now ... booming by 360%.

Because we're flying more. Each year, more than 1 in 4 Australians fly overseas at least once ... with over a million of us, taking 3 or more overseas trips.

With those to Europe and back, for example, creating emissions roughly equivalent to half a year's worth of an average Australian's emissions.

Our export figures illustrate the size of aviation in our economy. Australia's **third** largest export earner, as at March last year, behind coal, and ahead of natural gas, is the education sector's international student industry... entirely dependent on aviation.

Infrastructure growth is also an indicator. On the back of expected passenger demand growth, new airports and expansions to existing airports, including new runways, are in the works for Melbourne, Sydney, Adelaide and Perth.

· **Ok, so how catastrophic are these booming emissions anyway?**

They're catastrophic.

Aviation is the transport sector's biggest emitter, and,

Most warming

Grams CO2-e/passenger km
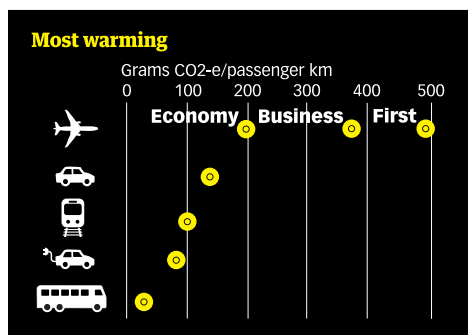
most warming per kilometre travelled … because emissions from jet engines, high in the atmosphere, have a warming effect possibly more than five times greater than from the same amount of fuel burnt on the ground.

Left unchecked, aviation emissions alone, could drive warming to over 5 degrees within 80 years.

Bill Hemmings, aviation director of Transport & Environment, the European NGO campaigning for cleaner transport, sums it up when he says "Taking a plane is the fastest and cheapest way to fry the planet".

So, aviation emissions are booming and catastrophic.

How are we going with aviation emissions reductions? What emission reduction mechanisms are in place, or possible?

The bad news is that reductions, of the order needed, are blocked by 3 obstacles …

They're hidden.

· **First up, they're hidden.**

We have ignored international aviation emissions reductions because they're not included in our Paris Agreement pledges.

They're unregulated.

· **The second obstacle is they're unregulated** in that the international aviation industry's plan for tackling emissions, allows them to continue to grow!

The illusion of emissions reductions is created through the smoke and mirrors of emissions offsetting. Whereby a deceptive aviation industry takes the credit for the emissions reductions of others.

Lack of regulation has also allowed international jet fuel to remain tax free, unlike the fuel for other transport modes … in all, an annual 60 billion euro, fuel tax evasion … or fossil fuel subsidy.

• Obstacle three: Aviation emissions are tech-neutral.

Altered flight paths, increased fuel efficiency, battery power and biofuels are all alike in delivering minimal emissions reductions in the near future.

Altered flight paths could deliver reductions of around 12%.

New fuel standards established by the ICAO, could reduce emissions by only 11%.

And electric aviation, powered by batteries at low enough costs, and with high enough power to weight ratios for long haul flights, is decades away.

Biofuel production in quantity, enough to *replace* growing jet diesel demand, is not possible. Most biofuels work only in a jet diesel mix. All biofuel production at scale is constrained by limits on the availability of feedstock.

Dr. Scott Cohen, of the University of Surrey, summarises the technical situation: Quote "The way in which new technologies are presented constitutes a 'myth', a form of propaganda which denies the truth that progress in climate policy for aviation has stalled. The use of these technology myths by industry and government relieves anxiety that nothing is being done, by pointing to future 'miracle' solutions, which in reality are unfeasible." Unquote.

So what reductions are likely necessary to prevent runaway warming?

They need to be zero.

· Our Paris reduction commitments, are a path to more than 3 degrees of warming. And closer to 5 degrees, that is, a temperature at which society will have unravelled, when we take into account the warming released from feedbacks — such as melting permafrost — that are triggered by human-made warming.

For a safely high probability of avoiding catastrophic runaway warming there is no 'carbon budget' remaining … that is, there is no carbon we can safely burn on the ground or in the air. Every tonne we continue to emit will have to be drawn back down.

In the words of Al Gore: "We have a **global** emergency."

UN Secretary General António Guterres warns that, in climate change, "we face a direct existential threat."

Professor Schellnhuber, for twenty years the head of the Potsdam Institute for Climate Impact Research, and a senior advisor to Pope Francis, German Chancellor Angela Merkel and the European Union says "humanity must choose between taking unprecedented action, or accept that it has been left too late, and bear the consequences."

So, finally, how then can we respond? How can we provoke the required reductions in aviation emissions —— public policy-wise, as a community, and, personally.

· **Acknowledging the crisis is not enough**. As in a bush fire, it's how we respond that's most important.

Drastic and rapid reductions should've been well underway yesterday. Our response over the next 10 years is therefore critical.

What response *would* reduce aviation emissions to the extent necessary?

The answer is obvious. Stopping flying will do it.

But hang on a minute ... we say. Well, those amongst the 5 percent on the planet who fly ... say.

We value flying. Everyone's doing it. Even those concerned about climate change.

How can it be a problem when it enables so much? Jet travel is *normal*.

So ... flying is now both extremely dangerous, and, at the core of our identity — placing our physical and mental worlds in conflict.

Maybe we can better connect with the "stop flying" response, by comparing it to our response to other emissions.

Unlike, for example, switching from coal fired electricity generation to wind or solar power, and still being able, as *normal*, to turn on the lights ... for aviation, there is no easy-switch, no alternative to jet diesel, that enables us to continue to fly as *normal*, and emissions-free.

Put another way, it's impossible, for those concerned about global warming, to continue as *normal*, <u>and</u> stop aviation emissions.

Therefore stopping aviation emissions is only possible outside *normal*.
In *abnormal*.

Like when a raging bushfire is on the ridge. We forget the *normal*, the TV show we're watching. We do *abnormal*. Like putting our most precious things in the car and leaving home, possibly for ever. Things we'd otherwise, not do.

This *abnormal* is an enabling place.

It's here, and only here, in the *abnormal*, where the needed response to our climate predicament — the emergency response — is possible.

Where society puts on hold the way we're doing things now, the *normal*, and prioritises implementing a safe-climate plan.

In this way the "stop flying" message, aside from being a call to action on the way we travel, brings the *abnormal* emergency response pathway into sharp focus.

If we're in a *normal* world the "stop flying" message is a massive challenge. When we recognise we're in an *abnormal* world — because we can't stop aviation emissions *and* keep flying — then staying grounded is a no brainer.

So now, let's get practical.

· **What public policy responses**, possible in this *abnormal* world, would constrain demand?

Options include:

· Rationing flights to zero, over 10 years, through a personal carbon quota scheme

· Including international aviation emissions in massively more ambitious Paris commitments

· Halting all airport expansion, and

· Developing land based zero emissions alternative travel modes such as High Speed Rail networks.

Such policies would do the heavy lifting, or should I say shrinking, of aviation emissions.

· **What then is our role as a community?**

These and other demand reduction policies can only be implemented if advocated far and wide.

If climate NGOs add reducing aviation emissions to their mission.
If the rest of us begin talking, about our *abnormal* world.

The place where our despair, exhaustion and frustration, at trying to fit a square peg in a round hole — at trying to effectively stop calamitous warming within a business as usual world — is a thing of the past.

· **And how about our individual responses?**

As well as talking *abnormally*, we can start *walking* in the No fly zone.

Doing so achieves 3 things.

It immediately reduces our emissions.

It provides an example to others of meaningful personal action.

And it's the emergency response, in practice.

Thank you.