

I am addressing the question of the environmental impact of aircraft operations outlined at the end of Chapter Two.

The Green Paper describes a parallel universe - in which the projections are for continuing expansion - while whimsically proposing it will also reduce aviation emissions. The Paper appears to ignore the rapidity of the changing physical environment and the urgency of action

(<https://www.nature.com/articles/ngeo3031>, Hansen et al 2021).

The Minister must find a simple effective way to solve the problem without committing resources to unsustainable solutions.

Primarily the Green Paper has failed to consider how present and worsening climate change conditions impact the future of aviation.

It has failed to see that a climate emergency requires fast, sensible prioritising of necessities for transport, not the desires of the aviation industry. It has ignored the shift in scientific predictions from a 2050 limit to reduce emissions to near zero, to 2035, (Australian Academy of Technical Sciences and Engineering (ATSE)) or even 2030 before the climate is out of control. Severe weather events are already disrupting airport infrastructure, travel schedules and flights because of extreme wind, rain, heat events - for example the 2023 climate disruptions in Australia and the US. The possibility of a tipping point cascade to exacerbate global heating is increasing - resulting in a climate out of control (Steffen 2021).

In dismissing the ever decreasing years of effective action left to the world, **the Green Paper is denying the reality that the only way that aviation can continue to operate at all is to reduce flights** (view Anderson, for a logical explanation - <https://www.youtube.com/watch?v=kMjOkikQ7JU>). Reducing

flights in order to keep step with reductions required of other sectors means setting annual targets for emission reduction. 7.6% p.a. has been suggested as the most socially just amount globally for all sectors (UNEP press release 2019) . Aviation must also do its fair share. This is the most equitable, effective and reliable means of reducing emissions in time to avoid climate catastrophe.

The Green Paper has failed to consider that the aviation industry is relying on technology not yet available at scale, or as yet not properly developed, instead of focussing on those technologies presently available.

The suggested alternatives to aviation fuel in the form of biofuels have been made without properly considering that these alternatives will be subject to claims from other industries for the same land (Royal Society Policy Briefing 2023), that they do not make sense economically (Berners-Lee, 2023), and will deprive other sectors of the economy of the resources on which lives depend (ICCT 2021,(Searle & Christensen, 2018)). For example, the proposal to have a biofuel industry will use land which would compete with food growing.

Proposed efuels are not only expensive but also require huge extra amounts of renewable energy which Australia is already finding difficult to build (<https://www.abc.net.au/news/2023-11-23/labor-not-on-track-to-meet-climate-targets-new-plan/103137630>). Another proposal would use renewable energy to create hydrogen which other industries also need, for example, to create green steel. These options, whether mixed with present aviation fuel or not, will in any case still be 30% short of 100% replacement by 2050 (IPCC AR6 WGIII, ‘Summary For Policymakers’ C.8 and WGIII, IPCC AR6‘Full Report’, Ch. 5, 5-3). A more fanciful proposal is that CCS will be ready in time to drawdown extra emissions when there is not one CCS facility with a history of doing this (<https://www.climatecouncil.org.au/resources/what-is-carbon-capture-and-storage/>).

Despite its expense – plus competition with more urgent social needs and the risk involved of putting all the possible solutions in one basket - if a biofuels or efuel industry is recommended it must be prioritised for emergency responses within the country, and not for luxury purposes such as tourism or private aircraft.

The Green Paper has assumed that there are no alternatives to flying for local and international populations despite the example of many other countries which are at present using and increasing land and sea based transport options that can more easily implement renewable energies.

Australia has only historically become dependent on the aviation industry because of political decisions and policies written over time by successive governments which have neglected ground transport infrastructure and development. The quickest way to communicate over distances is electronic, and many businesses have switched to this already

(<https://thesmallbusinessblog.net/how-many-people-use-zoom/#:~:text=The%20latest%20recorded%20number%20for,people%20using%20the%20conferencing%20program.>)

Ground transport options – cars, buses, trains - are being converted and changed to renewables at a far greater rate because the weight factor is less important and options are available

(<https://www.nature.com/articles/s41560-021-00957-9>). Trains and buses, with more financial support, and better infrastructure could easily take the place of aircraft. There is a network of small ports which can also provide transport for goods and people. For necessary emergency flights there are electric aircraft already capable of longer distances, over 500 kms, which would provide services to most airports within the country

(<https://www.nytimes.com/2023/11/03/business/electric-planes-beta-technologies.html>).

There is no present solution to international flights except to revert to a system of short flights which used to be the norm 60 years ago for long

distances and for which fast further development of better and lighter batteries would clearly be possible.

Considering the climate emergency we face, aviation must be considered as only part of the total transport industry, and perhaps the least necessary, as other transport options are available for most of its purposes. In addition, aviation fuel is dependent on overseas suppliers and is easily disrupted by international events – for example war, financial crises, or disease outbreaks (e.g. Covid). This has already been noted in Chapter One of the Green Paper.

In short, the view of aviation - which has been held by most climate scientists for years - is that there is **no future pathway where we can still have a sustainable aviation industry that depends on fossil fuels** (<https://www.nature.com/articles/s41893-022-01046-9>) and, apart from demand reduction (www.nature.com/articles/s41893-022-01046-9), there are no reasonable alternatives to reducing aviation emissions in the time left to do so.

Conclusion:

The Green Paper must address the issues raised in this submission.

- increasing evidence that the climate emergency is worsening and we are running out of time for solutions to emission reductions;
- the reality that the easiest way for aviation to address the reduction of emissions is to reduce flights;
- the government is ignoring other safer methods of grounded transport which are more easily converted to renewables;
- the aviation industry is relying on solutions which are very expensive, unjust, not yet developed or not scaleable, and

- the inescapable reality that a sustainable aviation industry is not possible if it still uses fossil fuels in whatever mix.

Until a more just, pragmatic and socially equitable approach to the aviation sector is achieved, there is no point in discussing the other issues identified in the Green Paper of infrastructure, workforce, aviation services, fit for purpose agencies, etc..so carefully addressed. If the Government is serious about mitigating the climate emergency instead of exacerbating it, the aviation industry has to reduce in size as soon as possible.

The Green Paper needs urgent revision to reflect reality.

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Yes, you may publish this submission.