

Climate Action Canberra submission on the
Canberra Airport Master Plan - Preliminary Draft

“We are on the precipice of climate system tipping points beyond which there is no redemption.”
- James Hansen, Director of the NASA Goddard Institute for Space Studies

Summary

Climate Action Canberra believes that in any vision of a sustainable Canberra an expanded Airport has no place.

Aviation is one of the fastest growing sources of greenhouse gas emissions. It is unjustifiable to expand a facility which enables the further growth of this sector at a time when we need to rapidly reduce these emissions.

The Canberra Airport Master Plan has a vision that accommodates heavier planes, more planes, more flights, and flights over far greater distances. In the context of the new problem of climate change, the vision of the Master Plan is truly blind.

The Master Plan

Climate change is briefly mentioned in the Preliminary Draft Master Plan, totalling about one page about 210 pages in. Such a small section does not adequately deal with what is an important issue for the aviation sector, and for society as a whole.

The Airport's Preliminary Documentation under the *Environment Protection and Biodiversity Conservation Act 1999* is similarly weak on the issue of climate change.

The missing elements from these documents include:

- A statistical forecast of how total emissions from the aviation sector will increase, particularly in relation to aircraft arriving at and departing from Canberra Airport, over the lifetime of the Master Plan.
- An analysis of forecasted growth in aviation, which underpins the expansion of the Airport, and how this could be achieved without undermining ACT and Federal emission reduction trajectories.

This analysis should also make reference to the latest climate science, which demands greater reductions sooner than that reflected in government policy.¹

- A quantitative analysis of the ‘substitution’ effect on emissions in all sectors due to an expansion of Canberra Airport. This analysis should include scenarios with and without strong limits on emissions in other sectors and airports.

Noel McCann from the Canberra Airport stated at a public consultation meeting on 30 April 2009 that the section on climate change in the Master Plan would be “smartened up”. Climate Action Canberra looks forward to the release of the updated version of the plan, including the elements identified here to be currently missing.

Emissions from the combustion of jet fuel

The Plan notes that Canberra Airport has energy-efficient buildings, that it is implementing continuous descent approaches, that it is implementing the use of solar hot water systems and so forth. Such moves are laudable, but they are like solar panels on a petrol station – they don’t deal with the most important sources of emissions.

The major source of emissions in the aviation sector is the use of fossil fuels for jet propulsion. Improvements in engine efficiency will only go so far in reducing these emissions. The estimated increase in aircraft movements, including for international flights, in the Master Plan will greatly increase total emissions, even with optimistic efficiency projections. Engine efficiency gains will also be largely offset by the growing inefficiency of fuel extraction (including from tar sands and depleted oil fields).

These efficiency gains are also limited by the fact that jet aviation requires energy-dense fuels. There are currently no viable energy-dense and low-emission alternative fuels available that are suitable for jet aircraft. Many commercial biofuels are proving to have net emissions greater than fossil fuels. Hydrogen is currently also very energy-intensive to produce, is a bulky fuel, and has its own risks.

¹ The IPCC Fourth Assessment Report (http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf) should be regarded as the most scientifically cautious of analyses in this area, particularly in relation to non-linear climate feedbacks. A more rigorous analysis would at least refer to the reports of the *Climate Change: Global Risks, Challenges & Decisions* (see <http://www.iop.org/EJ/volume/1755-1315/6> for abstracts) conference in Copenhagen in March 2009 and the work of NASA scientist James Hansen.

While further research may yield prospects for commercialisation, to plan the expansion of Canberra Airport in the face of such uncertainty is unwise. To actually allow more movements of fossil-fuelled aircraft in anticipation of low-emission flights in the future is utter folly.

Emissions resulting from growth in the aviation sector

The Master Plan is selective with its statistics. It states that 2.8 million passengers went through the airport in the last year. It then states that this will increase to 7.4 million within 20 years. In that time period international passengers will increase in number from 0 to over 380,000. And aircraft movements will increase from around 88 thousand to over 155 thousand.

The Master Plan then gives the statistic that air flight is only responsible for 1.6% of global emissions. Unlike the other statistics though, it doesn't give a projection for how this will increase over the next 20 years.

Instead, the Master Plan claims that aircraft fuel efficiency is improving and that planes are relatively more efficient than cars. As noted above, the scale of expansion envisioned outweighs efficiency gains by a large margin. It is also clear that any vision of a sustainable Canberra should not centre around gas-guzzling cars either.

One fact is clear, despite it's omission from the Master Plan: the proposed expansion of Canberra Airport, with its international flights, its expanded regional network, and its 24 hour freight hub, will enable great increases in greenhouse gas emissions.

A report by Andrew Macintosh and Christian Downie from the Australia Institute² states that emissions from aircraft movements associated with Canberra Airport will increase from around 70 thousand tonnes in 2005 to over 1.86 million tonnes in 2050, not including the 'uplift' factor. Emissions from freight are not included in the report, which uses very conservative calculations in its methodology.

When we put this into a climate perspective; the passenger flights through Canberra Airport alone will constitute 128% of Canberra's entire allowable emissions in 2050. In other words, if the vision of the Master Plan is realised then, even if the rest of Canberra becomes zero-net emitters, then we've blown it.

² Macintosh, A, and Downie, C, "Aviation and Greenhouse Gas Emissions in the ACT", *The Australia Institute*, <https://www.tai.org.au/file.php?file=WPI09.pdf>

Related matters

Attribution of emissions

Mr McCann from the Canberra Airport is correct in arguing that the emissions from a flight cannot be wholly attributable to the territory of its origin or terminus. Aviation emissions, by their nature, are dispersed over a range of jurisdictions. However, while this affects legal and commercial considerations, the central point remains: if these flights are flown their emissions will be unacceptably large.

The main concern of Climate Action Canberra is not which entity or territory is held responsible for these emissions, but that the Master Plan takes the release of these emissions as a given.

If the Master Plan instead took it as given that the aviation sector would operate within appropriate emissions constraints, the case for an expansion of capacity at Canberra Airport would be very weak. If anything, there would be fewer flights than today.

The substitution effect

We understand that the Canberra Airport operates in a competitive market, and that there would be a certain ‘substitution’ effect away from Canberra Airport should it face constraints on its growth – if its rivals are not similarly constrained. However, to argue on this basis that emissions would only be displaced, and not reduced, by placing limits on the airport’s growth³ is flawed.

Airport services, particularly of those without competitors in the same city, would likely only have very imperfect substitutes.⁴ Displacement would also only occur in locations where airport expansion has been permitted. This is not an easy assumption; particularly if aviation *in general* earns its increasingly toxic reputation as a major source of emissions.

Opportunity cost

³ as presented by Mr McCann at the 30 April 2009 public consultation

⁴ Climate Action Canberra, however, would welcome further research to confirm or refute this assumption.

Every major development project has its benefits and costs. In this submission we have highlighted that increased greenhouse gas emissions are a very significant cost of the expansion of the aviation sector.

But this is not just a single ‘con’ to weigh up against the ‘pros’ of economic growth, cheap flights and jobs. If emissions do not rapidly decline soon, the cost of climate change will be felt throughout the economy.

As the Stern Review and other studies have revealed, these economy-wide costs of business-as-usual are far greater than the costs of mitigation.⁵

Finally, should Canberra Airport expand on the basis of growth in fossil fuelled aviation, while the world around it moves towards a low-emission economy, it would find it difficult to avoid the label of ‘white elephant’.

Conclusion

We face a climate emergency, and now is not the time to sink enormous resources into expanding a fossil fuel based industry that only exacerbates the problem.

For our future and that of the generations after us, Climate Action Canberra asks the Canberra Airport Group to either demonstrate how its plans fit within a safe climate scenario, or drop its proposed expansion of the airport.

⁵ ‘Stern Review on the Economics of Climate Change’,
http://www.hm-treasury.gov.uk/sternreview_index.htm