

Transport and Infrastructure Net Zero Consultation Roadmap

Take the survey

Department of Climate Change, Energy, Environment and Water

Response received at:

August 5, 2024 at 10:10 PM GMT+10

Response ID:

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1 Confirm that you have read and understand this privacy notice.

Yes

2 Please indicate how and if you want your submission published.

Public

3 Published name

Peter Hart

4 Confirm that you have read and understand this declaration.

Yes

5 First name

Peter

6 Last name

Hart

7 Email

[REDACTED]

- 8 Phone
[REDACTED]
- 9 Who are you answering on behalf of?
Individual or individuals
- 10 Organisation name
Not answered
- 11 What best describes you or your organisation?
Not answered
- 12 What sector do you represent?
Not answered
- 13 What state or territory do you live in?
Victoria
- 14 Postcode
3006
- 15 What area best describes where you live?
City
- 16 1. Do you support the proposed guiding principles?
Yes
- 17 1.1 Please add details to your response.
Not answered
- 18 2. Do you support the use of the avoid-shift-improve framework as a tool to identify opportunities for abatement?
Yes

- 19 2.1 Please add details to your response.
Not answered
- 20 3. Do you agree the development of a national policy framework for active and public transport will support emissions reduction?
Yes
- 21 3.1 Please add details to your response.
Not answered
- 22 4. What should be included in a national policy framework for active and public transport and how should it be developed?
Not answered
- 23 5. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure the movement of people contributes to transport emissions reduction?
Not answered
- 24 6.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure that the movement of goods contributes to transport emissions reduction?
Not answered
- 25 6.2. How would these actions address the identified challenges and opportunities for emissions reduction in the movement of goods?
Not answered
- 26 7. Do you agree with the proposed net zero pathway for light road vehicles?
Yes

- 27 7.1 Please add details to your response.
Not answered
- 28 8. The Australian Government is currently developing an Australian New Vehicle Efficiency Standard and has already begun to implement actions in the National Electric Vehicle Strategy.8.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce light vehicle emissions?
Not answered
- 29 8.2 How would these actions address the identified challenges and opportunities to reduce light vehicle emissions?
Not answered
- 30 9. Do you agree with the proposed net zero pathway for heavy road vehicles?
Yes
- 31 9.1 Please add details to your response
Not answered
- 32 10. The proposed pathway for heavy road vehicles relies on a mix of battery electric, hydrogen fuel-cell and low carbon liquid fuels.Rank from 1 to 3, the order in which these should be prioritised for emissions reduction.
1: Battery electric
2: Hydrogen fuel cell
3: Low carbon liquid fuels
- 33 10.1 Please add details to your response. Why did you rank them in that order?
Not answered

- 34 11. What role should low carbon liquid fuels play in the heavy vehicle decarbonisation?
Not answered
- 35 12. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce heavy vehicle emissions?
Not answered
- 36 13. Do you agree with the proposed net zero pathway for rail?
Yes
- 37 13.1 Please add details to your response.
Not answered
- 38 14. The proposed pathway for rail relies on a mix of battery electric, hydrogen fuel-cell and low carbon liquid fuels. Rank from 1 to 3, the order in which these should be prioritised for emissions reduction.
1: Battery electric
3: Low carbon liquid fuels
- 39 14.1 Please add details to your response. Why did you rank them in that order?
Not answered
- 40 15. What role should low carbon liquid fuels play in rail decarbonisation?
Not answered
- 41 16. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce rail emissions?
Not answered

- 42 16.1 How would these actions address the identified challenges and opportunities to reduce rail emissions?
Not answered
- 43 17. Do you agree with the proposed net zero pathway for maritime?
Yes
- 44 17.1 Please add details to your response.
Not answered
- 45 18. The Australian Government is engaging in consultation as part of the development of the Maritime Emissions Reduction National Action Plan and those consultations will also inform the final Roadmap and Action Plan. 18.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce maritime emissions?
Not answered
- 46 18.2 How would these actions address the identified challenges and opportunities to reduce maritime emissions?
Not answered
- 47 19. Do you agree with the proposed net zero pathway for aviation?
Some aspects yes. But more is needed
- 48 19.1 Please add details to your response.
Please see the written submission
- 49 20. The Australian Government has already engaged in consultation on aviation decarbonisation through the development of the Aviation White Paper and those consultations will also inform final Roadmap and Action Plan.
Please see the written submission

- 50 20.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce aviation emissions?
Fly Carbon Neutral via tree planting offsets
- 51 21. Do you agree with the proposed net zero pathway for transport infrastructure?
Yes
- 52 21.1 Please add details to your response.
Please see the written submission
- 53 22. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce transport infrastructure emissions and ensure that transport infrastructure is ready for and enables low-emission transport modes?
Fly carbon neutral via tree planting offsets
- 54 22.1 How would these actions address the identified challenges and opportunities to reduce transport infrastructure emissions?
Offset CO2 emissions and promote new regional industries.
- 55 23. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure the energy mix is ready to support transport emissions reduction?
Not answered
- 56 24. How should the use of low carbon liquid fuels (LCLFs) be prioritised across different transport modes over time to achieve maximum abatement?
LCLFs should be prioritised for aviation

- 57 25. What are the best ways for the Australian Government to work collaboratively with industry, business, governments and communities to implement the proposed pathways?
Not answered
- 58 25.1 What are good domestic or international examples of partnership and collaboration on transport and transport infrastructure emissions reduction that could inform the final Roadmap and Action Plan?
Not answered
- 59 25.2 What opportunities can Government leverage to show leadership in Australia and internationally?
Fly carbon neutral
- 60 26. What measures and metrics should be used to evaluate the final Transport and Infrastructure Net Zero Roadmap and Action Plan?
Not answered
- 61 26.1 What other data and evidence could governments use and how could this offer further insights on the pace, scale and location of transport emissions reduction pathways?
Not answered
- 62 27. Do you have any feedback on the proposed review process?
Not answered
- 63 28. Do you have any further feedback on the Consultation Roadmap and proposed pathways?
Not answered
- 64 28.1 Is there anything missing? Are the sections appropriately integrated? Is the Roadmap appropriately ambitious?
Not answered

- 65 29. Is there any further information or documentation that you wish to be considered with your submission?
Not answered
- 66 Would you like to upload a document?
Yes
- 67 Have you removed any identifying information from your submission?
Yes
- 68 Upload a submission
214 Redacted An_idea_for_Australia_to_fly_Carbon_Neutral.d2319152.pdf
- 69 Upload a submission
Not answered
- 70 Upload supporting file
Not answered
- 71 Upload supporting file
Not answered

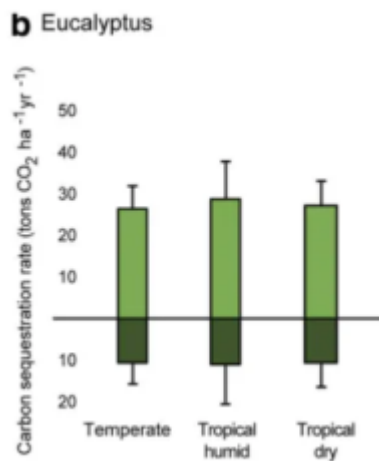
An Idea for Australia to Fly Carbon Neutral



The airlines Qantas and Virgin offer 'fly carbon neutral options'. For example, Qantas claims that the cost of offsetting CO₂ emissions on the Melbourne-Perth sector (economy) is \$4.52 for 250.9 kg. The offset cost for Melbourne-Brisbane \$2.73 for 151 kg. Qantas claims it uses the offset funds in government accredited projects. The money could go out of Australia. The above costs are less than the credit card fee, so this cost is insubstantial.

There are many studies that have looked at the carbon sequestration by crops and trees. For example, the CSIRO¹ has looked at this and concluded that there is an opportunity for Australia to offset CO₂ emissions by increased food production. A recent report by Bernet² claims that a Eucalyptus tree forest can sequester about 25 t of CO₂ per hectare per year. Eucalyptus trees have the highest sequestration rate of all trees considered in that report.

Assuming 1000 trees/ha, each tree sequesters about 25 kg/annum-tree. So, assuming a tree grows for 20 years before it is harvested, 1Ha of eucalyptus trees can sequester 500 tonnes of CO₂. That is, one tree sequesters 500kg of CO₂ over a 20-year life. I will assume this as the baseline.



From Bernet²

- 1 CO₂ Utilization Roadmap, CSIRO. Srinivasav et.al. 2021.
- 2 How much CO₂ does a tree absorb ? Ross Bernet, 25 July 2024.

Studies of aircraft CO₂ emissions for large and small aircraft seem to settle on about 90 kg of CO₂ emitted per passenger per hour, which is 9/50 of a tree – call it 0.2 of a tree per hour. That is consistent with the Qantas CO₂ budget per passenger mentioned above. In

an hour, a commercial jet aircraft travels about 800km, so the CO2 emissions are about 11 kg/100km.

So, to travel by plane from Melbourne to Perth, flying carbon-neutral, requires the economy passenger to purchase about 0.6 trees. How much does it cost to plant, irrigate and maintain a tree ? Probably a lot more than the \$4.52 that Qantas claims will allow you to fly carbon neutral! But there are substantial additional benefits for Australia if we could figure out how to plant trees to fly carbon neutral.

By itself, growing trees to sequester CO2 might seem like a lot of effort. However, the additional benefits are substantial. In my scheme, regional councils in remote areas could plant trees on crown land. The trees would be drip irrigated to accelerate and protect growth. Local people would work to farm the trees – it would be a new industry. Tree farming would not be as vulnerable to drought cycles as would be annual crops. The trees would have residual value after 20 or 30 years when they could be harvested. The value of some timbers, such as Silky Oak furniture timber would be substantial. New timber industries could result. Native animals or farmed animals could thrive in tree corridors. Trees would be planted according to plans that would minimize bushfire risks. Different types of trees would be chosen to match local conditions. Tree types would also be chosen for long-term commercial value that would be returned to the community.

The trees would be owned by local councils who would be paid to grow trees. The councils would receive money to plant and maintain the trees but would not be paid profits. Councils would make a claim on the ‘national-fly-carbon neutral fund’ every six months based upon the number of surviving trees. The proceeds from the trees would eventually go to the local council. Along the way local people would be employed to grow trees and local businesses would develop. The (remote) communities would benefit. And Australia would be world famous for flying carbon neutral! This might prompt other countries to pay to have overseas emissions sequestered in Australia. We have the land, resources and know how to do this.

I suggest that a cost of \$2/100 economy-kilometers would be acceptable. This might be paid half by passengers, a quarter by a reduction in air safety charges and a quarter by reduction in fuel excise. There are a lot of passengers travelling now and efficiencies in air safety management, especially by applying Artificial Intelligence technology assistance should reduce air travel costs.

There are about 5 million passengers carried by air travel each month in Australia at present. Assuming on average a passenger travelled 1200 kilometers per journey, the revenue into a tree growing scheme would be $\$24 \times 5M = \$120M$ per month. That should buy a lot of trees growing in Australia! It would greatly increase forestry activity in Australia. The additional cost to the flying public would be inconsequential considering the scale

of travel costs. The flying public should take responsibility for carbon emissions, and this means pricing them in!

A lot more work is needed to refine the idea and work out the costs and administration of such a scheme. The tree planting scheme would need to be well planned and managed – with national leadership. I urge the Federal Government to look seriously at this idea.

We should sequester our flying CO2 in Australia! We should create regional industry that is sustainable. And we should try to relace the ancient forests that are feeding our airplanes with new valuable forests!