

# Transport and Infrastructure Net Zero Consultation Roadmap

## Take the survey

Department of Climate Change, Energy, Environment and Water

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Response received at:

June 18, 2024 at 10:19 AM GMT+10

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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  
Nufarm
- 4 Confirm that you have read and understand this declaration.  
Yes
- 5 First name  
Adam
- 6 Last name  
blight
- 7 Email  


- 8 Phone  
[REDACTED]
- 9 Who are you answering on behalf of?  
Organisation
- 10 Organisation name  
Nufarm
- 11 What best describes you or your organisation?  
Industry
- 12 What sector do you represent?  
Other: "Agriculture"
- 13 What state or territory do you live in?  
Victoria
- 14 Postcode  
3026
- 15 What area best describes where you live?  
City
- 16 1. Do you support the proposed guiding principles?  
Not answered
- 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?  
Not answered

- 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?  
Not answered
- 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?  
Not answered

- 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?  
Not answered
- 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.  
Not answered
- 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?

Not answered

- 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.

Not answered

- 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?

Not answered

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?

Not answered

48 19.1 Please add details to your response.

Not answered

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.

Not answered

- 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?  
Not answered
- 51 21. Do you agree with the proposed net zero pathway for transport infrastructure?  
Not answered
- 52 21.1 Please add details to your response.  
Not answered
- 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?  
Not answered
- 54 22.1 How would these actions address the identified challenges and opportunities to reduce transport infrastructure emissions?  
Not answered
- 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?  
Not answered

- 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?  
Not answered
- 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

Nufarm Submission.msg

69 Upload a submission

Nufarm Transport Infrastructure Consultation Submission.docx

70 Upload supporting file

Not answered

71 Upload supporting file

Not answered



**Submission to the Transport & Infrastructure  
Net Zero Consultation Roadmap**

31<sup>st</sup> May 2024

## Introduction

Nufarm is an agricultural innovator developing integrated solutions for our customers. Nufarm is developing plant-based solutions and crop protection products that help address our changing nutrition and energy needs. We are a proud, 100-year-old Australian company that invests in solutions tailored to the needs of local growers.

Nufarm's seed division, Nuseed, develops sustainable plant-based solutions for growers, the agriculture industry and end-use customers. Since its inception in 2006, Nuseed has been at the forefront of oilseed innovation that supports sustainable food and biofuel production in Australia and beyond.

We welcome the opportunity to contribute to the Transport & Infrastructure Net Zero Roadmap and share our perspective on how Australian farmers can play an even bigger role in lowering emissions and supporting the country's sustainable growth. Nufarm recommends the Australian government prioritise the following recommendations that will support emissions reductions in the agriculture, heavy transport and aviation sectors, whilst providing an additional revenue source for farmers:

1. Generate renewable fuels demand to attract the investment to build a viable local industry
2. Support increased production of locally grown feedstocks to meet rising renewable fuel demand
3. Encourage proactive government advocacy for agriculture's role in a local renewable fuels industry

## Australia's opportunity to decarbonise liquid fuels

[Bioenergy Australia](#) estimates that 45% of Australia's total energy use comes from liquid fuels. Hard-to-abate sectors such as aviation and transport will continue to rely on liquid fuels in the medium to long term. Locally produced renewable feedstocks and fuels can help decarbonise these hard-to-abate sectors while strengthening Australia's fuel security and supporting the country's net-zero transition.

The CSIRO/Boeing [Sustainable Aviation Fuel Roadmap](#) reinforced the importance of fuel security in Australia's net-zero transition by concluding: "Producing liquid fuels from local feedstocks can reduce the reliance on imports, where 90% of liquid fuels are presently sourced for Australia." The roadmap projects that by 2025, Australia will have enough feedstocks to produce 60% of local jet fuel using biogenic feedstocks and is estimated to rise to 90% by 2050.

Decarbonising the liquid fuels we will rely on for decades to come is not a niche solution - it is a scalable, cost-effective way to reduce greenhouse gas emissions from hard-to-abate sectors. Renewable fuels will enable transport sectors to decrease emissions without retrofitting existing fleets. These fuels can also benefit the agriculture sector by decarbonising farm vehicles and machinery which typically have longer lifespans.

Australia has the natural resources and an agricultural sector with the capabilities and [sustainability credentials](#) to meet the growing demand for renewable feedstocks while minimising or avoiding land use change such as deforestation. As we outline below, advances in plant science, crop management and rotation changes, along with clearly defined sustainability standards and certification systems will enable increased crop-based feedstock production that supports decarbonisation and ensures a reliable supply of food and fuel.

## Established and emerging solutions

It is important to acknowledge that Australia is already an established exporter of low emissions crop-based feedstocks for use in renewable fuels in Europe. Most the canola exported from Western Australia to Europe is converted into renewable fuel due to policy requirements for bioenergy production and use in the EU.

In September 2023, the [European Commission reapproved](#) the use of Australian canola in European renewable fuels following the findings of a CSIRO report commissioned by the Australian Department of Agriculture, Fisheries and Forestry that demonstrated the local canola industry's 'low emissions credentials' as an established decarbonisation solution. This highlights three critical points:

1. Australian grain growers are already recognised for their 'low emissions credentials' allowing them to maintain access to international market and supply chains.
2. Growth in Australian canola production, including for use in renewable fuels in Europe, has not come at the expense of key food crops such as wheat which has also increased in production since 2017/18.<sup>1</sup>
3. Without a viable domestic renewable fuels industry and market, Australian farmers will continue to sell their feedstocks to more lucrative international markets limiting the potential for additional local decarbonisation.

The [CSIRO/Boeing SAF Roadmap](#) highlights the potential for non-edible oilseeds such as Carinata to meet bioenergy feedstock demand: "Non-edible oilseeds offer the opportunity of cultivating and utilising crops that do not have to compete with food markets and can use marginal or degraded land."

Nufarm Carinata (a brassica similar to canola) can help Australian farmers to meet the rapidly rising demand for renewable feedstocks while reducing their emissions and improving their productivity and sustainability. [Nufarm Carinata](#) is a non-food oilseed cover-crop, contract grown between main crop rotations, harvested then crushed into an independently certified sustainable lower carbon oil feedstock. It does not compete with food or contribute to land-use change as it is grown under contract as a cover or secondary crop and can grow on degraded land.

Nufarm Carinata removes atmospheric carbon and restores soil carbon as it grows. It also protects soil from erosion and nutrient loss, increases below and above ground biomass to regenerate soil, and supports biodiversity through increasing pollinator habitat and crop diversity. A co-product from the Carinata oilseed crush is a high protein meal which can supply the growing market for high quality animal feeds, supporting our food security.

Nufarm Carinata Oil is a scalable, lower carbon drop-in replacement for fossil oils that supports decreased carbon emissions without retrofitting existing fleets, including farm vehicles and machinery. The International Civil Aviation Organization (ICAO) includes Carinata as a low-carbon fuel feedstock with similar greenhouse gas (GHG) footprint as waste and residuals, like used cooking oil.

The development of the Nufarm Carinata program in Australia is underway and we are determining the fit for the crop in the local agriculture system. Hybrid trials continue and we are planning to undertake commercial trials in 2024. Nufarm's [global partnership](#) with bp will support the scaling up feedstock production and processing into renewable fuels for end users.

### Recommendations to support a local renewable fuels industry

The Minister for Climate Change and Energy, Chris Bowen, highlighted the potential for renewable fuels in his [2023 Annual Climate Change Statement](#) saying "...the Government is continuing to evaluate other opportunities – such as other clean energy technology manufacturing and low carbon liquid fuels – which could provide strategic benefits to Australia by diversifying supply chains and bolstering energy security, as well as creating good jobs."

Nufarm was also encouraged to see the funding and measures announced in the 2024/25 Budget to support the production and demand for low carbon liquid fuels. Well-designed policy can generate robust demand for lower carbon liquid fuels such as biodiesel and SAF, driving the development of a local renewable fuels market into which Australian farmers can deliver locally grown feedstocks. These policy recommendations

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<sup>1</sup> ABARES 2023 data

will drive the rapid development of a responsible, globally competitive renewable fuels industry in Australia that directly supports the decarbonisation of hard to abate sectors:

### **1. Generate renewable fuels demand to attract investment to build a viable local industry**

The following policy recommendations are critical to generating domestic demand for renewable fuels and support Australia's global competitiveness in attracting the investment required to establish a local industry:

- a) Adopt similar policy incentives that are driving demand for biofuels in other markets. For example, Australia should implement a low carbon fuel standard (LCFS) as a broad-based market approach to incentivise the development and demand for technologies to decrease the carbon intensity of fuels. Increased domestic demand will encourage investment to quickly scale local feedstock production and spur innovation across the transportation and fuels supply chain.
- b) Maximise incentives for renewable fuels under existing policies such as the Safeguard Mechanism. To achieve this, adopting a market-based accounting approach under the National Greenhouse Energy Reporting Scheme will allow safeguard entities to claim the full emissions reductions for biofuels delivered using shared pipework or tanks. Establish a life-cycle based emissions reporting system to underpin additional policy such as an LCFS.
- c) Commit the Australian government to procurement targets for Defence and other departments to purchase biofuels to send a clear signal to the market and lock in a baseline of demand.

The policy recommendations made by the Sustainable Aviation Fuel Alliance of Australia and New Zealand (SAFAANZ) to the Jet Zero Council should also be considered. For example, a key demand-side recommendation is the development of a SAF-specific or a sub-target of a broader renewable fuels demand mechanism, implemented with a link to carbon intensity or a SAF-qualifying requirement.

### **2. Support increased production of locally grown feedstocks to meet rising renewable fuel demand**

The following recommendations will support the sustainable production increase of locally grown feedstocks:

- a) Allocate government funding to research and development, capital grants and concessional loans to support sustainable biogenic feedstock innovation, aggregation and productivity.
- b) Ensure Australia implements globally aligned standards and certification schemes to ensure our international competitiveness. This requires the identification of the renewable fuels and sustainability criteria to be accepted for use in Australia.
- c) Leverage Australia's existing high standards in supply chain integrity and traceability to ensure a domestic certification system is consistent with the standards of established global systems.

The SAFAANZ recommendation to the Jet Zero Council for contracts for difference (CfD) for commercial scale facilities should also be considered: "CfD would involve government underwriting the development of a SAF market by bridging part of the green premium that exists between SAF and conventional jet fuel through a medium-long-term contract. A CfD acts as a certainty mechanism for projects."

### **3. Encourage proactive government advocacy for agriculture's role in a local renewable fuels industry**

Government has an important role to play in encouraging the agriculture sector to seize the renewable fuels opportunity and to advocate for the benefits to the wider community:

- a) Encourage proactive government advocacy to farmers highlighting their crucial role in sustainably producing feedstocks for biofuel production.

- b) Policy should reward the adoption of sustainable farming practices to regenerate soil, improve biodiversity and increase GHG savings.
- c) Collaborate with agricultural industry bodies and diverse thought leaders to communicate to the community the environmental, economic and sovereign capability value of utilising locally grown feedstocks. Reinforce the capability of Australian agriculture to sustainably produce food and fuel.

## Conclusion

The recommendations outlined above will help the Australian government deliver its emissions reductions targets and ignite the development of a new industry supporting jobs, growth and fuel security. A supportive policy landscape will also unlock new opportunities for Australia's farmers and agriculture sector. These recommendations are built on these principles:

- Ensure Australia is competitive with other markets with advanced bioenergy industries and provide a level playing field for all industries and technologies.
- Foster a market-based and technology-neutral environment to ensure Australia can attract investment to quickly scale sustainable renewable feedstock production and processing.
- Encourage innovation to accelerate the transition from first generation biofuels and feedstocks to more advanced lower carbon feedstocks and fuels that demonstrate sustainable carbon mitigation throughout production and over time.
- Address energy transition challenges without compromising Australia's food security or environment.