Transport and Infrastructure Net Zero Consultation Roadmap

Take the survey

Department of Climate Change, Energy, Environment and Water

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5 First name
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9 Who are you answering on behalf of?

Organisation

10 Organisation name

Not answered

11 What best describes you or your organisation?

Industry

12 What sector do you represent?

Other: "Aviation"

13 What state or territory do you live in?

Australian Capital Territory

14 Postcode

2609

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

CAG submission - Net Zero Roadmap.pdf

69 Upload a submission

Not answered

70 Upload supporting file

Not answered

71 Upload supporting file

Not answered

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26 July 2024

Mr Andrew Morgan
Acting Assistant Secretary
Net Zero Unit
Department of Infrastructure, Transport, Regional Development,
Communications and the Arts
GPO Box 594
CANBERRA ACT 2601
By email: netzero@infrastructure.gov.au

Dear Mr Morgan

Submission – Transport and Infrastructure Net Zero Roadmap

Canberra Airport appreciates the opportunity to make a submission to the Department in relation to the consultation paper *Transport and Infrastructure Net Zero Roadmap*.

The enclosed submission details the initiatives that have been implemented across the Canberra Airport precinct to decarbonise operations. Airports play a crucial role in assisting the aviation industry to meet net zero targets and it is important that this is considered as the *Roadmap* progresses.

Should you have any questions or require any additional information, please contact our Government Relations and Policy Advisor, Jordan Fallon, by phoning [redacted] or emailing [redacted]

Yours sincerely

[redacted]

Michael Thomson
Head of Aviation

SUBMISSION

Transport and Infrastructure Net Zero Roadmap

Department of Infrastructure, Transport, Regional Development, Communications and the Arts

July 2024

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Introduction

The transport industry is central to the economic and social prosperity of Australia by facilitating the movement of people and goods over large geographical areas. Aviation is pivotal to achieving this by contributing to the ongoing growth of supply chains, business, trade and tourism sectors. Without a strong domestic and international aviation industry, Australia stops. This was most evident during the COVID-19 pandemic.

The halting of the aviation industry due to lockdowns and border closures illustrated the value and importance of the sector for all Australians. People were unable to visit family and friends, travel interstate for business or rely on the delivery of essential goods due to delays experienced by freight forwarders.

Airports are the critical infrastructure that support and sustain the ongoing growth and efficiency of the aviation industry. It is airports that facilitate the connectivity of people and goods across Australia's diverse transport network.

Without the connectivity afforded by airports, many Australians would be impeded from travelling for business, leisure or cultural purposes. Supply-chain networks would also be delayed considerably. In comparison to other public transport options, aviation is the most effective in aiding inter-capital and inter-regional travel.

This is why Canberra Airport is central to connecting people and goods to the ACT and southern NSW. In 2023, more than 40,165 domestic and international aircraft movements occurred at the airport, delivering travellers, essential freight and medical flights to the National Capital region.

Despite the various social and economic benefits the aviation sector makes to the ACT and southern NSW, it is clear the transport industry is a significant source of greenhouse gas emissions.

As a leader in the transport industry for more than two decades to achieving a cleaner, more sustainable future, Canberra Airport appreciates the opportunity to provide a submission on the consultation paper *Transport and Infrastructure Net Zero Consultation Roadmap*. Through collaboration between industry, government and academia, the aviation sector can develop effective approaches to contribute to Australia's net zero transformation.

Net zero

Australia's adoption of emissions reduction targets of 43 per cent by 2030 and net zero by 2050 sets the framework for the aviation industry to address greenhouse gas emissions. Despite the challenges associated with abating emissions due to air travel, Canberra Airport is confident that the implementation of appropriate policy directions will assist in reaching decarbonisation goals.

As detailed in the *Roadmap*, sustainable aviation fuel (SAF) has been identified as the primary pathway to decarbonise air travel. The need for greater collaboration across the industry to increase supply-and-demand-side initiatives have been considered in the consultation paper *A Future Made in Australia: Unlocking Australia's low carbon liquid fuel opportunity* which Canberra Airport has made a submission. However, achieving net zero across aviation cannot be achieved without a commitment to emissions reduction by all industry participants.

Being an infrastructure provider, airports fulfil a critical role in the domestic and international aviation network. Canberra Airport has enacted various measures to reduce enabled, operating and embodied emissions. This demonstrates the willingness of Canberra Airport to implement initiatives and actions which contribute to the aviation industry's overall commitment to net zero.

It is this commitment to achieving net zero which has resulted in Canberra Airport investing in sustainable practices across the business, including solar generation, rainwater harvesting, carbon sequestration, alternative agriculture and wind farming. These initiatives have been central to meeting Canberra Airport's objective of minimising the impact of operations on the natural and physical environment.

With more than 40,000 passenger aircraft movements per year, Canberra Airport recognises the importance of implementing positive sustainable actions which off-set some of the emissions that are generated by aircraft arriving and departing from the airport. However, it is clear that without refined guidance from industry participants and the Commonwealth Government, aviation's path to reaching net zero by 2050 will be hampered.

Sustainable aviation fuel

Given aircraft account for between two and three per cent of all global carbon emissions, there is a need to embrace low carbon liquid fuels. SAF is the near and long-term decarbonisation solution to drive emissions reduction across the industry.

The International Air Transport Association (IATA) estimates that the uptake of SAF will reduce global aviation emissions by between 62 and 78 per cent by 2050. Canberra Airport agrees with the sentiment of the *Roadmap* that achieving net zero across the Australian aviation industry is only achievable through the progressive transition to SAF.

Canberra Airport has a state-of-the-art fuel farm that has the capacity to cater for a significant increase in domestic and international aviation activity by storing around 770,000 litres of jet fuel. Through the use of advanced technologies, the fuel farm operates under strict environmental controls. The progressive nature of the fuel farm reflects Canberra Airport's ongoing commitment to quality, safety and sustainability.

Canberra Airport is satisfied that existing fuel infrastructure can accommodate SAF. As the current fuel farm is compatible for the "drop-in" of blended SAF, Canberra Airport is in the

position to support airlines to begin using SAF on a larger scale. There would be no modification required to the practices of storing, transferring or refuelling. Canberra Airport aims to increase the uptake of SAF by 10 per cent by 2030. As demand for SAF increases, the airport will be well-prepared to provide the necessary support required to meet the decarbonisation goals of the industry.

The Jet Zero Council's role in progressing aviation's capability to meet net zero targets is valued. The promotion of further research by the Council to identify cost-effective measures to produce SAF to ensure it will not have an adverse impact on airfares is crucial. Collaboration between researchers, supply-chain participants and industry stakeholders is necessary to achieving a positive outcome for the environment and consumers.

This research must be embraced by all aviation stakeholders to guarantee the realisation of decarbonisation objectives. The close proximity to leading universities and researchers means Canberra Airport is equipped and prepared to assist in the trialling of SAF technology that emerges from this research. Providing the infrastructure to support this process will enhance aviation's ability to align with the net zero targets set in Australia and abroad.

Recognising the role airports can play to advance a domestic SAF industry, Canberra Airport has also proactively sought to support Australian industry participants who have the potential to produce SAF. In 2023, Canberra Airport announced an investment of USD$10 million into Vast, an Australian renewable energy company with a focus on concentrated solar thermal power (CSP) energy systems which can produce SAF.

Vast has developed CSP v3.0 technology to be based at its utility-scale reference plant at Port Augusta that will capture the sun's energy and generate clean, low-cost, dispatchable power. The carbon free power and heat produced by this technology can be dispatched to the grid, or used as a thermal battery, stored for later dispatch.

Co-located with the utility-scale reference plant will be a green methanol demonstration plant which will be supplied with baseload renewable heat to assist in the production of SAF. Vast anticipates that up to 7,500 tonnes of green methanol will be produced annually. Canberra Airport recognises the potential of Vast's technology to play a major role in powering large-scale low-cost production of SAF.

If the aviation industry is to meet net zero targets, collaboration between various industry participants is required. Canberra Airport's investment in Vast is a demonstration it supporting the domestic production of SAF. The timely development of large-scale production is crucial, and Canberra Airport hopes to play a leading role in the establishment of a domestic production industry through support. This aligns with the airport's persistent commitment to sustainability.

Decarbonisation of Canberra Airport infrastructure

Airlines are responsible for the most significant proportion of the aviation industry's production of greenhouse gas emissions. It is the case that infrastructure at airports which support the operations of airlines also make some contribution to the industry's overall emissions.

Canberra Airport does emit some greenhouse gas emissions in its operations, largely through the heating, cooling, and operation of buildings. In addition, ground operations emit small amounts of greenhouse gas, almost entirely from the burning of petrol or diesel in the airport's vehicles and third party's ground support equipment (GSE).

To counter this, Canberra Airport has been committed to decarbonisation across the airport for more than two decades. This is in recognition of Canberra Airport's responsibility and commitment to manage the airport in a sustainable, sensitive and responsible manner that benefits the community and environment. Reducing emissions and improving sustainability has been central to airport operations.

The terminal opened in 2013 is one of the most carbon friendly in Australia. It is renowned for its sustainability and energy-efficiency initiatives, winning multiple awards for its leading-edge approach to building design and operation. By utilising environmentally sustainable design and construction initiatives, there are a number of water and energy efficiencies which have contributed to reducing the overall greenhouse gases emitted by Canberra Airport.

Canberra Airport is also home to the second largest office precinct in Canberra, comprised of three world-class business parks: Brindabella Business Park, Majura Park and Fairbairn. Each business park has been designed to deliver a high level of amenity, anchored in both architectural and sustainable design. Indoor and outdoor spaces merge seamlessly to create a sense of community and to redefine work-life balance.

Having led the way in the aviation industry for many years, Canberra Airport is on target to achieve carbon neutrality by 2030. This will surpass similar targets set by the ACT and Commonwealth Governments.

To support the *Roadmap* and the aviation industry's overall efforts to reach net zero, Canberra Airport provides an overview of specific initiatives that have been adopted across the airport precinct to decarbonise. It is hoped that the experience at Canberra Airport can be used as a benchmark for other infrastructure providers seeking to implement more carbon-friendly proposals in their operations.

Supporting airlines to reduce emissions

Canberra Airport has very little impact on the efficiency of individual aircraft as this is the responsibility of the aircraft manufacturers and airlines. The airlines have initiatives in place to reduce fuel burn, hence a reduction in greenhouse gas emissions, such as optimising aircraft take-off weight and by implementing Airservices Australia Air Traffic Management [AATM] procedures.

Airservices Australia, as the manager of aircraft flight paths in Australia continues to work with the airlines, airports, and the Australian community to achieve greater efficiencies. Constant Descent Approach (CDA), Standard Instrument Departures (SIDs), Standard Terminal Arrival Routes (STARs) and Required Navigation Performance (RNP) approaches and departures are some of the environmental initiatives that have been introduced by Airservices Australia at Canberra Airport which have resulted in lower emissions.

Canberra Airport actively supports these procedures and urges all operators with capable aircraft to expeditiously commence using these procedures.

Canberra Airport also plays a major role in reducing the greenhouse gases emitted by airlines by ensuring, as far as practicable and commercially feasible, airport infrastructure is designed to minimise the delays to aircraft whilst taxiing or at the terminal. For this reason, the airport plans to continue to work with airlines, government departments, Airservices Australia, and the community to provide sufficient runway, taxiway, navigation aids, aprons, terminal and other aviation infrastructure capacity to ensure aircraft can operate without delays inflight or whilst taxiing.

Sustainable buildings across the airport

Considerable precinct development has been undertaken at Canberra Airport over the last two decades to create a high-quality facility serving the ACT and southern NSW's growing transport and business requirements. Through deliberate planning and design, Canberra Airport has been responsible for the development of commercial and employment infrastructure at Brindabella Business Park, Majura Park and Fairbairn. Home to leading aerospace businesses, Commonwealth Government departments and leading shopping chains, more than 15,000 people work within the Canberra Airport footprint each day.

A commitment to net zero and sustainability has been central to the development of these precinct facilities. This is because Canberra Airport has led the way in the performance of the built environment. The use of low-emissions resources and materials as well as the implementation of sustainability measures have been an overarching precondition during the planning and development of all buildings within the Canberra Airport footprint.

As a result, Brindabella Business Park is one of, if not the, most sustainable business parks in Australia. By embracing sustainable design techniques, Canberra Airport ensured it was

the first development to use recycled concrete and steel, therefore, using less embodied energy.

The Green Star certification launched by the Green Building Council of Australia (GCBA) has been applied to many of the buildings at the Brindabella Business Park to recognise the sustainable approach adopted. Green Star certification is an internationally recognised rating system conducted by an independent third-party assessor. The rating scale is between one star for minimum practice and six stars for world leadership. Compared to typical Australian structures, Green Star-certified buildings emit 62 per cent fewer greenhouse gases and consume 66 per cent less power.

Since 2003, the GBCA has undertaken rigorous assessment of the office buildings in Brindabella Business Park to rate the environmental sustainability of design, construction and fit-out of each building. Through this process, three buildings in the precinct have been formally awarded five Green Stars for sustainability. These are 6 Brindabella Circuit, 3 Molonglo Drive and 8 Brindabella Circuit, with 8 Brindabella being awarded the first five Green Star building in Australia in 2004. In addition, Canberra Airport has determined that all new buildings at Brindabella Business Park will be at a sustainability level of at least five Green Stars.

This vision has been extended to the Majura Park precinct where a new office building at 25 Catalina Drive was formally awarded six Green Stars by the GBCA in 2023.

As a founding member of the GBCA, Canberra Airport is committed to instilling GBCA building design principles and practices for all buildings constructed on airport. These include initiatives such as:

- Recycling building materials
- Minimising the use of products containing volatile organic compounds
- Reducing noise levels
- Reducing water consumption
- Use of solar hot water
- Waterless urinals
- Waste management initiatives
- Strict control of ventilation and day lighting
- Facilities to promote active travel
- Car parking for small cars
- Non-potable water irrigation
- Electric vehicle charging

To maintain the airport's ongoing commitment to sustainability, all new buildings constructed since 2019 are fully electric. Existing buildings in the business park have been retrofitted with onsite renewable generation via solar, further reducing greenhouse gas emissions. These are the airport's 'as standard' building requirements, ensuring that the buildings are not only good for the environment, but for the people working in them for years to come.

The airport has also teamed with NABERS, an international leader in assessing the energy efficiency of commercial buildings to rate the office buildings across the business parks. By comparing the energy consumption of each building against a set of benchmarks, NABERS

has been able to rate the overall energy efficiency of the buildings designed by Canberra Airport to reduce carbon emissions.

NABERS provides a rating from one to six stars for energy efficiency. Three stars indicates average performance while six stars demonstrates market leading performance. Across each of the airport precincts, 11 office buildings have been assessed by NABERS.

5 Stars	8 Brindabella Circuit 10 Brindabella Circuit 12 Brindabella Circuit 14 & 16 Brindabella Circuit	18 & 20 Brindabella Circuit 29 & 31 Brindabella Circuit 24 Scherger Drive
5.5 Stars	25 Brindabella Circuit 3 Molonglo Drive	26 Scherger Drive
6 Stars	33 & 35 Brindabella Circuit	

These high ratings by NABERS demonstrates Canberra Airport's commitment to designing and building infrastructure around the airport which places the efficient use of renewable energy at the centre of operations.

The measures enacted across the built environment at Canberra Airport over the last two decades to improve sustainability, increase energy efficiency and drive down greenhouse gas emissions have significantly contributed to the airport's overall mission of achieving net zero. The initiatives adopted at the airport can be used as a benchmark for other transport infrastructure providers seeking to design and develop more efficient buildings which are both economically and environmentally viable.

Tri-generation

The use of tri-generation at the Brindabella Business Park and Majura Park has been another initiative adopted by Canberra Airport to minimise carbon emissions across buildings within the airport footprint.

Tri-generation is the process where natural gas is used as the input source of energy to generate electricity. Excess heat, otherwise known as fugitive emissions, that would have otherwise been lost during the production of electricity, is utilised to heat the buildings in winter and cool them in summer using state-of-the-art absorption chillers. The hot water which is generated is available for use as domestic hot water. The tri-generation plant also has the potential to produce surplus power which can be returned back to the grid as greener electricity.

The plants are Australia's largest on-site gas tri-generation plants and reduce energy use, carbon dioxide and greenhouse gas emissions.

Combining tri-generation with a number of cutting-edge design elements in these buildings had reduced carbon emissions by up to 75 per cent compared to most office buildings and up to 40 per cent compared to a 5-star NABERS building.

Solar panels

The implementation of solar panels across all precincts of the airport as a form of renewable energy to guarantee the power required to light, heat and cool the terminal, office buildings and operational facilities has been another positive step towards decarbonisation. Over the last decade, the airport has made considerable investment in solar which has resulted in 26 buildings across the airport precinct being powered completely by solar panels. With more than 3,000 panels installed across Canberra Airport, it is the second largest solar farm in the ACT.

The total energy that can be generated from these solar panels is over 2.45 megawatts per year. This is equivalent to powering more than 400 Canberra homes. This renewable energy generation and use contributes to Canberra Airport's commitment to supporting the aviation industry's roadmap to net zero.

Water recycling

Advancing the circular economy across the airport's operations has been a fundamental tenet in efforts to decarbonise Canberra Airport. One of the measures to assist in achieving this has been the recycling of greywater across the airport precinct.

There are two state-of-the-art Aquacell water recycling systems based on airport that service each of the business parks and the terminal. While the treated water is assessed as drinking quality, the recycled water is used in toilet flushing and irrigation. The system has the potential to treat approximately 100,000 litres of wastewater each day. As an international wastewater recycling system, Aquacell is designed to reduce daily potable water consumption on airport from 15-20 litres per person each day to approximately five litres per person.

Canberra Airport also utilises rainwater capture to replace and reduce potable water for a range of purposes. Under each of the multi-level carparks at the terminal, there is a 650,000-litre water tank installed to collect ground and rainwater. The water collected is then processed through a softening system and used in the terminal for flushing toilets, operating cooling towers and for landscape irrigation.

The implementation of circular economy principles when it comes to the use of water across the airport precinct is another example of Canberra Airport's commitment to embracing efforts that decarbonise operations at the airport.

Worm farm

With more than 15,000 people working within the airport footprint and another 10,000 transiting through the terminal each day, there is a considerable amount of food scraps and organic waste. Recognising the impact of this all going to landfill, Canberra Airport established a worm farm in 2018 to help with the efficient composting of organic materials from businesses and organisations right across the airport precinct.

The anaerobic conditions in landfill lead to a release of methane, a gas which is more than 20 times more harmful to the environment than carbon dioxide. The farm, based at the airport, has more than 250,000 worms diverting nearly 8 tonnes of food waste per year from landfill.

The organic waste is converted into worm castings and rich, nutrient-dense liquid fertiliser that is used on gardens and landscaping across the airport. This reflects Canberra Airport's commitment to the circular economy by promoting the value and importance to businesses on airport being considerate of their carbon footprint and taking steps to recycle waste and regenerate nature.

EV charging stations

Canberra Airport has been an active supporter of the community uptake of electric vehicles. As residents of Canberra and the surrounding region embraced electric vehicles as a more sustainable form of road transport, Canberra Airport recognised that many passengers travelling to and from the airport would require the use of EV chargers.

This has resulted in the installation of more than 21 EV charging stations in precincts surrounding the airport, including Brindabella Business Park, Majura Park, Vibe Hotel and the airport. The combination of fast and slow chargers offers passengers with the convenience and assurance that their electric vehicle will be adequately charged while parked at the airport. Incentivising those travelling to and from the airport with electric vehicles is another example of Canberra Airport's commitment to decarbonisation right across the ACT.

Through collaboration with airlines and ground handlers, a number of charging points have been installed airside to provide power to electric tugs and other GSE which have replaced traditional combustion engines or standard batteries.

Promoting alternatives to road transport

As the most sustainable city in Australia, Canberrans have an affinity for transport options that reduce their carbon footprint. This is particularly the case for airport passengers and those who work in the business parks.

To align with the ACT Government's goal of reducing the greenhouse gas emissions contributed by road transport, Canberra Airport has implemented various measures to promote active travel as an alternate option for those travelling to the airport precinct. Cycle paths on and off Pialligo Avenue, the main route to the airport, are connected with the broader Canberra cycle network, offering seamless travel for those cycling from all suburbs of the ACT. Bicycle storage and end-of-trip facilities have also been installed across the airport footprint to cater for those opting to cycle to the airport or surrounding businesses.

Conclusion

For more than two decades, Canberra Airport has been committed to sustainability by reducing the impact operations have on the natural and physical environment. Contributing to the transport industry's overall path to reaching net zero is a key objective in the broader decision-making across the airport.

Reducing greenhouse gas emissions in aviation is a priority for all industry participants. The benefits afforded by the uptake of SAF have been proven in other jurisdictions. Australia's future large-scale SAF production is reliant on effective collaboration between government and industry stakeholders to develop demand and supply mechanism. A suggested in the *Roadmap*, this is the only short-to-medium term option for airlines to reduce emissions.

Infrastructure providers are already making a more refined contribution to decarbonisation. The measures implemented at Canberra Airport, Brindabella Business Park, Majura Park and Fairbairn have been designed to create a more sustainable, green and clean environment for passengers and those working from the precinct. By setting an ambitious net zero agenda, Canberra Airport has demonstrated the value and importance of transport infrastructure providers undertaking initiatives that off-set the emissions generated by other industry participants.

The greenhouse gases emitted by airlines are difficult to abate, particularly as aircraft activity continues to expand in the post-COVID-19 landscape. If progressive action is not adopted soon, the level of emissions generated by the aviation industry will increase exponentially. Canberra Airport recognises this and believes the energy efficiencies enacted across the airport over the last two decades will support the aviation industry to reach carbon neutrality.

It is hoped that this submission will help guide the *Roadmap* and encourage others in the transport sector to consider measures which reduce emissions generated through operations. Doing so will greatly assist the Commonwealth Government achieve net zero by 2050.