Transport and Infrastructure Net Zero Consultation Roadmap

Take the survey

Department of Climate Change, Energy, Environment and Water

Response received at:

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Airservices Australia

4   Confirm that you have read and understand this declaration.

Yes

5   First name

Not answered

6   Last name

Not answered

7   Email

Not answered

8 Phone

Not answered

9 Who are you answering on behalf of?

Organisation

10 Organisation name

Airservices Australia

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?

Australian Capital Territory

14 Postcode

2600

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

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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

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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

2024 07 26 Airservices response to Net Zero Consultation Roadmap - Public .pdf
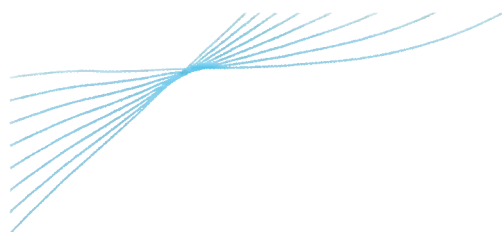
69 Upload a submission

Not answered

70 Upload supporting file

Not answered

71 Upload supporting file

Not answered

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Via email: netzero@infrastructure.gov.au

Airservices Submission to the Transport and Infrastructure Net Zero Consultation Roadmap

Thank you for the opportunity to provide a submission to the Australian Government's Transport and Infrastructure Net Zero Consultation Roadmap. Airservices is committed to supporting industry-wide net zero pathways within the aviation mode of the transport and infrastructure roadmap.

Airservices recognises society's expectations in relation to protecting the environment continues to evolve with the impacts of aircraft emissions, aircraft noise and the industry's reliance on other natural resources increasingly being called out at both a global, national and community level. As an integral part of Australia's aviation ecosystem, we are in a unique position to facilitate flight paths for airspace users which can reduce fuel burn and work to minimise the impact of aviation noise on the communities, wherever practical. We will continue to work with airlines and airports to help them become more efficient and environmentally sustainable; and we will continue to manage community expectation in relation to noise. Airservices is committed to achieving net zero carbon emissions by 2050.

We are embracing new technologies that will enable us to deliver our services more effectively, support future air traffic growth and meet national security imperatives through prioritising digital investments such as digital aerodrome services and implementing our OneSKY Program.

Our role

Airservices is a critical stakeholder within the aviation sector that makes a significant contribution to Australia's reputation as a world leader in aviation safety. We are a technical agency comprised of skilful and dedicated specialist staff responsible for providing air traffic management, aviation rescue fire fighting and aeronautical information, navigation and communication services to benefit industry, and by extension, the travelling public.

We are Australia's air traffic management and aviation rescue fire fighting provider operating at 29 air traffic control towers and 27 fire stations across Australia with over 600 remote and regional sites. We manage 11 per cent of the world's airspace, including the upper airspace for Nauru and the Solomon Islands.

Airservices is a government-owned, statutory authority established by the *Air Services Act 1995*. We are also a designated corporate Commonwealth entity under the *Public Governance, Performance and Accountability Act 2013*.

Airservices investments and services are funded through industry charges which are regulated by the Australian Competition and Consumer Commission. To deliver on our strategy to move to net zero emissions, while ensuring industry's growth over the long term, our investments decisions seek to balance both economic and environmental outcomes. In doing so, these decisions consider not only the environmental impact of our services but also the environmental outcomes that we can influence for our customers to minimise the broader societal costs of emissions growth.

Proposed guiding principles

We note that emissions from domestic aviation represent 9 per cent of transport emissions and that embodied emissions in transport infrastructure accounts for approximately 3 per cent of Australia's total emissions.

Airservices is supportive of the Australian Government utilising policy roles such as leadership, investment and regulation to guide Australia's commitment to net zero outcomes. Ensuring these maximise emissions reduction and economic opportunities by providing value for money in an inclusive and equitable way that is evidence-based.

Airservices recognises that building on existing effort and knowledge and working in partnership with governments, industry, communities and international organisations is essential in order to work across the timeline horizon identified. This includes working with academic organisations, such as Universities, to leverage their specialised skill sets in undertaking specialised research in opportunities around aircraft noise reduction to support achieving net zero emission outcomes. We are supportive of the work being carried out through the Australian Jet Zero Council and the long term policies set out in the Aviation White Paper in relation to achieving net zero carbon emissions within the aviation sector.

Airservices is committed to continuing to work with the International Civil Aviation Organization to support aviation emissions initiatives. Airservices has representation within the Committee on Aviation Environmental Protection Working Group 1 (Noise Technical) and Working Group 3 (Emissions Technical).

Airservices is committed to collaborative working to reduce emissions with governments, industry, communities and international organisations to achieve the Transport and Infrastructure Net Zero Roadmap and Action Plan within the timelines identified.

Airservices is supportive of Australian Government investment in line with the Infrastructure Policy Statement, particularly in line with the sustainability theme.

Airservices recently published our Australian Aviation Network Overview Report for financial year 2024. This considers a number of economic and social trends, including carbon emissions. Over the 2024 financial year we have seen the average monthly emission savings from user preferred routes of around 3,000 tonnes.

Airservices networks and systems

Airservices strives to ensure faster, greener, quieter outcomes for our communities and customers enabled by our commitment to sustainable aviation.

Airservices continues to actively work towards net zero emissions by 2050. In 2025-26 we are aiming to reduce our net carbon emissions by 10 per cent from 2018-19 levels.

We will achieve these reductions through the following:

- *Airport Collaborative Decision Making (A-CDM)*

  A-CDM is an operating concept that will improve the way airports, airlines, aircraft operators, ground handling agents and Air Traffic Control work collaboratively to streamline airport operations. It will make it faster, simpler and more efficient to manage aircraft movements through the collaborative sharing of accurate, real-time data and insights.

  A-CDM is an information sharing platform (ISP) that provides accurate and timely information for A-CDM partners. A-CDM provides a common picture that will enable gate allocations to be optimised, ground handling resources to know when and where to be ready, and air traffic control to better sequence departing aircraft. In turn, this gives airlines more certainty about when a flight will be approved for take-off.

  A-CDM will realise major efficiencies for the aviation industry over the next decade through improved planning and provision of accurate and timely information which will reduce emissions, provide better service, increase safety and reduce costs.

  The first phase is to develop and implement the A-CDM Information Sharing Platform (ACISP) at Sydney, Melbourne, Brisbane and Perth airports by early 2025. Airservices expects to see carbon emissions savings from A-CDM at the four major airports.

- *Digital Aerodrome Services (DAS)*

  We actively support sustainable industry expansion, for example, by investing in capabilities and infrastructure to provide new services to Western Sydney International Airport. For example, we are transforming air traffic control using remote digital capability, using internationally proven technology. This technology uses state-of-the-art cameras positioned at the airfield to provide air traffic controllers with an enhanced 360 degree view to manage arrivals, departures, and movement on the aerodrome, from a secure remote location. DAS will be introduced to service Canberra Airport from November 2025 and the Western Sydney International Airport from June 2026.

  A DAS solution avoids the need to build and install costly infrastructure, which will require ongoing service and maintenance. Airservices will consider further investigation to understand emissions reduction of DAS.

- *Digital Twin*

  The Digital Twin is a virtual simulation of the Australian air traffic network enabling users to test possible scenarios to help solve complex multivariate problems. Using cutting-edge simulation and prediction tools – we are creating a digital twin of our skies.

A Digital Twin will support enhanced decision-making when managing Australian skies. This technology will enable Airservices to plan, prepare, and deliver services like never before - to improve the performance of aviation across Australia.

The Digital Twin allows the simulation of millions of possible scenarios and consideration of multiple plans when planning and operating the air traffic network. This network simulation capability will generate greater network insights which allow us to minimise delays and disruptions across the entire aviation ecosystem.

The Digital Twin delivers 'what if' scenarios for network planning and operations to predict some of these scenarios. Enhanced operational decision-making for airlines will lead to better passenger experiences and a more structured approach to accommodating the expected growth in air traffic.

The simulation capability will generate greater network insights and will help minimise delays and disruptions across the entire aviation eco-system, which will reduce fuel burn and CO2 emissions. Airservices expects to experience carbon emissions savings from the use of Digital Twin.

Flight Path Design

We need to cater for the changing nature of aircraft operations, air traffic growth, airport expansion and advances in aviation technology, while keeping aviation safety as our first priority.

Aircraft noise is an inevitable impact of aviation activity. While airports are essential economic assets that provide communities and businesses with great benefits, residents living within 75 km of an airport may experience noise and visual impacts of aircraft arriving, departing or overflying the airport.

We need to manage the impacts of aviation activities and this requires a careful balance of ensuring safety, operational efficiency, protecting the environment and minimising the effects of aviation noise on the community, wherever practicable.

Flight path design must comply with Australian and International design standards and cater for the range of aircraft that will operate on the flight paths. Using our Community Engagement Standard, we will ensure 100 per cent of our flight path changes are engaged on and implemented using the process defined within it. The efficiency and environmental benefits of flight path design are in delivering operational efficiency and predictability, as well as minimising the effect on the environment through reducing fuel consumption in the number of track miles flown, the duration of flights, and consequently, the overall emissions.

- *OneSKY*

  The OneSKY Program, a partnership between Airservices and the Department of Defence, is replacing their current independent Air Traffic Management (ATM) systems with a single advanced and integrated system known as the Civil Military Air Traffic Management System (CMATS). This system will manage over 11 per cent of the Earth's airspace and some of the world's busiest air routes. The capability will harmonise national air space management, leading to greater efficiency and effectiveness. This program commenced in 2018 and aims to deliver more efficient air services, support future air traffic growth, and enhance national security. Notably, it is expected to deliver significant benefits in terms of fuel savings and carbon emissions reduction.

  Our future aspirations will see an international industry collaborate on one common baseline improving efficiencies and aligning technologies with other Air Navigation Service Providers across the globe.

  The OneSKY/CMATS Program will deliver significant benefits associated with fuel savings, enabled by air-routes optimisation, flexible/shared use of air space and optimized arrival management. The fuel savings directly translate into reduction in carbon emissions. Here are the key points of OneSKY/CMATS capability:

  o Aircraft operators will have the flexibility to fly their planes at the most efficient levels/ routes, resulting in substantial fuel cost savings.

  o For the first time, civil and military air traffic controllers will share ATM system (CMATS), leading to optimised flight routes and reduced fuel consumption.

  o Cutting-edge technology and real-time prediction tools will enhance coordination and increase airspace flexibility, further contributing to fuel efficiency.

  o The tools available in the new advanced ATM system (CMATS) will provide greater access to Continuous Descent Operations (CDO) across the ATM network to optimise arrivals by improving sequencing processes for air traffic control and providing flight crews with predictable descent into Australian airports, which equates to greater fuel savings.

  o By improving air traffic flow and optimising runway use, OneSKY will reduce delays and enhance overall efficiency.

  o The integrated system will interface with advanced aircraft technology, bringing efficiency in approaches and landings.

Overall, these advancements are estimated to lead to a reduction in carbon emissions, benefiting both the environment and aviation industry stakeholders., Airservices expects to see reductions of 49.1K tonnes (per annum) in fuel savings and about 155.1K tonnes (per annum) in carbon emissions.

- *Aviation Rescue Fire Fighting Services (ARFFS)*

New and emerging technologies in both the ARFFS environment and domestic firefighting provide opportunities to enhance the capability of ARFF and the service we deliver to our customers. Technology will transform our ways of working to improve firefighting safety, be financially and environmentally sustainable and is flexible and scalable to cater for our customers' and industry requirements.

We will continue to implement new and emerging technologies for our next generation services such as progressing fleet renewals for our ARFFS, facility upgrades for our frontline teams and investing in intelligent systems to manage increased airspace complexity and evolve the aviation value chain to enhancing safety.

As the aviation industry continues to evolve, we are making sure we are growing sustainably with it, to provide a service that meets the needs of the industry now and into the future. After a thorough market analysis, Airservices will be one of the first in the world to take delivery of the newly-developed Striker Volterra 6x6 ARFF services vehicles from US-based fire fighting equipment manufacturer Oshkosh Airport Products. The cutting-edge trucks are the first-production plug-in hybrid Ultra-Large Fire Vehicles designed specifically for airport use and were chosen for the technological capabilities of the vehicle including High Reach Extendable Turrets (HRET), increased acceleration, lower fuel consumption and significantly reduced emissions. With significantly less emissions and engine noise, the vehicles also greatly reduce our aviation rescue fire fighters' exposure to toxins and noise pollution, lessen our environmental impact, and support our target of net zero emissions by 2050.

The Striker Volterra fleet and our national fleet replacement work will at minimum meet Euro 6 Emissions standards, which will take us through to the short and medium term timelines. In addition we will be seeking compliance with the Commonwealth Government fleet target of 75 per cent new passenger vehicles (including SUVs) to be low emissions vehicles (LEVs) by 2026. The use of Bio-diesel or other Low Carbon Liquid Fuels (LCLFs) will also be considered.

- *Uncrewed Services*

Our Uncrewed Services Program will prepare our skies for the safe integration of uncrewed aircraft. We are investing to deliver first-of-kind, digital and automated capabilities and services that will foster growth of uncrewed aircraft in shared airspace. This includes airspace drone surveillance, the deployment of a Flight Information Management System (FIMS) and the safe and sustainable integrating of Uncrewed Aircraft Systems (UAS) into Australian airspace.

Airspace drone surveillance will increase the safety and efficiency of our industry by building the foundations for technology based airspace surveillance of drones operating around Australian airports. We will enhance our current drone surveillance capabilities by deploying multiple new sensor types and integrating the data into a common operating picture. Installation of new UAS airspace surveillance capabilities will commence in the late 2025.

FIMS will be the first of its kind, providing digital and automated capabilities and services. It will also include developing fit for purpose data sets for uncrewed aircraft system users and enhancing existing surveillance capabilities to enable safe integration of uncrewed services into our existing operations. FIMS will enable Airservices to continue to provide safe, efficient, secure, and environmentally responsible services to all airspace users.

We are actively advocating and positioning ourselves as a thought-leader to ensure UAS traffic management (UTM) and associated standards that are currently in development around the globe are suitable for the Australian context.

Airservices national facilities

We operate over 700 sites across Australia. Our current operations directly contribute greenhouse gas emissions in the region of 28,000 tonnes[2] of CO_2e per annum. Our continued focus will be on efficient management of energy, water, land, materials, and waste. Efficiency may be measured through the reduction in the consumption of natural resources and increased use of renewable resources, which is delivered through improved equipment, infrastructure, alternative technology, change in behaviours and improved processes.

We will do this by:

- Reducing our overall waste footprint by 50 per cent by 2030.

- Improving energy efficiency and climate resilience through asset transformation across the Airservices facilities and asset base to achieve a net emissions reduction of 43 per cent (compared to baseline) by 2030.

- Developing and implementing reuse and/or circular economy opportunities for key waste streams by 2026.

- Airservices aims to provide safe, inclusive, engaging and sustainable workplaces, demonstrating a commitment to our people and the environment and their importance to delivering of our valued services.

Timeline of transport decarbonisation technology pathways

Airservices considers the short, medium and long term timelines set out in the timeline are achievable.

Airservices is working towards the following decarbonisation pathways within the short term (to 2030) timeline:

- Energy initiatives for our facilities, such as Energy Audits four our major centres, smart energy metering, development of a facilities and infrastructure design guideline, remote site renewables trials, energy efficiency upgrades, and installation of solar.

- Water initiatives for our facilities, such as smart water metering, development of a facilities and infrastructure design guideline, and water efficiency upgrades.

- Waste initiatives for our facilities, such as Water Reuse Modelling, reduction of hard waste sources and installation of wastewater reuse infrastructure.

- Passenger Vehicle Fleet initiatives, such as targeted reduction (to 75 per cent by 2030) of new passenger vehicle orders to be low emission vehicles, with the preference to zero emission vehicles.

- ARFFS Fleet initiatives, such as the introduction of the Striker Volterra 6x6 ARFF services vehicles at Western Sydney International Airport.

- Air traffic management initiatives, such as trialling and operationalising Delay Management applications, and operationalising A-CDM capabilities at the four major airports.

By 2030 we hope to achieve a 43 per cent reduction in our Scope 1 and 2 carbon emissions.

Airservices considerations crossing over to the medium term (to 2030-2040) timeline will include the replacement of the existing ARFFS Fleet, over a five-to-15-year timeline.

We will be further exploring available opportunities beyond the medium term (2030-2040) and long term (2040-2050) timeline horizons.

We would be happy to discuss our submission in further detail if it would be helpful.

Yours sincerely

Acting Peter Curran
Chief Executive Officer

26 July 2024