



Australian Government

AVIATION WHITE PAPER

TOWARDS 2050

AUGUST 2024

© Commonwealth of Australia 2024
ISBN: 978-1-922879-42-4 (print)
ISBN: 978-1-922879-41-7 (online)
AUGUST 2024
INFRASTRUCTURE 6282

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Department of Infrastructure,
Transport, Regional Development,
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GPO Box 594
Canberra ACT 2601
Australia

Email:
creative.design@infrastructure.gov.au

Website:
www.infrastructure.gov.au

Acknowledgement of Country

In delivering the Aviation White Paper, we pay our respects to First Nations people and Elders who have enduring connections to lands, the sky, waters and communities.

First Nations people have the oldest continuing cultures in the world. It is fitting to reflect on the thousands of generations of traditional knowledge that First Nations people hold and generously share.

We acknowledge the diversity of First Nations cultures, languages and practices across the country and the resilience of First Nations people in keeping these alive. In delivering the Aviation White Paper, we recognise the importance of listening to the voices and perspectives of local First Nations people and responding to the uniqueness of each place.

We are committed to working in genuine and long-term partnership with First Nations people – in meeting current and future challenges and achieving opportunities, including through smart and responsible regional investment.

We thank First Nations people for their continuing custodianship of, and care for, the Country that we live and work on today.

AVIATION WHITE PAPER

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Minister's foreword

Aviation is crucial to the Australian way of life. Air travel connects Australians across our vast continent, and to family and friends overseas. It enables access to international markets, for both people and goods, expanding business opportunities that facilitate our economic growth.

The COVID-19 pandemic was the most significant disruption aviation has experienced, impacting the flow of global trade and causing long-lasting interruptions to passenger services. In 2024, passenger numbers have largely recovered to pre-COVID levels, domestically and internationally, but new challenges have arisen and existing challenges have been exacerbated.

Australia's aviation industry has not historically grown sustainably beyond 2 major carriers, with a few limited exceptions. In 2024, we saw the exit of Bonza – which had operated a novel business model targeting underserved routes – and the regional carrier Rex has entered voluntary administration following an expansion into inter-city domestic routes. These events have again highlighted the challenges to entering the aviation market, particularly in a smaller nation like Australia. At the time of the White Paper's release, Rex's administration is ongoing, with its final shape still to be determined. Throughout this process, the Australian Government will take action to maintain affordable and reliable air services into regional Australia, while ensuring the responsible use of taxpayers' money. We know how important air services are to rural and regional Australia, connecting Australians with family, community and essential services. Beyond our actions in the context of the Rex administration, we are investing in regional aviation facilities, and the Aviation White Paper sets out a long term policy agenda to maintain reliable regional air services at accessible prices.

It was clear throughout our consultation process that the aviation customer experience has deteriorated post-COVID, with an urgent need to better protect the rights of the travelling public. Concerningly, people with disability continue to face significant barriers to air travel that also require government intervention to address. To this end, the government is introducing a new Aviation Industry Ombuds Scheme and Customer Rights Charter, a major step change in consumer support, and developing new aviation specific disability standards, which represent a significant change in how the industry is expected to treat its customers. The Aviation White Paper will also reduce barriers to competition, making it easier for airlines to enter the Australian market – particularly the key hub of Sydney Airport – and scrutinising more closely the behaviour of incumbent airlines and natural monopoly airports.

The next 25 years will bring about significant change for the aviation sector, particularly in meeting the challenge of decarbonisation. In line with the Australian Government's commitment to net zero emissions, measures to decarbonise aviation are already underway. Access to sustainable aviation fuel will be critical for the sector's transition, and we are fast tracking the development of a domestic low carbon liquid fuel industry to ensure Australia is able to maximise aviation's contribution to net zero.

Aviation is a complex and diverse ecosystem, built on the back of the General Aviation sector. General Aviation businesses provide the skills, innovation and expertise that underpins Australian aviation, and are the training ground for our next generation of aviation professionals. The government is committed to growing General Aviation into the future.

Shortages of aviation workers are holding back parts of the aviation industry and putting pressure on remaining teams. We will work with the industry to simplify training pathways without compromising safety, and to plan for future skills and workforce needs. The Aviation White Paper includes long-term policy settings to provide certainty for industry to invest, engage in and broaden skills development and provide secure jobs for the future.

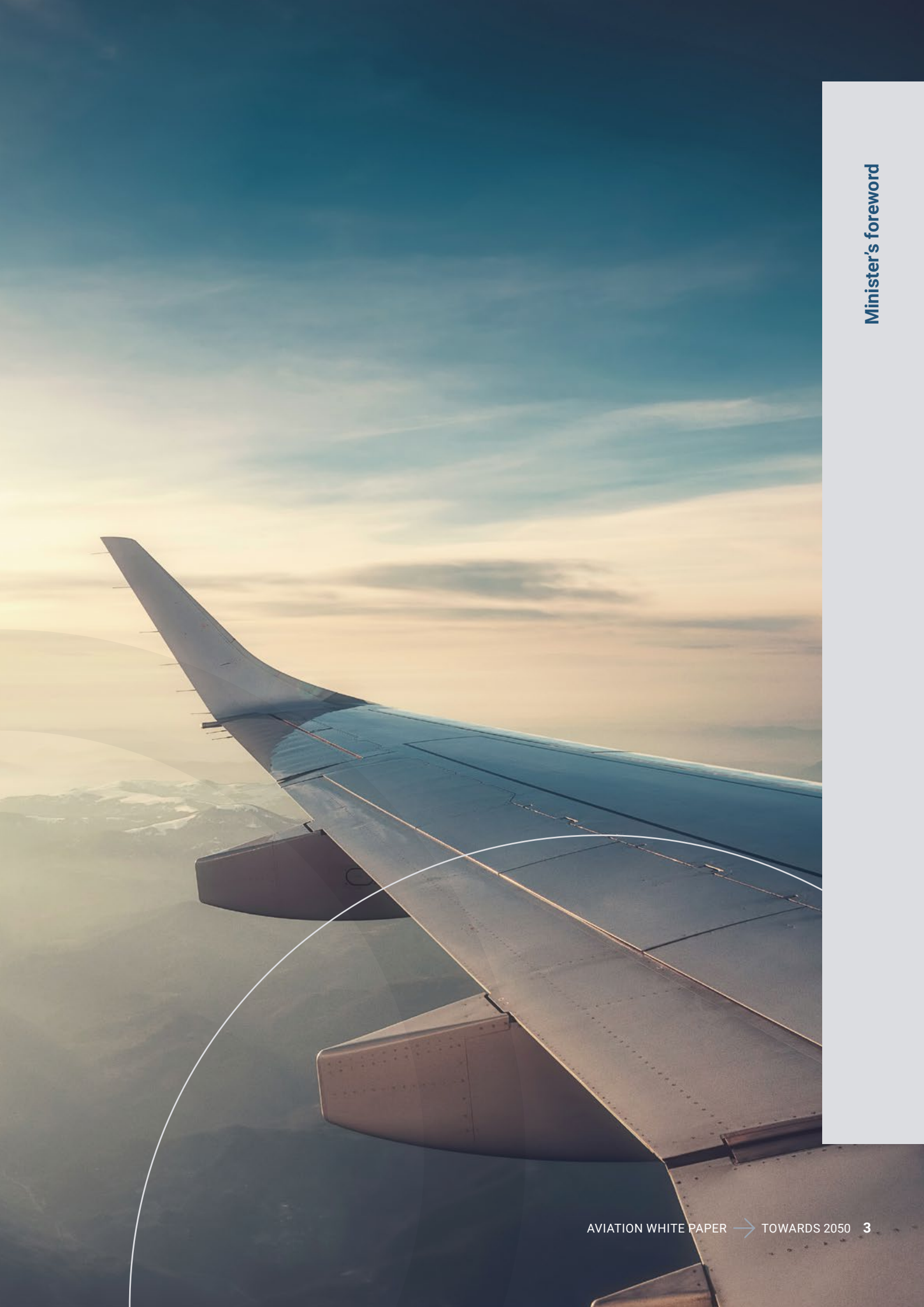
While aviation is crucial for Australia, it creates noise and other impacts that affect people living near airports. The government is committed to minimising these impacts to the extent possible, and working with states and territories to make long term planning decisions that avoid adding unnecessarily to noise exposure. All parts of the aviation industry will need to play a role in reducing the impacts of aircraft noise to maintain the sector's social licence.

In the period to 2050, drones and other new technologies will increasingly share airspace with conventional aircraft. The Aviation White Paper sets out policy and regulatory approaches to proactively adapt to this new environment, take advantage of opportunities and manage risks.

The Australian Government recognises the need to provide certainty for the aviation industry. 15 years after the release of the previous Aviation White Paper, this publication sets out the government's long-term policy vision to deliver a safe, competitive, sustainable, productive and efficient Australian aviation sector out to 2050.

Catherine King

August 2024



Executive summary

The Australian Government wants an aviation sector that is safe, competitive, productive and sustainable.

We expect the aviation sector to provide the affordable and reliable services that the travelling public deserves, while employing Australian workers on fair pay and secure conditions and developing the skills needed for the future.

As a nation, Australia is uniquely reliant on aviation to provide us with critical links to each other and the world. Aviation directly contributes around 1% of gross domestic product (GDP) and employs over 50,000 people. It also plays a critical role in enabling other sectors of the economy, including the major export sectors of tourism, trade and higher education.

Since reopening following the COVID-19 pandemic, Australian aviation activity has recovered strongly, with passenger numbers largely back to 2019 levels. But the aviation industry still faces a difficult period. Following an attempted expansion into capital city routes, Rex Airlines entered voluntary administration in July 2024, and the future of the company is still to be determined. Bonza Aviation, which had reached 2% of domestic market share, collapsed earlier in 2024 after attempting an innovative business model servicing previously unserved routes. These latest events demonstrate the inherent challenges faced by small players in Australia's market – which has never grown sustainably beyond 2 major carriers – and highlight the critical importance of strong policy and regulatory settings to protect the rights of aviation customers in a smaller market.

Customer service standards are yet to return to pre-COVID-19 levels, with airline services remaining unreliable, and customers finding it too difficult to access the refunds and support to which they are entitled.

The government will act to make airlines more accountable to customers for delivering flights as scheduled, remove barriers to competition and support efficient investment in airports to cater for growth. The government-owned air navigation service provider, Airservices Australia, must also be accountable for improving its performance and reliability.

The government is implementing reforms to Sydney Airport Demand Management arrangements to increase transparency, rebalance slot allocation towards new entrants, and strengthen compliance arrangements and enforcement action against slot misuse. The opening of Western Sydney International (Nancy-Bird Walton) Airport (Western Sydney Airport) in 2026 will further enhance competition in Sydney – our largest aviation market and most important international gateway.

The government will legislate to establish a new Aviation Industry Ombuds Scheme to hold the sector accountable for delivering on its obligations to customers. The scheme will have the power to direct airlines and airports to provide remedies. A new Aviation Customer Rights Charter will outline the obligations that airlines and airports have to their customers, including in relation to the prompt payment of refunds, across all fare types, when flights are cancelled or significantly delayed.

While aviation provides essential services to Australians, we recognise that it does have impacts on Australians' quality of life. The government will work with industry and communities to minimise these impacts, such as noise, as much as possible.

The period to 2050 is expected to be a period of change for the sector. The transition to a net zero economy, and the rollout of new technologies, will reshape the sector, offer new economic opportunities and change how Australians access a wide range of services. While we continue to explore the benefits and use cases

for these technological changes, the government will carefully oversee the introduction of new aviation technologies while protecting Australians' safety and security and working to build awareness in the community.

The Aviation White Paper sets out a comprehensive plan to achieve the government's vision for aviation – including 56 policy initiatives developed through extensive consultation with the aviation industry, state and territory governments, and Australian communities.

The Australian Government's commitments

Strengthening the consumer experience

Since the reopening following the COVID-19 pandemic, the aviation sector has not provided the level of service Australians expect and are entitled to. In 2023, one in every 27 domestic flights were cancelled and almost one in 3 were delayed arriving, noting some improvements in the first half of 2024.

When flights are cancelled or delayed, customers have found it too difficult to enforce their consumer rights. Airlines have taken too long to respond to customer inquiries, and the industry-established Airline Customer Advocate has proven ineffective in supporting customers to resolve complaints.

That's why the Australian Government will strengthen the obligations of airlines and airports and the rights of aviation customers to receive the support and remedies they are entitled to.

We will legislate an Aviation Industry Ombuds Scheme to provide an independent dispute resolution and performance monitoring service. The ombudsperson will be empowered to investigate complaints, mediate outcomes and direct airlines and airports to provide remedies to their customers.

The ombuds scheme will produce a new Aviation Customer Rights Charter setting out what the ombudsperson considers to be reasonable conduct by airlines and airports, giving customers greater clarity and confidence about what they are entitled to when services are not provided as expected. The charter will set out expectations including minimum customer service levels and the prompt payment of refunds, across all fare types, when flights are cancelled or significantly delayed – consistent with requirements under the Australian Consumer Law.

Airlines will also be subject to a 'show cause' arrangement, with additional requirements to report the reasons for delays and cancellations as part of the airlines' regular reporting of flight data to the Australian Government's Bureau of Infrastructure and Transport Research Economics (BITRE). This will increase transparency and public accountability for on-time performance.

The industry will be required to provide more support to people with disability

People with disability have the legal right to equal access to public air travel. However, submissions to the Aviation White Paper described a range of situations where these rights have not been upheld. People with disability have been left stranded in airports without wheelchairs, have been denied boarding because of their assistance requirements and have been subject to dangerous or humiliating treatment during air travel.

The Australian Government will create new aviation-specific disability standards, as a schedule to the *Disability Standards for Accessible Public Transport 2002*, requiring airlines and airports to work together to facilitate the journeys of people with disability. Airlines will be required to offer 'assistance profiles' to passengers so that people with disability can communicate their assistance requirements online, in advance, and give airlines permission to store this information for each time they fly.

The Australian Government will amend regulations to increase the compensation available to people whose wheelchairs or other mobility devices are damaged or lost by domestic airlines.

Leased Federal Airports (LFAs) – including all major capital city airports – will be required to demonstrate how they will provide disability access in airport master plans and major development plans (MDPs).

These measures will complement other initiatives from the Australian Government in response to the Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability (Disability Royal Commission), including modernising the *Disability Discrimination Act 1992* (Cth) (DDA), which has not been substantially amended since 2009. Modernising the DDA will have flow-on effects for the aviation sector, resulting in better airport access experiences for people with disability.

The Australian Government will reduce barriers to competition in the aviation sector

Due to the size of our population and geographic features, Australia's markets tend to be more concentrated than in many other nations, and aviation is no exception. While there are few formal restrictions on new entrants, our relatively small population, vast geographical distances and the inherent challenges of operating in the aviation market pose challenges which have historically prevented the emergence of multiple new entrants. These factors have contributed significantly to the fact that Australia has consistently had only 2 major carriers since the 1930s.

Today, Australia continues to have 2 major domestic carriers: Qantas and Virgin Australia. While there is no foreign ownership limit on airlines operating only in the domestic market, overseas airlines and investors have shown minimal interest in establishing new Australian carriers, with the exceptions of Tiger Airways and Bonza which were not able to continue operating sustainably. Without new entrants to the market, incumbent airlines lack incentive to innovate and improve service.

Major airports are also natural monopolies and must be overseen by government to ensure they do not use their market position to increase profits or invest at inefficient levels, to the detriment of consumers.

With these factors in consideration, the government will take further steps to improve competition to support better customer outcomes.

The government has already announced reforms to the Sydney Airport slot regime to improve efficiency, competition and opportunities for new entrants. Sydney Airport is critical national infrastructure that is central to Australia's air network. Improving airline access and competition in Sydney will support increased competition across Australia. The opening of Western Sydney Airport in 2026 will further enhance competition in our largest aviation market. The introduction of a 'recovery hour' at Sydney Airport will improve the resilience of our aviation network. The compliance and enforcement framework that supports the slot regime is being strengthened.

The Australian Competition and Consumer Commission (ACCC) has powers to monitor airline and airport prices and performance and will also be asked to monitor the conduct of pricing negotiations between airlines and major airports. The next Productivity Commission (PC) inquiry into the economic regulation of airports will advise whether stronger regulation is required – including whether the government should adopt a negotiate-arbitrate regime for aeronautical pricing.

The government has also announced reforms to make Australia's merger approval system faster, stronger, simpler, more targeted and more transparent, including in the aviation sector. The reforms will establish a single administrative pathway with the ACCC as the primary decision-maker.

The aviation sector will contribute to net zero by 2050

Aviation contributes around 2.5% to global carbon emissions. It will be among the hardest sectors to decarbonise due to the inherent limitations of battery technology in supporting long-distance flight. While the adoption of newer, more fuel-efficient aircraft can make an important contribution to emissions reduction, the industry will need access to low carbon sustainable aviation fuels (SAF) to meet Australia's net zero targets.

Our aim is to support the refining and use of SAF in Australia using Australian feedstocks, providing jobs and opportunities across Australia. As a priority Future Made in Australia sector, the government has committed to fast-tracking support for a low carbon liquid fuel (LCLF) industry, with an initial focus on SAF and renewable diesel. The government's commitments include developing a certification scheme to verify the emissions from the production of SAF; undertaking consultation on the costs and benefits of options for a production incentive and demand-side measures; and providing access to the \$1.7 billion Future Made in Australia Innovation Fund to support the development of nascent LCLF production technologies. These commitments build on the existing \$30 million that the Australian Renewable Energy Agency Sustainable Aviation Fuel Funding Initiative has allocated for activities to support development of a SAF industry with production from renewable feedstocks in Australia.

Supporting the aviation workforce into the future

The aviation industry faces shortages of key workers, including pilots, flight instructors, aviation maintenance engineers, aeronautical engineers, cabin crew, security screening personnel, baggage handlers and air traffic controllers. These shortages are holding back the growth of the sector, putting pressure on existing teams, reducing service levels – especially in regional Australia – and contributing to the delays and cancellations of passenger flights. In the longer term, Australia will also need to develop and attract additional skill sets to support the introduction of new aviation technologies.

Aviation skills shortages often have the greatest impact on General Aviation (GA), which is the training ground for many pilots, engineers and other aviation professionals and supports the future aviation workforce to develop the skills and experience needed for a career in aviation.

The Australian Government is simplifying training and licensing pathways for aviation maintenance engineers, without compromising safety, and will set expectations for airlines to train and develop more pilots internally rather than relying solely on recruitment from other aviation businesses.

Industry will be invited to sign up to a Gender Equity Charter for Aviation, committing to targets for the employment of women and elimination of gender pay gaps. Charter membership will be a consideration in the awarding of some Australian Government aviation grants.

Throughout the Aviation White Paper consultation process, we heard clearly from employee advocates about the importance of job security, better conditions and that aviation workers performing the same job should be entitled to the same pay. The Australian Government has acted to improve job security and respect in Australia's workplaces, and the aviation industry will directly benefit:

- The *Fair Work Legislation Amendment (Secure Jobs, Better Pay) Act 2022* (Secure Jobs Better Pay) amended the workplace relations framework in relation to bargaining, job security and gender equality. This included limiting the use of fixed term contracts, prohibiting pay secrecy, embedding the principles of job security and gender equality in the Fair Work Act, and improving access to flexible working arrangements and extensions of unpaid parental leave. It also included significant reform to modernise the bargaining system to lift wages and productivity. These changes are helping to improve job security and working conditions of aviation workers.

- The *Fair Work Legislation Amendment (Closing Loopholes) Act 2023* and *Fair Work Legislation Amendment (Closing Loopholes No. 2) Act 2024* built on these reforms, including by allowing parties to apply for orders that labour hire employees must be paid at least what they would receive under a host's enterprise agreement, introducing a fairer test for determining whether a person is an employee or an independent contractor, and by ensuring a practical definition of casual employment with a clear pathway to secure work.

The Australian Government is also working with industry, through Jobs and Skills Councils (JSCs), to plan for future workforce needs, including new and updated vocational education and training (VET) courses to provide people with the right skills, now and for the future.

Air connectivity will be strengthened in regional Australia

Safe, affordable and reliable air services are vital for regional and remote Australia, connecting people to family, community and essential services. While some regional areas have good air connectivity, consolidation in the airline sector has reduced services in many places. State governments have a primary role in supporting regional air connectivity within their jurisdictions, with many states providing financial and regulatory support for air routes with too little demand to operate commercially.

Regional airfares are high compared to intercity flights and to airfares in other countries. Regional aviation infrastructure and services will also need to adapt to increased climate risks.

The recent exit of Bonza, and difficulties at Rex, demonstrate the challenging conditions faced by providers of regional air services. Throughout the administration process at Rex, the Australian Government will continue to support outcomes that maintain reliable and affordable air services to regional Australia.

The PC will be directed to investigate the determinants of regional airfares and advise on policy options to maintain appropriate levels of regional air connectivity at acceptable prices.

Remote communities depend on air services and, as our climate changes and weather events become more frequent and severe, functioning airstrips will become increasingly important to maintaining a resilient transport network and ensuring continued delivery of goods and services. Consistent with its commitment to Closing the Gap, the Australian Government will extend the Remote Airstrip Upgrade (RAU) Program by providing an additional \$50 million over 3 years to improve the safety and accessibility of remote airstrips across Australia.

Recognising the economic opportunities for the regions that airports can bring, the Australian Government will also provide \$40 million over 3 years to extend the Regional Airports Program. The program will continue to provide grant funding to improve the safety and connectivity of regional airports. It will be expanded to also provide grant funding to regional aerodromes for investment in the infrastructure required to adapt for the future.

The government understands that, while security screening requirements are a cost of doing business, at regional airports they do pose challenges for some operators. The government will continue to ensure these settings are appropriate to risk levels.

The Australian Government will partner with First Nations people to deliver improved aviation policies and services

Aviation will remain critical to achieving Closing the Gap targets. Aviation supports the provision of health care, education and other goods and services in remote communities; and connects First Nations people to family, friends, employment, and economic opportunities.

The Australian Government is partnering with First Nations people to deliver aviation policies and services. Our RAU Program extension will improve the resilience and accessibility of remote airstrips that service First Nations communities. The First Nations Technology Policy Design project is partnering with First Nations people to support drone use as a means of empowerment towards Closing the Gap targets.

Through the Community Engagement Standard for Flight Path and Airspace Change Proposals, the government has set clear expectations for proponents of flight path changes to actively engage with First Nations people and communities as part of the design, assessment and approval process.

The General Aviation sector will remain critical to Australia's aviation ecosystem

GA – which includes emergency services, aerial work, flight training, recreational flying and some charter and freight flights – plays an essential role in supporting a strong Australian aviation sector. As well as training aviation professionals, GA businesses design and manufacture new aviation technology that is increasing productivity and supporting decarbonisation.

The Australian Government is committed to a strong and diverse GA sector. The government will protect GA's access to LFAs by setting clear expectations for airport master plans and establishing a clear statement of expectations for how the Department of Infrastructure, Transport, Regional Development, Communications and the Arts will fulfil its function as a regulator under the *Airports Act 1996* (Cth).

The Civil Aviation Safety Authority (CASA) is refreshing its GA workplan, continuing to adjust its practices to reduce the regulatory burden on GA while keeping the community safe.

The government and industry will work together to reduce aircraft noise impacts

The government is aware that excessive exposure to aircraft noise can impact people's physical and mental health. While some level of aircraft noise is unavoidable, more can be done to minimise noise impacts on communities, involve communities in flight path decisions and provide better information about where noise occurs to inform land use planning decisions. Where aircraft noise impacts on communities cannot be avoided, noise should be shared equitably across residential areas.

The Australian Government will work with states and territories to improve land use planning processes near airports, including for noise sensitive developments.

Airservices Australia will provide additional data and information through its Noise and Flight Path Monitoring System. Airservices Australia will also establish a new executive position for noise and environment, reporting to the Chief Executive Officer.

An Aircraft Noise Ombuds Scheme will be established independently to investigate how Airservices Australia responds to noise complaints.

The Australian Government will produce guidance on 'Flying Considerately' to minimise unnecessary noise impacts for aircraft operating over residential areas under visual flight rules and outside controlled airspace.

Planning processes on and around airports will be revised to meet the needs of the aviation sector and the community

Airports are critical national infrastructure that must be developed in the interests of all Australians. The right planning decisions at airports, and in surrounding areas, are important to ensure aviation services can grow to meet demand without imposing inappropriate impacts on communities.

The Australian Government will amend regulations to require LFAs to demonstrate their plans for disability access, climate resilience and decarbonisation in airport master plans and MDPs.

The Australian Government expects LFAs to prioritise development of aviation infrastructure, including for GA, to meet the needs of airport users as required by legislation. This will be a key consideration in future decisions to approve airport master plans.

Educational materials about the National Airports Safeguarding Framework (NASF) will be developed for land use planners working in areas surrounding airports, to improve their understanding of the types of developments that are compatible with airport operations.

Safety, security and airspace regulations will be updated to address expected changes in the aviation sector to 2050

The aviation sector will look significantly different by 2050, with conventional passenger flights expected to more than double and with drones and other new technology increasingly sharing the same airspace. Australia's regulatory arrangements will need to be proactively updated so that government agencies have the powers they need to keep people safe.

The Australian Government will follow a 4-stage process to reform Australia's airspace regulatory arrangements by 2030. The first elements of a new Flight Information Management System will be rolled out in 2025 to integrate uncrewed aircraft into controlled airspace.

Automatic Dependent Surveillance Broadcast (ADS-B) equipment – which broadcasts an aircraft's location electronically – will eventually be required on all conventional aircraft in all Australian airspace. Rebates for installation of ADS-B equipment will be extended and broadened, and the Australian Government will consult on implementation arrangements for an ADS-B mandate.

New funding arrangements for CASA and the Australian Transport Safety Bureau are being considered to ensure these agencies have the resourcing they need to undertake their critical air safety roles, now and into the future, as the sector is transformed through the introduction of new technology and the transition to net zero.

The government will support growth of aviation technology and manufacturing, while mitigating the risks

Drones and other new aviation technologies are already in operation today and will become increasingly common in coming decades. While these technologies will deliver benefits – including improved connectivity, cost savings and productivity – they can raise new risks to safety, security, privacy and public amenity that must be carefully managed.

The government will consider options to introduce new drone legislation by 2030 – related to security, privacy and other non-safety matters – to give law enforcement and other agencies the powers they need to protect people and infrastructure. The government will continue to work with state, territory and local governments to encourage increased national consistency in regulatory arrangements and enforcement.

The government has made financing available to the aviation technology and manufacturing sector under the \$15 billion National Reconstruction Fund. Work by CASA to increase the harmonisation of Australian regulations with those in overseas markets will support Australian aviation technology businesses to introduce new products with less duplication in approval processes.

Australia will continue to grow international aviation

International aviation is critical for maintaining Australians' connectivity with the rest of the world, deepening labour pools for high-skilled jobs and attracting visitors that support our economy.

Australian owned and controlled long-haul carriers continue to contribute an important sovereign capacity that Australians rely on in times of need, such as emergencies and natural disasters. To this end, the government will maintain current ownership and control requirements for Australian international carriers.

The Australian Government will continue to pursue additional capacity by engaging with international parties, through bilateral air service agreements, and negotiate 'open skies' style agreements where it is in Australia's interests.

In line with our broader interests, and led by the Department of Foreign Affairs and Trade (DFAT), Australia will deepen our aviation capability-building programs in the Asia-Pacific to support a safe and sustainable aviation industry in the region. We will continue to work through the International Civil Aviation Organization to improve international aviation rules, including for safety, security, aircraft noise and emissions reduction.

The Australian Government will continue to modernise screening arrangements for passengers and cargo at the international border to reduce cost and delays and improve productivity.

Summary of new policy initiatives

The Aviation White Paper sets out the Australian Government's long-term vision for aviation and the policy initiatives the Australian Government will adopt to guide the next generation of growth and innovation in the sector to 2050.

The white paper contains 56 new initiatives to be implemented by the Australian Government in partnership with industry, states and territories, and the community. These initiatives complement the government's broader economic priorities of building the skills and capabilities of Australia's workforce, fostering a more dynamic, productive and resilient economy, broadening economic opportunity and addressing disadvantage, and embracing the opportunities of net zero transformation and digitisation.

The department will publicly track the implementation of white paper initiatives and publish annual status updates. The Australian Government will conduct a formal evaluation of the Aviation White Paper in 2029.



A better passenger experience

The Australian Government's vision is for a fairer aviation sector that delivers a better passenger experience. Consumer rights will be clear and upheld, underpinned by timely dispute resolution. Aviation will be accessible for people with disability. The Australian Government will:

- Initiative 1.** Legislate for an **Aviation Industry Ombuds Scheme**, which will have the power to direct airlines and airports to provide remedies to consumers and investigate customer complaints about airlines' and airports' conduct, with penalties for non-compliance. The enabling legislation for the ombuds scheme will outline requirements for airlines and airports to become members of the scheme, as well as the compliance and enforcement mechanisms. The ombudsperson will issue guidance on appropriate consumer conduct by airlines and airports, publish independent reports on the industry's complaints handling, make recommendations to the government for policy or regulatory change, and refer instances of systemic misconduct that may raise concerns under the *Competition and Consumer Act 2010* (Cth) to the ACCC for investigation and enforcement.

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- Initiative 2.** Establish a new **Aviation Customer Rights Charter**, to be produced by the ombuds scheme, setting out the fair and appropriate treatment of customers by airlines and airports. The charter will outline minimum customer service levels, give customers greater certainty about what they can expect when flights are cancelled and delayed, and when passenger journeys are disrupted, including in relation to the prompt payment of refunds, across all fare types.
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- Initiative 3.** Adopt a **'show cause' arrangement**, requiring airlines to report the reasons for delays and cancellations as part of the airlines' regular reporting of flight data to BITRE. The ombudsperson will also have powers to request additional information from airlines in relation to specific flights. Regular reporting of additional data about industry performance and conduct will increase transparency and public accountability for on-time performance and support the government to identify if further regulatory action is required.
-
- Initiative 4.** Make new **aviation-specific disability standards** as a schedule to the *Disability Standards for Accessible Public Transport 2002* under the DDA. The aviation-specific disability standards will affirm the rights of people with disability during air travel and the obligations that airlines and airports have to provide equal access. The Australian Government will co-design the aviation-specific disability standards with people with disability and consult industry on the draft standards in 2025.
-
- Initiative 5.** **Require airlines and airports to coordinate the facilitation of passenger journeys for people with disability.** The new aviation-specific disability standards will set out the obligations of airlines and airports to improve the coordination of passenger facilitation – from arrival at the airport terminal and throughout air travel until exiting the terminal at the destination airport.
-
- Initiative 6.** **Require airlines to offer passenger assistance profiles** that will enable people to communicate accessibility requirements to airlines online, in advance. Passengers will be able to grant airlines permission to store information so they can book future travel with a complete profile and so airlines can access their assistance information each time they travel. Profiles will allow passengers to upload documentation about assistance animals and wheelchair battery specifications so that airlines can confirm in advance that air safety requirements can be met. The Australian Government will consult on options to implement this requirement through the new aviation-specific disability standards.
-
- Initiative 7.** **Review airline policies that limit the number of passengers who require assistance.** In developing the new aviation-specific disability standards, the Australian Government will consider options to prohibit airline policies that limit the number of passengers who require assistance aboard a flight – sometimes referred to as '2-wheelchair policies' – except where there is a clear and demonstrated aviation safety reason.
-
- Initiative 8.** **Review industry compliance with the new aviation-specific disability standards.** The Australian Government will publicly report on airlines' and airports' compliance with the new aviation-specific disability standards after the rules come into effect.
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- Initiative 9.** The Australian Government will produce **user guides that outline airlines' and airports' legal requirements under the DDA** and the new aviation-specific disability standards. These accessible user guides will inform passengers about their rights and about airlines' obligations to facilitate more effective provision of assistance. The content and format of the user guides will be co-designed with people with disability.
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- Initiative 10.** Provide **improved remedies for damage to wheelchairs and other mobility devices.** The Australian Government will consult on amendments to the *Civil Aviation (Carriers) Liability Act 1959* (Cth), and supporting regulations, to increase the maximum compensation entitlement for passengers whose wheelchairs or other mobility devices are damaged or lost by domestic airlines.
-

These Aviation White Paper initiatives to create a better passenger experience will complement broader Australian Government reform processes to protect consumers and ensure the rights of people with disability. These include:

- consideration of options to strengthen compliance with the consumer guarantees, including a potential prohibition against not providing a consumer guarantees remedy when required by law
 - implementation of broader reforms to the *Disability Standards for Accessible Public Transport 2002*, including the introduction of requirements for staff training and improvements to the provision of service information in accessible formats
 - reviewing and modernising the DDA, as outlined in the Australian Government Response to the Disability Royal Commission, with a view to strengthening and clarifying protections for people with disability. The Australian Government has dedicated \$6.9 million to the review.¹
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A competitive and efficient aviation sector

The Australian Government's vision is for a more competitive domestic airline sector, to drive lower fares and better services for consumers. Efficient development and utilisation of Australia's airport assets will underpin the sustainable and affordable growth in aviation services. The Australian Government will:

- Initiative 11.** **Reform Sydney Airport slot management arrangements** to improve efficiency in the allocation and use of take-off and landing slots at Sydney Airport and reduce incentives for anti-competitive slot misuse:
- The government has adopted recommendations from the 2021 Review of the Sydney Airport Demand Management Scheme (Harris Review) to improve operational efficiency at Sydney Airport, increase transparency of slot allocation and use, provide expanded definitions of slot misuse and rebalance slot allocation towards new entrants.
 - In line with the recommendations of the Harris Review, the government will also reform governance arrangements for the Slot Manager and Compliance Committee, providing for more effective enforcement of slot rules. The Slot Manager will be appointed through a competitive process, with governance arrangements to manage real or perceived conflicts of interest an essential criterion for selection. This process has commenced.
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¹ Department of Social Services (DSS), *Australian Government Response to the Disability Royal Commission*, DSS website, Australian Government, July 2024.

Initiative 12. Revise principles for the aeronautical pricing negotiation process between airlines and airports. The Australian Government will consult on amendments to the Aeronautical Pricing Principles to specify that: (1) pricing agreements between airports and airlines should not contain anti-competitive clauses; and (2) airports should provide such information and data to airlines as necessary to ensure transparent pricing negotiations.

- In addition, the government will consider options for the ACCC to monitor the conduct of aeronautical pricing negotiations at Sydney, Brisbane, Melbourne, Perth and Western Sydney airports.

Initiative 13. Task the next **PC inquiry into the economic regulation of airports** to consider whether there is evidence that airports are misusing market power and whether the current framework allows large airlines to unduly delay beneficial airport expansions. The inquiry will consider the costs and benefits of further reforms to slot rules for domestic flights, including:

- a stricter ‘use it or lose it’ rule
- a limit on the period for which slots can be ‘grandfathered’.

Initiative 14. Monitor domestic airline pricing and performance. In October 2023, the Australian Government directed the ACCC to monitor the pricing of domestic air passenger transport services until the end of 2026. Reports on domestic airline prices, costs and profits are published quarterly to enable greater public scrutiny of airline practices and help identify any instances of airlines misusing market power.

Initiative 15. Consult on implementing **an enhanced version of the ACCC’s monitoring of pricing and service quality at Australia’s major airports** – Sydney, Melbourne, Brisbane and Perth – with the Western Sydney Airport to be included in the price monitoring regime at an appropriate time. The Australian Government will conduct an impact analysis to consider whether to require the collection of more detailed disaggregated data about airport revenue, costs and assets and whether a revised set of quality of service indicators is warranted:

- Enhanced data collection could inform more transparent pricing negotiations between airports and airlines and make it easier for the ACCC to identify misuses of market power by airports.
- The next periodic PC inquiry into the economic regulation of airports will consider the data collected and analysed by the ACCC in advising government if changes are required to the current light-touch approach to the economic regulation of airports.

Initiative 16. Publish additional data on airline performance and aviation competition. BITRE has powers to collect data from airlines under the Air Navigation Regulation 2016; however, the regulations limit publication of this data. The government will consult on amendments to these regulations by 2026 to enable the collection and publication of more detailed data to support increased transparency and scrutiny of airline performance. BITRE will also develop and report on aviation competition indicators to monitor trends in the sector.

Initiative 17. Review government travel purchasing policies to consider whether changed policy settings could better support competition. The Department of Finance will conduct the review in 2024.



A skilled, secure and productive aviation workforce

The Australian Government's vision is for a diverse and skilled aviation workforce – supported by clear training pathways, fair working conditions and secure jobs – to enable a productive and dynamic Australian aviation sector. The Australian Government's 2022 Secure Jobs, Better Pay reforms limited the use of fixed term contracts, strengthened equal pay provisions, improved access to flexible working arrangements, and modernised the bargaining system to lift wages and productivity. The 2023 and 2024 Closing Loopholes reforms sought to address behaviours that undermine pay, security and safety for workers, including allowing the Fair Work Commission to make orders to ensure labour hire employees earn at least the same as directly hired employees, and ensuring a practical definition of casual employment with a clear pathway to secure work. The government will continue to engage closely with unions and advocates to support safety and job security for workers in the industry.

To position the aviation workforce to meet the needs of the sector now and to 2050, the Australian Government will:

- Initiative 18. Streamline training and accreditation pathways for licenced aviation maintenance engineers (LAMEs), including:**
- **allowing for modular licensing of LAMEs.** Aircraft maintenance engineers can now be licenced by CASA for specific competencies relevant to their careers, without having to complete the full LAME examination process
 - **recognition of licences from overseas authorities** with similar standards and requirements. CASA already recognises aviation maintenance engineer licences issued by the Civil Aviation Authority of New Zealand. By the end of 2025, CASA will adopt a framework for recognition of licences issued by civil aviation authorities in nations that apply regulations that are equivalent to those applied by CASA. Engineers licenced by these authorities will still be required to pass exams on Australian aviation law to be licenced by CASA
 - **improving alignment between CASA licensing and VET qualifications.** The Manufacturing JSC, Manufacturing Industry Skills Alliance, has established an Aviation Working Group, with representation from industry, unions, training providers and CASA, to recommend changes to the Certificate IV in Aeroskills to provide graduates with a more direct pathway to CASA licensing. The initial scoping project will report later in 2024.
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- Initiative 19. Set expectations for large Australian airlines to train and employ newly qualified pilots** rather than relying solely on recruiting experienced pilots from other aviation businesses. The Minister for Transport has written to Qantas and Virgin Australia asking them to advise how they will increase pilot training and early career development to support a sustainable pipeline of Australian pilots. If the airlines fail to put in place appropriate arrangements, the Australian Government will consider other options, which could include a levy on large Australian airlines to fund pilot training programs and cadetships.
-
- Initiative 20. Establish a new Gender Equity Charter with the aviation industry.** The Australian Government will partner with the aviation industry and unions to commit to employment targets for women in senior and operational roles and elimination of gender pay gaps, as well as improving policies and practices to support traditionally feminised sections of the aviation industry. Charter members will report publicly on progress against charter commitments. Charter membership will be a consideration in the awarding of some Australian Government aviation sector grants funding.

Initiative 21. Plan for the future workforce needs of the aviation sector. The Transport and Logistics JSC, Industry Skills Australia, has published an Initial Workforce Plan for operational personnel (including pilots, cabin crew and air traffic controllers) and the Manufacturing JSC, Manufacturing Industry Skills Alliance, will undertake planning for the aircraft maintenance workforce. These plans will identify aviation skills and set out training priorities, including support for decarbonisation and the rollout of new technologies. They will inform future work by the respective JSCs to align training courses with industry needs.

These measures will complement recent Australian Government initiatives to improve job security, wages and working conditions for aviation workers and address skills shortages:

- The \$8 million **Women in the Aviation Industry Initiative**, which promotes aviation careers to women and girls and addresses employment barriers.
- The Australian Government's 2023 **Migration Strategy** will make it easier for Australian businesses to recruit skilled workers from overseas to address skills shortages, through a new Skills in Demand visa. The Skills in Demand visa includes a new Specialist Skills pathway for highly skilled workers and a new Core Skills pathway for occupations identified as in shortage.



Maximising aviation's contribution to net zero

The Australian Government's vision is for Australia's aviation industry to reach net zero emissions by 2050. The aviation sector will be a key contributor to achieving Australia's national emissions reduction targets, fuelled by the development of a domestic SAF industry and technological advancements in electric and hydrogen-powered flight. The Australian Government will:

Initiative 22. Consult with industry and the community on the introduction of LCLF demand-side measures, including through delivery of a regulatory impact analysis.

Initiative 23. Establish a robust certification scheme, consistent with international standards, to provide SAF purchasers and air travel consumers assurance of the environmental, safety and social credentials of SAF. The Guarantee of Origin Scheme will be expanded by mid-2028.

Initiative 24. Provide access to the \$1.7 billion Future Made in Australia Innovation Fund to support the development of LCLF production technologies using new feedstock sources, building on the current \$30 million allocated for activities to support development of a SAF and renewable diesel industry with production from renewable feedstocks in Australia.

Initiative 25. Consider options for an LCLF production incentive and demand-side measures to accelerate the development of an LCLF industry in Australia, with a key focus on producing SAF and renewable diesel. The government is currently consulting on the best way to design production incentives and demand measures, and is seeking feedback on the optimal policy mix to support the industry.



Connecting regional Australia

The Australian Government's vision is for the benefits of aviation to be shared across regional and remote Australia as part of its commitment that no one is held back and no one is left behind. The Australian Government will:

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- Initiative 26.** Direct the PC to undertake a review of the determinants of regional airfares to identify opportunities to improve regional services, access to capital cities and reliability.
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- Initiative 27.** Extend the RAU Program with additional funding of \$50 million over 3 years (from 2024–25). The Australian Government will continue to support the Remote Aviation Access Program, which consists of the RAU and Remote Aerodrome Inspection programs and the Remote Air Services Subsidy scheme. These programs fund critical safety and accessibility upgrades for airstrips in remote communities and critical inspection services to ensure safety of remote airport operations; and subsidise regular air transport services to communities in remote and isolated areas of Australia.
-
- Initiative 28.** Provide \$40 million to extend the Regional Airports Program (over 3 years from 2024–25). The Regional Airports Program will continue to support regional airports to improve safety and connectivity and will also enable regional airports to make the investments they will need for the transition to net zero and to improve climate resilience. A financial management framework will be an essential element of high-value applications.
-
- Initiative 29.** Update the program guidelines for all regional and remote aviation programs to report against how they contribute to Closing the Gap outcomes, such as providing increased training, employment and procurement opportunities for First Nations businesses and communities. Grant decisions will also take account of membership of the Australian Government’s Gender Equity Charter for Aviation.
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Regenerating General Aviation

The Australian Government’s vision is for a thriving aviation ecosystem, strengthened by the growth and diversification of GA. The Australian Government:

- Initiative 30.** Has written to airport operators to make it clear that, when making decisions to approve future master plans or MDPs, the government will have regard to the appropriateness of the airport’s community consultation processes and whether **appropriate access to the airport site has been provided for GA**, consistent with the regulations in the *Airports Act 1996*.
-
- Initiative 31.** Will require that **CASA refresh its GA Workplan** in consultation with the sector to prioritise changes to the civil aviation safety framework that reduce regulatory burden and support development of new technologies, while keeping the community safe.
-

In addition, the following initiatives in this white paper will also support a stronger GA sector:

- improving training pathways for aviation maintenance engineers and simplifying the visa process for pilots and other highly skilled aviation workers to allow easier entry into the Australian labour market
- supporting the uptake of infrastructure at regional airports for the net zero transition through a regional airports grant program
- extending and expanding existing subsidies for the purchase of ADS-B equipment
- setting out the Australian Government’s policy approach to national airspace management.



A balanced approach to airport planning and noise

The Australian Government is committed to reducing the impacts of aircraft noise on Australian communities and supporting the efficient development and utilisation of Australia's airport assets to underpin the sustainable, accessible and affordable growth in aviation services. The Australian Government will:

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- Initiative 32. Create an independent Aircraft Noise Ombuds Scheme** as part of the Aviation Industry Ombuds Scheme. The Australian Government will establish the Aircraft Noise Ombuds Scheme independently of Airservices Australia, as part of the Aviation Industry Ombuds Scheme. The Aviation Industry Ombuds Scheme will have the power to conduct independent investigations into aircraft noise complaints handling, publish reports and make recommendations to government about the handling of noise complaints, community consultation processes and the presentation of noise-related information.
-
- Initiative 33. Improve transparency about aircraft noise impacts.** Airservices Australia will examine its Noise and Flight Path Monitoring System (NFPMS) and include additional information in the NFPMS on aircraft movements and noise impacts. Airservices Australia will also publish a quarterly report on noncompliance with noise abatement procedures.
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- Initiative 34. Produce new guidance for 'Flying Considerately'.** The Australian Government will develop guidance to pilots on 'Flying Considerately' to minimise noise impacts in residential areas, when operating under visual flight rules or outside of controlled airspace. This guidance will be incorporated in the Aeronautical Information Package, which is distributed to pilots by Airservices Australia.
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- Initiative 35. Appoint an Airservices Australia executive for noise and environment** to lead the agency's work on noise minimisation, including engagement with affected communities, and ensure this work is integrated with the operational decisions of air traffic controllers.
-
- Initiative 36. Improve land use planning outcomes near airports** to seek to avoid further development that is inappropriate for the noise level and protect airport operations from potential safety risks, through:
- working with National Airports Safeguarding Advisory Group to update NASF 'Guideline A' by 2027 to describe best-practice approaches for **including aircraft noise exposure notifications on property titles for new developments**.
 - supporting implementation of the recommendation from the 2021 review of the NASF to **improve education on the NASF for local planning officials**.
 - **updating the Australian standard on building siting and construction in relation to aircraft noise intrusion**. The Australian Government has applied to Standards Australia to review AS 2021:2015 and consider incorporating the guidance handbook on producing information on aircraft noise (SA HB 149:2016) into the standard.
-
- Initiative 37. Improve engagement with communities affected by changes to airspace and flight paths.** The Australian Government has set expectations for Airservices Australia to apply best-practice consultation when designing airspace and flight path changes, consistent with the Community Engagement Standard for Flight Path and Airspace Change Proposals finalised in 2023.
-

Initiative 38. **Update guidelines for Community Aviation Consultation Groups (CACGs)** to set out ministerial expectations for greater community input into the CACG work programs, greater community involvement in CACG meetings and more widespread dissemination of CACG information to community members.

Initiative 39. **Require additional information in airport master plans and MDPs** about how development of the airport will address climate change resilience, decarbonisation and disability access. The Australian Government will amend the Airports Regulations 2024 to include this requirement. The Minister for Transport has also written to airport operators to advise that, when making decisions to approve future master plans or MDPs, the Minister will have regard to how the airport has addressed these additional requirements, as well as the appropriateness of the airport's community consultation processes, and whether appropriate access to the airport site has been provided for GA. For master plans or MDPs that involve new or changed runways, the Minister will also have regard to the suitability of the airport's plans for noise mitigation, including the appropriateness of noise sharing arrangements.

Initiative 40. **Review the *Airports Act 1996*** by 2030 to support any decision on airport lease renewals. The Australian Government will conduct a comprehensive review of the legislative and regulatory arrangements for the ownership, planning, development and environmental management of the 22 LFAs. This will provide regulatory certainty for airport lessee companies, ahead of applying to exercise their right to extend the initial 49-year airport lease period for a further 50 years.



World-leading safety, security and airspace regulation

To maintain Australia's world-leading standards of aviation safety and security, the Australian Government will:

Initiative 41. **Update Australia's Aviation State Safety Programme, National Aviation Safety Plan and National Air Navigation Plan.** As a member of the International Civil Aviation Organization, Australia produces a series of planning documents showing how we will achieve aviation safety outcomes, consistent with our international obligations. The Australian Government will update these planning documents in 2024 to make clear our aviation safety goals, identified risks and priority areas for improvement.

Initiative 42. Reform the **administration and management of Australia's airspace** by 2030, through a 4-stage process. The Australian Government will incrementally put in place airspace arrangements that allow for the increased use of drones and other new aviation technologies, without compromising air safety:

- **Stage 1** is to release a whole-of-government plan for air traffic management of commercial drones and other uncrewed aircraft in 2024. The **Uncrewed Aircraft System Traffic Management Action Plan** will outline steps the Australian Government will take to enable new types of air traffic management systems in Australia.
- **Stage 2** is to provide guidance to CASA in 2024 on the Australian Government's expectations for airspace administration. The Australian Government will produce a new **Australian Airspace Policy Statement** to replace the policy statement that came into effect in 2021. The new policy statement will give clear direction to CASA on the Australian Government's priorities for airspace management, including in relation to drones and other new technologies.

- **Stage 3** is for CASA to prepare a new framework for Australian airspace in 2026. The **Australian Future Airspace Framework** will describe how classes of airspace will be implemented and administered across Australia.
- **Stage 4** is to **update relevant airspace legislation** by 2030. These changes will give government agencies the powers they need to regulate airspace use safely as new types of aviation technology increasingly share the same airspace as conventional aircraft.

Initiative 43. Expand requirements **for aircraft to broadcast their location electronically**. Widespread use of ADS-B devices will increase aviation safety and efficiency and reduce collision risk. By late 2025, the Australian Government will consider advice about a timetable for mandating ADS-B devices, while also extending subsidies for the purchase of ADS-B equipment until 2027.

These measures complement recent policy and regulatory changes adopted by the Australian Government to improve safety, security and airspace management, including:

- investment in Australia’s new joint civil/military air traffic management system, ‘OneSKY’
- a \$5 million investment in designing procedures for the use of satellite technology to enable more precise and reliable approaches to airports and helicopter landing positions.

Enabling new aviation technologies



To take advantage of the opportunities from a growing aviation technology and manufacturing sector, and protect Australians from drone misuse, the Australian Government will:

Initiative 44. **Improve information available to industry about funding and procurement opportunities.** The Australian Government has expanded the drones.gov.au website to provide a single point of reference for the emerging aviation technologies sector to access a wide range of government funding and procurement opportunities.

Initiative 45. **Release an Advanced Air Mobility (AAM) Strategy** in 2024 that provides long-term policy settings to encourage investment in the nascent sector.

Initiative 46. Require that **CASA update its Strategic Regulatory Roadmap for drones and AAM²** in 2024, outlining the safety regulator’s strategic approach to working with industry to oversee the safe rollout of these new technologies.

Initiative 47. Continue working with state, territory and local governments to encourage **increased national consistency and collaboration in regulatory arrangements for drones**, including through the drone rule digitisation project.

Initiative 48. Implement a new system to **enable air traffic management to communicate electronically with drones and other uncrewed aircraft**. Initial capabilities of the Flight Information Management System will roll out in 2025 to support the safe integration of drones into controlled airspace, with additional features added over time.

² Civil Aviation Safety Authority (CASA), *Remote Piloted Aircraft System (RPAS) and Advanced Air Mobility (AAM) Strategic Regulatory Roadmap*, CASA website, Australian Government, n.d.

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- Initiative 49.** Continue to work with industry on the introduction of **Remote ID requirements for drones** to improve safety and enable responsible and accountable drone use. It is expected that legislation will be introduced and a mandate will be in place by 2030, subject to a regulatory impact analysis process.
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- Initiative 50.** Introduce new legislation by 2030 to **protect Australian communities, infrastructure and businesses from security risks of drones and AAM.**
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- Initiative 51.** Consult on **regulatory amendments to manage noise impacts from AAM aircraft** on communities.
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- Initiative 52.** Work with stakeholders to **develop AAM infrastructure planning guidance** to support the introduction of AAM.
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These initiatives will complement the government's support to the sector through the \$30 million Emerging Aviation Technology Partnerships program and financing (including debt and equity) available for investment through the \$15 billion National Reconstruction Fund, which may include investment in aviation technology commercialisation.



Connecting Australia to the world

International aviation is critical for maintaining Australians' connectivity with the rest of the world, deepening labour pools for high-skilled jobs and attracting visitors that support our economy. The Australian Government's vision is for a competitive and efficient international aviation sector that serves Australia's interests, including the sustainability of sovereign long-haul capabilities. The Australian Government will:

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- Initiative 53. Pursue additional capacity ahead of demand in bilateral air service agreements and negotiate for 'open skies' style agreements where to do so is in Australia's interests.** The department will continue to consult with government agencies, including the ACCC, DFAT and industry stakeholders when providing advice to the Minister for Transport on proposed bilateral air services negotiations.
-
- Initiative 54. Update the Framework for New and Redeveloping International Ports.** The Australian Government will review the process for designating new, and making major changes to, international airports and seaports to ensure critical border security and biosecurity standards continue to be met. The revised framework will be designed to ensure appropriate planning, establishment and resourcing requirements can be put in place by border agencies when a new international port is designated, while providing a transparent process to be followed by airport and seaport operators.
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- Initiative 55. Develop new approaches to cargo screening,** for border control purposes, at Australia's high-volume air and sea ports, aiming to improve the scalability, adaptability and security of screening arrangements.
-
- Initiative 56. Deepen Asia-Pacific regional aviation capability-building** through DFAT funded development transport assistance programs across the Asia-Pacific region, particularly in the Pacific.
-

The Australian Government's plan for Australian aviation





01



Australia depends on aviation. As a vast island nation with a dispersed population, far from our key trading partners and visitor markets, air transport provides Australians with critical links to each other and the world. A strong aviation sector is a key pillar of our national economy.

The aviation industry is still recovering from the impacts of COVID-19. While flight activity has largely returned to pre-pandemic levels, lingering financial and operational impacts from the pandemic have led to higher prices for some ticket classes and operators failing to meet consumer expectations for service quality and reliability. Smaller airlines have struggled to be profitable, with recent high profile exits from the market.

Aviation is also entering a period of significant change. The sector will be transformed by Australian and global efforts to decarbonise and by the adoption of advanced air mobility, drones and other new technology.

In this context, the Australian Government is working to ensure the right policy settings are in place to keep Australians safe and secure and guide the next generation of growth and innovation in the aviation sector to 2050.



1.1 Why Australia needs an Aviation White Paper

Australia needs aviation. Our geography and open economy mean that aviation is both a cornerstone of Australians' way of life and critical to our national prosperity and security.

Over the past 4 and a half years, the global aviation industry has experienced its largest ever shock, caused by the COVID-19 pandemic. We now all understand what the aviation sector means to us.

The sector faces significant transition out to 2050. The net zero transition will drive changes in technology and infrastructure. Resilience to climate impacts will be an increasing concern. While there are large uncertainties, conventional aviation activity could more than double,³ while advanced air mobility will make our skies busier. The sector needs to prepare for all these challenges.

While Australian aviation activity has now largely recovered to pre-COVID levels, the sector has changed structurally, with less head-to-head competition and poorer consumer outcomes. Domestic and international airfares have fallen from their 2022 and domestic airfares are below 2019 prices in real terms.⁴ Rates of flight delays and cancellations have also reduced, but remain slightly above long-term averages.

The Aviation White Paper provides an opportunity to address these challenges and take advantage of the opportunities presented. The white paper sets out the Australian Government's long-term vision for aviation, as well as the policy and regulatory settings the Australian Government will adopt to address current challenges in the sector and position Australian aviation for the future.

The 2009 Aviation White Paper provided a comprehensive plan for the sector's growth

In December 2009, the Australian Government released Australia's first ever National Aviation Policy White Paper, *Flight path to the future* (2009 White Paper).

The 2009 White Paper reconfirmed safety and security as the Australian Government's top aviation policy priorities. It included initiatives to enhance security screening; strengthen the Aviation Security Identification Card (ASIC) Scheme; modernise air traffic management, including with the use of satellite technology; and introduce long-term funding principles to strengthen the Civil Aviation Safety Authority's (CASA's) regulatory oversight and operations.

The 2009 White Paper set up the Australian aviation sector for a period of sustained growth. In the decade following its release, annual domestic passenger numbers grew from 50.5 million in 2009 to 61.4 million in 2019 – an increase of 21.7%. During that period, domestic aviation activity grew at an annual rate of 2.2%, significantly outpacing Australia's population growth rate of 1.5%. However, aviation activity declined significantly after 2019 due to the COVID-19 pandemic. The sector is now largely back to where it was before the pandemic, but its performance is still too low in several areas – especially airline reliability.

The 2024 Aviation White Paper builds on the outcomes of the 2009 White Paper and updates policy approaches, taking account of the significant change that has occurred in the sector over the past 15 years, as well as the changes expected in the period to 2050.

3 Bureau of Infrastructure and Transport Research Economics (BITRE), *Australian aviation forecasts – 2024 to 2050*, BITRE website, Australian Government, 2024.

4 Australian Competition and Consumer Commission (ACCC), *Domestic airline competition in Australia*, ACCC, Australian Government, May 2024.

The 2024 Aviation White Paper will guide the next generation of growth and innovation in the aviation sector to 2050

Aviation will change significantly in the period to 2050, and Australia's policy and regulatory settings will need to change with it.

The introduction of new technology, including Advanced Air Mobility and drones, present new opportunities but also pose risks to safety, security, privacy and community amenity. These new technologies, some of which are already in use today, can provide connectivity, productivity and emissions reduction benefits. Careful government oversight and regulation will be required to avoid unintended consequences.

The Australian Government has adopted emissions reduction targets of 43% below 2005 levels by 2030 and net zero emissions by 2050. The task of reducing aviation emissions will require a concerted and coordinated effort by industry and government. This white paper advances the government's actions to support the decarbonisation of aviation, and the measures will also form part of the Transport and Infrastructure Net Zero Roadmap and Action Plan⁵ – one of 6 sectoral plans that will inform Australia's economy-wide 2050 net zero plan. To support the aviation sector's transition, the Australian Government is supporting the development of domestic sustainable aviation fuel (SAF) production through the Future Made in Australia package, supporting investment in low carbon liquid fuel as a priority sector.

Aviation will remain critical to achieving Closing the Gap targets. Aviation supports the provision of health care, education and other goods and services in remote communities; connects First Nations people to employment, family and friends; and helps create economic opportunities for First Nations people. We will support this through an additional \$50 million for the Remote Airstrip Upgrade Program to fund safety and accessibility upgrades for remote airstrips, including those servicing primarily First Nations communities; an additional \$40 million for the Regional Airports Program; and our commitment to continue the Remote Aerodrome Inspection Program.

1.2 The role of government in aviation

Aviation is an industry that grew under the stewardship of government.

Over 100 years ago, the Australian Government implemented the *Air Navigation Act 1920* (Cth), giving effect to the 1919 Convention Relating to the Regulation of Aerial Navigation (Paris Convention). In 1944, as the Second World War was being fought in Europe and the Pacific, Australia's then Minister for Air and Minister for Civil Aviation, Arthur Drakeford, led an Australian delegation in Chicago that helped conclude negotiations to create the International Civil Aviation Organization (ICAO), setting the basic regulatory frameworks for the industry.

By the 1980s, the Australian Government owned an international airline (Qantas) and a domestic airline (Australian Airlines – formerly Trans Australia Airlines (TAA)). It owned and operated 59 civil airports and provided extensive financial support for a further 272.⁶

⁵ Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), *Transport and Infrastructure Net Zero Roadmap and Action Plan*, DITRDCA website, Australian Government, 2023.

⁶ Department of Aviation (DoA), *Review of the Aerodrome Local Ownership Plan*, DoA, Australian Government, unpublished, 1984.

At that time the private aviation industry was also growing but was heavily reliant on taxpayer support. The 1984 Bosch Report found the Australian Government only recovered around 55% of the costs of providing airport and airway facilities in 1982–83.⁷ Australia's '2 airline policy' meant the only competition faced by the privately owned Ansett on major routes came from the government-owned airline.

Reforms in the 1980s and 1990s modernised Australia's aviation sector

By the late 1980s, it was clear the sector had achieved critical mass and that private ownership and market competition would better serve the interests of the Australian public. The Hawke and Keating governments:

- privatised Qantas (which by then had subsumed Australian Airlines) but retained a requirement for 51% Australian ownership
- ended the economic regulation of domestic airlines, aside from competition laws that applied in the broader economy
- allowed other Australian airlines to compete with Qantas on international routes and adopted policies to generate more competition from foreign airlines
- established Airservices Australia as a commercial enterprise to provide air traffic services to industry
- established CASA to regulate air safety at arms-length from the commercial activities of Airservices Australia
- transferred ownership and financial responsibility for regional aerodromes to local governments
- prepared legislation to enable the long-term leasing of metropolitan airports to private operators.

With its narrower role, the Australian Government's footprint shrank significantly. The number of government officials employed to oversee and regulate the aviation sector today is half what it was in 1986.⁸

Economic deregulation of aviation resulted in difficult adjustments but has delivered benefits to consumers

The transition to a commercial aviation market did not always go smoothly. The Australian Government initially struggled to ensure appropriate safety standards by smaller commercial operators. The Royal Commission into the 1993 Seaview accident, which resulted in 9 deaths, observed that the safety regulator had viewed members of the industry 'as customers' and suffered from 'institutional timidity in respect of enforcement action'.⁹

There was significant economic disruption, which sometimes created its own safety risks. A 1995 parliamentary inquiry found the General Aviation (GA) sector was 'characterised by considerable excess capacity' and that GA was 'a case of too many aeroplanes chasing too little business for too little return thus putting pressure on operators to reduce maintenance expenditure, with adverse effects on safety'.¹⁰

7 Independent Inquiry into Aviation Cost Recovery, *Aviation cost recovery / report of the Independent Inquiry*, report to the Australian Government Department of the Special Minister of State, Independent Inquiry into Aviation Cost Recovery, 1984.

8 Fewer than 5,000 staff work for the Civil Aviation Safety Authority (CASA) (863) and Airservices Australia (3,234), along with the relevant aviation divisions within the Department of Infrastructure, Transport, Regional Development, Communications and the Arts, the Department of Home Affairs and the Australian Transport Safety Bureau. See, in particular, CASA, *Annual report 2021–22*, CASA website, 2022; Airservices Australia (Airservices), *Annual report 2021–22*, Airservices website, 2022.

9 J.H. Staunton, *Report of the Commissioner: Commission of Inquiry into the Relations Between the Civil Aviation Authority and Seaview Air*, report to the Australian Government, Australasian Legal Information Institute website, September 1996.

10 House of Representatives Standing Committee on Transport, Communications and Infrastructure, *Plane Safe – Inquiry into Aviation Safety: The Commuter and General Aviation Sectors*, Parliament of Australia, National Library of Australia website, December 1995.

Ansett collapsed in 2001 after years of commercial and regulatory difficulties. Over 16,000 direct jobs were lost.¹¹ Terrorist attacks in New York and Washington DC had occurred in the days prior, and these triggered a fundamental rethink of aviation security arrangements around the world.

However, after this period of transition, a dynamic industry evolved, including the emergence of Australia's main regional airline – Regional Express (now Rex) – and the growth of one of Australia's first successful low-cost carriers, Virgin Blue (now Virgin Australia). The Qantas Group launched Jetstar as a low-cost carrier in 2004. Another low-cost carrier, Tiger Airways, was launched by Singaporean interests in 2007. Following industry consolidation during the COVID-19 pandemic, Virgin Australia has developed a revised business model.

Rex expanded beyond its traditional regional footprint into capital city routes in 2021, but ceased operating these routes in July 2024 when the company entered voluntary administration. At the time of the Aviation White Paper's release, Rex's future operating model is still under consideration. A new low-cost airline, Bonza, entered the Australian market in January 2023, targeting routes that did not compete directly with Qantas Group and Virgin for the most part. Bonza ceased trading in May 2024.

Despite the failure of some airlines, economic deregulation has delivered benefits to Australian consumers. More Australian passengers have a choice of airline. In 2010, around 40%, or 2 in 5, of the top 200 domestic routes by passenger volume were operated by a single airline. In 2024, only 20%, or 1 in 5, of those routes were operated by a single airline.¹² Broadly speaking, domestic airfares have declined steadily in real terms, falling by over half between 1998 and 2019. The best available average return airfare from Sydney to Melbourne declined from around \$432 in 1998 to around \$212 in 2019,¹³ measured in today's dollars. While prices spiked significantly following the COVID-19 pandemic, today's domestic airfares are below 2019 prices in real terms.¹⁴

Figure 1: Real best discount domestic airfares index¹⁵



11 G.Thomas, *The Ansett Collapse*, Australian Aviation, Aviation Australia website, September 2011.

12 O. Majeed, R. Breunig & A. Domazet, How competition impacts prices: The Australian aviation sector, Department of the Treasury website, Australian Government, August 2024.

13 Bureau of Infrastructure and Transport Research Economics (BITRE), *Domestic air fares*, BITRE website, Australian Government, n.d.

14 Australian Competition and Consumer Commission (ACCC), *Domestic airline competition in Australia*, ACCC, Australian Government, May 2024.

15 Bureau of Infrastructure and Transport Research Economics (BITRE), *Domestic Air Fares*, BITRE website, Australian Government, n.d. 13 month rolling average, 2003-2023, July 2003 = 100.

Policies to increase competition on international routes resulted in new opportunities for Australian travellers. Today, 61 foreign airlines fly to Australia, with 173 direct connections between Australian and international cities. This is up from 39 airlines and 143 direct connections 2 decades ago.¹⁶

Since privatisation, billions have been invested to expand airport capacity, with capital largely provided by private investors rather than the taxpayer.

Today, the government's role in aviation is clear

The benefits of an open, market-based aviation sector are clear. Australians have enjoyed access to more services at better prices, and Australia's air safety and security record is world leading.

Today, the role of government in aviation is to facilitate competition and sustainable growth in the commercial market, while regulating the sector to ensure appropriate safety, security, workforce, consumer and environmental outcomes.

Australian governments also have a role in directly providing or enabling some aviation services with public good characteristics, which may not be efficiently delivered by the private market.

Airports are natural monopolies, and major airlines have market power due to high barriers to entry in the sector. The Australian Government has an important role in the economic regulation of aviation to ensure market power is not misused. The Australian Government also has a role in ensuring that all people, including people with disability and people living in regional and remote areas, can access aviation services. This white paper sets out an enhanced policy approach to the light-touch economic regulation of airports and a new and stronger regime of aviation competition and consumer protection. It also contains a range of initiatives to improve the air travel experience for people with disability and to ensure aviation access in Australia's regions.

Aviation activity can have significant impacts on broader community wellbeing – including impacts from noise, environmental impact and emissions that contribute to climate change. The Australian Government has a role in regulating the sector to ensure private businesses have the right incentives to minimise these impacts. The increased uptake of drones and other new technologies may pose new risks, including to safety, privacy, security and community amenity, that require a proportionate regulatory response.

While the Australian Government recognises that some noise and other impacts from aviation are unavoidable, the Aviation White Paper includes measures to minimise the negative impacts of aviation and ensure communities are fully consulted on aviation developments that affect them.

A strong aviation sector requires a skilled and productive workforce. Building on policies announced in the 2023 Employment White Paper, the Aviation White Paper sets out the Australian Government's plan to work with the sector to improve aviation training and employment pathways. It includes policies to ensure a thriving GA sector, which is an essential feature of a strong aviation ecosystem. The Aviation White Paper also includes plans to sustainably fund safety regulation and investigation agencies, with appropriate cost recovery from industry.

Aviation operations must be coordinated internationally. The Australian Government will continue to take a leading role in seeking to influence the setting of international aviation policies and rules through ICAO and deepening engagement with the Pacific to develop more sustainable and resilient aviation sectors. The Australian Government will continue to negotiate bilateral arrangements for international air travel that provide for capacity ahead of demand; and to agree 'open skies' style arrangements where it is in Australia's interests.

¹⁶ Bureau of Infrastructure and Transport Research Economics (BITRE), *International airlines operated flights and seats*, BITRE website, Australian Government, n.d.

Australia has opportunities to be a global leader in the decarbonisation of aviation, including through adopting new and emerging aviation technology. The Australian Government has a long-established role in fostering research, innovation and commercialisation where this will benefit the Australian economy. This white paper sets out the Australian Government's policies to support the establishment of a domestic SAF industry and continue to be a leader in the development of some new and emerging aviation technologies. The white paper also sets out how the Australian Government will develop a long-term policy approach for managing Australia's airspace and stewarding the introduction of new technology, without compromising safety.

1.3 The Australian Government's vision for Australian aviation

In developing the Aviation White Paper, the Australian Government consulted extensively with industry, state, territory and local governments and the Australian community about how Australia can realise the full economic and social benefits of aviation, now and to 2050. Following that consultation process, this white paper sets out the government's vision for Australian aviation:

An aviation sector that is safe, secure, competitive, productive, sustainable and fair – employing Australian workers on fair pay and secure conditions – and providing Australians with affordable, reliable and accessible services now and to 2050.

Safe and secure

- Maintaining Australia's world-leading aviation safety and security remains the Australian Government's first priority.
- The Australian Government will ensure effective governance and oversight of Australia's aviation ecosystem through fit-for-purpose agencies and regulatory frameworks.
- Sustainable Australian airlines, which maintain sovereign long-haul capabilities that can be relied upon in a time of crisis.

Competitive

- Airline and airport behaviour will be subject to enhanced scrutiny, and regulatory reforms will promote competition in the domestic airline sector and remove barriers to new entry.
- Efficient development and use of Australia's airport assets will underpin the sustainable and affordable growth in aviation services.

Productive

- A diverse and skilled aviation workforce – supported by clear training pathways, fair working conditions, and secure jobs – will enable a productive and dynamic Australian aviation sector.
- A competitive international aviation market will underpin Australia's economic growth, including in the visitor economy, freight supply chains and Australia's export industries.
- Australia's aviation ecosystem will be strengthened by the growth and diversification of GA.

Sustainable

- The aviation sector will contribute to net zero emissions by 2050 and Australia's role as a renewable energy superpower.
- The long-term viability of the aviation sector will be enhanced through sustainable and resilient operations and infrastructure.

Fair

- Aviation consumer rights will be clear and upheld, underpinned by timely dispute resolution.
- Aviation will be accessible for people with disability.
- Airport development and flight path decisions will be informed by transparent public information and genuine consultation with affected communities.
- The benefits of aviation will be shared across Australia, including in regional and remote communities.

The Aviation White Paper is a comprehensive plan to achieve the Australian Government's vision

The Aviation White Paper contains a comprehensive set of policy initiatives to achieve the Australian Government's vision for Australian aviation. The white paper also supports the Australian Government's broader economic priorities of building the skills and capabilities of Australia's workforce; fostering a more dynamic, productive and resilient economy; broadening economic opportunity and addressing disadvantage; and embracing the opportunities of the net zero transformation.

The Australian Government's vision for aviation will be delivered in partnership with state, territory and local governments, industry and the community. While governments have a critical role in ensuring the right policy and regulatory settings are in place, the aviation industry must provide the investment and services that Australia requires in a way that meets community expectations. This includes consulting communities on aviation developments that affect them, understanding community views and addressing community concerns. For Australian aviation to enjoy long-term policy certainty, growth and development in the sector must have social licence.

While the white paper sets out the Australian Government's high-level policy framework for aviation, significant further work is needed to confirm specific policy details and give effect to the Australian Government's commitments. Implementation arrangements for white paper initiatives will be developed through targeted industry and community consultation.

The Department of Infrastructure, Transport, Regional Development, Communications and the Arts will publicly track the implementation of the Aviation White Paper and will publish annual status updates on its website. The Australian Government will conduct a formal evaluation of the Aviation White Paper by 2029. The evaluation will consider the effectiveness of white paper initiatives and identify any policy adjustments that are needed to keep Australia on track to achieve the Australian Government's vision for Australian aviation.



Australia's aviation sector to 2050





Australia's aviation activity has largely recovered from the COVID-19 pandemic and is forecast to grow strongly in coming decades. But drivers of change, including decarbonisation and technological innovation, will fundamentally reshape the sector.

Aviation is a critical input to the Australian economy, underpinning most other sectors, and its growth and productivity will be key to Australia's long-term prosperity.

2.1 Australia's aviation sector today

Aviation plays a critical role in Australia's economy. In 2023, it is estimated the sector directly contributed \$18.45 billion to the economy (1% of gross domestic product (GDP)).¹⁷ In June 2024, the air and space transport sector employed around 50,900 people, however even more people are employed in aviation occupations in other sectors of the economy.¹⁸ All parts of the sector were impacted by the COVID-19 pandemic, and the domestic airline market has emerged with less direct competition. Despite this, Australian aviation activity has returned to pre-COVID levels and the sector is well placed to accommodate future growth.

The COVID-19 pandemic has had a lasting impact on domestic air travel

The COVID-19 pandemic was an unprecedented crisis for aviation. At the peak of disruptions, Australian passenger numbers fell by 97% and tens of thousands of aviation workers lost their jobs or were stood down. The second largest airline in the country, Virgin Australia, entered administration and went through a major restructure, as part of which it ceased operations of its low-cost carrier Tiger Airways. Businesses right across the aviation industry were forced to reconsider their operating models.

Today, Australian aviation activity has recovered, but the sector still faces lasting impacts from the pandemic. In April 2024, there were 4.93 million domestic passenger trips in Australia – 95.6% of activity in the same month in 2019. While activity has now effectively returned to pre-COVID levels, the sector has essentially lost 4 years of growth.

Aviation sector employment has also returned to pre-COVID levels. In the May quarter of 2019, the Australian Bureau of Statistics recorded 56,400 people employed in the air and space transport sector of the economy. This fell to a low of 35,100 people in May 2020 but had recovered to 59,900 as at May 2024.¹⁹

The domestic airline sector remains concentrated

Since deregulation in 1990, the Australian domestic market has experienced periods of higher and lower price and service competition but has typically comprised 2 major airlines and several smaller regional or leisure carriers.

While market concentration has intensified following the COVID-19 pandemic – with less head-to-head competition for market segments – it remains broadly in line with the historically persistent features of Australian domestic aviation.

¹⁷ Industry Skills Australia, *Aviation industry 2023 initial workforce plan*, Industry Skills Australia website, n.d.

¹⁸ Australian Bureau of Statistics (ABS), *Labour Force, Australia, Detailed*, ABS website, June 2024.

¹⁹ ABS, *Labour Force, Australia, Detailed*, ABS website, June 2024.

In March 2024, the Qantas Group controlled 61.8% of the domestic market and Virgin Australia had 31.3%. Combined, the 2 groups controlled 93% of the domestic market.²⁰ The market has structurally changed following the COVID-19 pandemic. Virgin Australia is pursuing a 'mid-market' business model, no longer competing head to head with Qantas for all market segments.

In 2021, Rex expanded beyond its traditional regional market into capital city routes, offering additional competition in the Adelaide, Melbourne, Canberra, Sydney, Gold Coast and Brisbane markets. During 2023–24 Rex reduced some regional services, citing pilot shortages and supply chain issues for aircraft parts. In July 2024, Rex entered voluntary administration and ceased operating on capital city routes. In the latest published figures, from March 2024, Rex carried 5% of domestic passengers.²¹

Bonza launched low-cost services in January 2023. In March 2024, it carried 2% of domestic passengers and flew 37 different routes, including 30 unserved by other airlines.²² However, Bonza ceased trading in May 2024.

Historically, it has been challenging for the Australian aviation market to accommodate a third major carrier. The failures of Bonza and Rex to sustain newly offered services in the post-COVID period exemplify this challenge. Despite these setbacks, ongoing population and market growth, combined with structural increases in capacity in the golden triangle (Brisbane, Sydney and Melbourne routes), could still create future opportunities for new carriers to scale up operations.

Bureau of Infrastructure and Transport Research Economics (BITRE) analysis shows that average fares per kilometre decline with increased market size and competition, as well as with longer route distance, more flights, lower oil prices, higher load factors and seasonal demand.²³ Modelling by Treasury's Competition Taskforce shows that competition has a significant impact on airfares. When a route was serviced by a single airline, average airfares are around 40 cents per kilometre. For 2 airlines, this fell to less than 30 cents and continued to decline as more airlines compete on a route.²⁴

Competitive dynamics vary considerably across Australia. As described in Chapter 4: A competitive and efficient aviation sector, most domestic passengers have a choice of airlines. Across the top 200 domestic routes by passenger volume, only 1 in 5 were operated by a single airline in 2024.²⁵ However, the average regional route carries about 5% of the passengers of an average metro route. Lower passenger volumes mean regional routes typically have fewer services, less competition and higher fares.²⁶ Some regional routes are not commercially viable, requiring financial support from state governments to maintain essential connectivity (see Chapter 7: Connecting regional Australia).

Overall, the domestic airline sector appears to be returning to profitability following the pandemic. Qantas Group and Virgin Australia both reported operating profits in 2022–23 and the first half of 2023–24. Domestic airfares have stabilised since a spike at the end of 2022, and average real fares appear to be returning to the long-term downward trend since records began in 2003.²⁷ However, indicators of service quality remain well below long-term averages. Over the 12 months to June 2024, 27.5% of flights were delayed arriving, compared to the long-term average of 19.1% (Figure 2), and 3.4% of flights were cancelled, compared to the long-term average of 2.2%.²⁸

20 Australian Competition and Consumer Commission (ACCC), *Domestic airline competition in Australia*, ACCC, Australian Government, May 2024.

21 ACCC, *Domestic airline competition in Australia*, ACCC, Australian Government, May 2024.

22 ACCC, *Domestic airline competition in Australia*, ACCC, Australian Government, May 2024.

23 Bureau of Infrastructure and Transport Research Economics (BITRE), *Domestic air fares*, BITRE website, Australian Government, n.d.

24 O. Majeed, R. Breunig & A. Domazet, *How competition impacts prices: The Australian aviation sector*, Department of the Treasury website, Australian Government, August 2024.

25 O. Majeed, R. Breunig & A. Domazet, *How competition impacts prices: The Australian aviation sector*, Department of the Treasury website, Australian Government, August 2024.

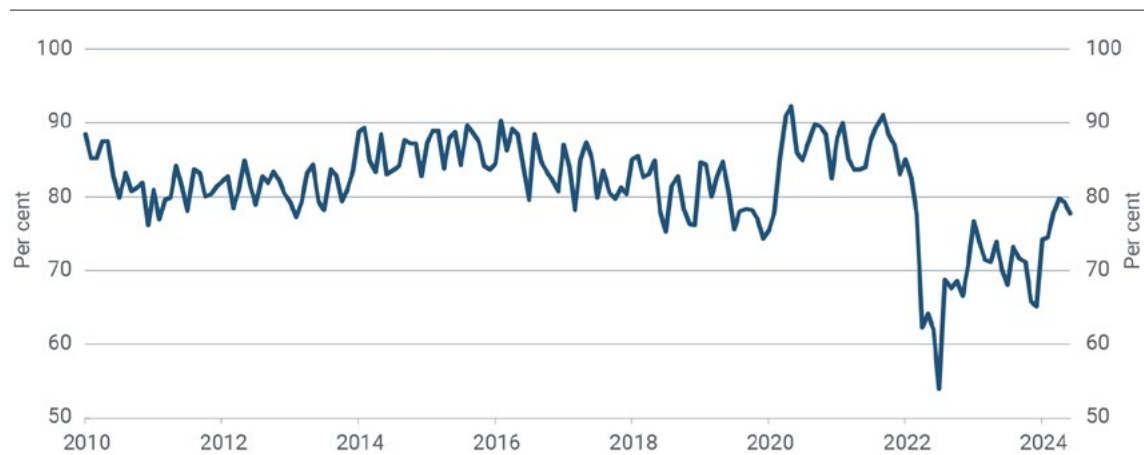
26 BITRE, *Domestic air fares*, BITRE website, Australian Government, n.d.

27 BITRE, *Domestic air fares*, BITRE website, Australian Government, n.d.

28 BITRE, *Airline on time performance statistics – monthly*, BITRE website, Australian Government, n.d.

Australia's major airlines are demonstrating their confidence in the future growth of the Australian aviation market by investing in new aircraft. In May 2022, Qantas placed an order for 20 Airbus A321XLRs and 20 Airbus A220s (subsequently increased to 29) to expand its domestic fleet. This was followed by an announcement that Qantas would purchase 24 new wide-body aircraft (12 Airbus A350s and 12 Boeing 787s) for its international routes over the next decade. In November 2023, Virgin Australia announced that it had ordered an additional 6 Boeing 737 MAX-8 aircraft, bringing its total order to 14. This is in addition to 25 Boeing 737 MAX-10 aircraft that Virgin Australia aims to take delivery of in 2025. If they can be delivered on schedule, these new fleets will offer significant fuel efficiency benefits.

Figure 2: Domestic on-time departures²⁹



International aviation has recovered more slowly

Global aviation has seen significant growth since the last Aviation White Paper in 2009. The number of scheduled passengers carried by the global airline industry more than doubled in the decade to 2019 – from 2.2 billion to 4.6 billion. This growth was underpinned by factors including the ongoing liberalisation of air services arrangements, the rise of low-cost carriers and a growing middle class in key travel markets.

After falling to 47% of pre-COVID levels in 2021, global passenger travel recovered to 94% in September 2023, and the International Air Transport Association (IATA) estimates that it will reach 103% in 2024 and 111% in 2025.³⁰ IATA forecasts strong global passenger growth going forward, with an annualised growth rate of 3.8% to 2043. This includes forecast passenger growth of 5.3%³¹ in the Asia-Pacific region, despite the region's population forecast to grow at less than 1%.³²

Australia's international aviation market saw strong demand in the lead-up to the pandemic. Total international passenger numbers increased from 24.4 million in 2009 to 42.5 million in 2019, partly driven by inbound tourism from Asia – particularly China, India and Japan. Prior to the pandemic, Australian airlines held 32.8% of the Australian international passenger market, with the Qantas Group at 26.1% and Virgin Australia at 6.7%.³³

²⁹ 2010–2023, All ports all airlines, annual rolling average (Source: BITRE).

³⁰ International Air Transport Association (IATA), *Air passenger numbers to recover in 2024* [media release], IATA, 1 March 2022.

³¹ IATA, *Global Outlook for Air Transport – Deep Change*, IATA, June 2024.

³² H. Ritchie, L. Rodés-Guirao, E. Mathieu, M. Gerber, E. Ortiz-Ospina, J. Hasell and M. Roser, *Population growth*, Our World in Data website, University of Oxford with Global Change Data Lab, n.d.

³³ Bureau of Infrastructure and Transport Research Economics (BITRE), *International Airline Activity – Time Series*, BITRE, Australian Government, 2024.

Australia's international passenger numbers were up to 38.5 million for the year ended April 2024 – 91% of year ended December 2019 levels. There are now 167 direct passenger connections between Australian and international cities. This remains below the 179 international city pairs in December 2019 but has increased from a low of 51 in July 2020. Australian airline market share has declined slightly, with the Qantas Group and Virgin Australia comprising 32.7% of the international market – down 0.2 percentage points from December 2019. Following the pandemic, the highest volume international air routes are to Singapore, Auckland and Denpasar.³⁴

Australian airports are significant economic enablers and are adding capacity to support aviation growth to 2050

Australia's major airports are investing in expanding their capacity, which will facilitate significant growth in Australian aviation to 2050. Perth Airport has announced \$5 billion of investment in a new terminal and runway, Melbourne Airport has proposed building a third runway, Brisbane Airport is investing in a new terminal ahead of the 2032 Olympics, and Hobart Airport is planning terminal and runway upgrades to accommodate larger aircraft. Western Sydney International (Nancy-Bird Walton) Airport (Western Sydney Airport) is on track to open in 2026.

This large expansion of airport facilities across Australia's major cities will accommodate significant aviation growth to 2050, with BITRE estimating a doubling of domestic and international passengers during that period. This in turn supports Australia's economic growth and its tourism and education sectors; supports international business links; and provides employment on and around airports.

The planning, design and development of new airport facilities will require enhanced engagement with local communities to identify how best to minimise impacts from expanded airport operations. This growth also needs to be delivered while reducing aviation's carbon emissions. Our policy approach to these issues is set out in Chapters 6 and 9.

While much of the policy focus in this white paper is on Australia's major airports, which are regulated by the Australian Government, there is a broad network of regional airports, aerodromes and airstrips across Australia that enables Australia's economy to function. Airstrips enable a broad and diverse range of tasks such as aerial mustering, spraying and surveying for agriculture; and access for emergency and aeromedical services. This sector also faces significant adaptation challenges to 2050 – consolidation in regional airline services, increased severe climate events, the use of Advanced Air Mobility (AAM) and the net zero transition.

General Aviation is a critical part of the aviation ecosystem

GA is a broad term applied to almost all operations other than major international and domestic passenger and freight services. It includes flight training; business, agricultural, sport and recreational aviation; and, more recently, drone and AAM operations. GA is particularly important in regional and remote areas of Australia, where it facilitates the delivery of critical education, health and emergency response services.

GA is growing and experiencing significant disruption as new technologies challenge conventional aircraft operators with more efficient remotely piloted aircraft that generally have lower capital, labour and operating costs. Disruption is already bringing changes to sectors such as aerial photography and surveying and is likely to continue into others – such as aerial applications and some delivery services. Changes in the demand for and cost and supply of GA aircraft and personnel will continue to create opportunities and challenges for different parts of the GA sector.

³⁴ Bureau of Infrastructure and Transport Research Economics (BITRE), *International Airline Activity – Time Series*, BITRE, Australian Government, 2024.

2.2 The importance of aviation to Australia's economy

Aviation enables most other sectors of the Australian economy, including key export sectors of tourism, mining, manufacturing, fresh produce and higher education. Air connectivity has also been demonstrated to have a positive link with economic productivity and can generate improved competitiveness and employment growth, including through better access to capital markets and human resources.³⁵

Similarly, the productivity of the aviation sector itself is vitally important to Australia's economy. Over the past 3 decades, aviation productivity has benefited from innovation, enabling airlines and airports to pass cost savings onto consumers and better match their services to consumer demand. Continued growth in aviation productivity would help the sector to support a growing Australian economy and help to address cost of living pressures. However, future productivity drivers will need to come from new sources, will be likely to rely on the adoption of new technologies and must not come at the expense of workers and their conditions.

The visitor economy is particularly dependent on aviation

A strong and competitive aviation sector is a fundamental requirement for growing Australia's visitor economy. The visitor economy includes any business that provides or promotes services to Australia's domestic and international visitors. While centred on the tourism sector, the visitor economy includes a diverse set of businesses spanning several industry sectors, including the education sector, which contributed \$36.4 billion in export income in 2022–23.³⁶

Prior to the COVID-19 pandemic, the visitor economy contributed over \$166 billion to Australia's economy, was Australia's fourth largest export sector and – directly and indirectly – supported over one million jobs. It was a key driver of the overall economy, with every dollar spent in the visitor economy generating a further 81 cents for other parts of the economy. The visitor economy is also important to regional communities, generating jobs and providing services and infrastructure. It contributed 3.4% to GDP in the regions, compared to a 1.6% contribution to GDP in capital cities.³⁷

The Australian Government released its national visitor economy strategy, THRIVE 2030 (The Re-Imagined Visitor Economy), in March 2023. THRIVE 2030 addresses some of the challenges and opportunities presented to the visitor economy. It contains targets for total visitor expenditure of \$195 billion to \$270 billion by 2030 and focuses on achieving \$230 billion, with regional Australia capturing \$100 billion, or 44%, of this total spend. International aviation capacity is critical to achieving this target, and Australia is well placed to deliver this capacity with our current settings.

Aviation is important for the movement of high-value, low-volume freight

Aviation is integral to many supply chains and is dominated by high-value, low-volume freight, such as mail, small parcels and high-value perishables. While representing a small proportion of Australia's international freight task by volume (0.1%), airfreight comprises about 21% of total international trade value.³⁸ Aviation also plays an essential role in delivering supplies to remote and isolated regions in Australia, particularly where weather conditions prevent the use of road and rail transport.

35 International Air Transport Association (IATA), *Air Connectivity: Measuring the connections that drive economic growth*, IATA, 2020.

36 Department of Education (DoE), *Education export income – Financial Year*, DoE website, Australian Government, n.d.

37 Australian Trade and Investment Commission (Austrade), *THRIVE 2030: The Re-Imagined Visitor Economy*, Austrade, Australian Government, 2023.

38 Transport and Infrastructure Council, *National Freight and Supply Chain Strategy*, Transport and Infrastructure Council, Australian Government, 2019.

Much of Australia's airfreight is carried in the 'belly' of passenger aircraft. This meant that COVID-19 travel restrictions, which were primarily targeted at restricting passenger travel, had a major impact on Australian businesses' ability to airfreight goods. The government provided temporary support for airfreight exports during the pandemic through the International Freight Assistance Mechanism.

Online purchasing of goods has led to unprecedented demand for airfreight. Airfreight has experienced significant growth since 2016, most notably during the COVID-19 pandemic. Australia now has over one million tonnes of combined airfreight imports and exports.³⁹ The recent growth in airfreight has increased use of high-capacity dedicated freighters (on-time and express delivery), in addition to passenger aircraft 'belly freight'.

Over the medium and long term, increased capacity at airports may structurally shift the operation of Australia's airfreight sector. Western Sydney Airport is due to commence operations in 2026 and will play an important role in the airfreight supply chain. Western Sydney Airport will address constraints in the overnight freight network imposed by the Sydney Airport curfew restrictions, with the ability to operate 24 hours a day, 7 days a week, and with proximity to freight precincts and intermodal facilities in Western Sydney. Emerging aviation technologies, such as delivery drones and larger AAM aircraft, have the potential to provide new modes to support an evolving freight task. For example, by 2030-2040, AAM is predicted to be able to transport up to 500 kg within a radius of up to 70 km.⁴⁰

The National Freight and Supply Chain Strategy,⁴¹ released in 2019, sets an agenda for coordinated and well-planned government and industry action across all freight modes, including aviation, over the next 20 years and beyond. A review of the strategy in 2023 made recommendations to increase transport efficiencies, connectiveness and airfreight data. The Australian Government will implement outcomes and actions of the review, which will help improve coordination of freight movements on and off airports.

Previous reforms and innovations have driven productivity growth in the sector

Although difficult to measure directly, aviation productivity (the number of outputs generated by each input) appears to have grown strongly in the 3 decades prior to the COVID-19 pandemic. Much of this productivity growth can be attributed to the effects of economic deregulation of the sector in the 1990s, which provided stronger commercial incentives for airlines and airports to make efficient use of resources.

Flights on domestic routes that were not financially sustainable were reduced, while flights on others that could support more services increased. Historical 'hub-and-spoke' operations based around state capitals were augmented by a shift to smaller narrow-body aircraft on 'point-to-point' operations, directly connecting regional communities and holiday destinations to consumer markets. Technological innovations by airports and airlines, such as online ticket sales, automated check-in and improved baggage handling systems, also meant that more passengers could be supported.

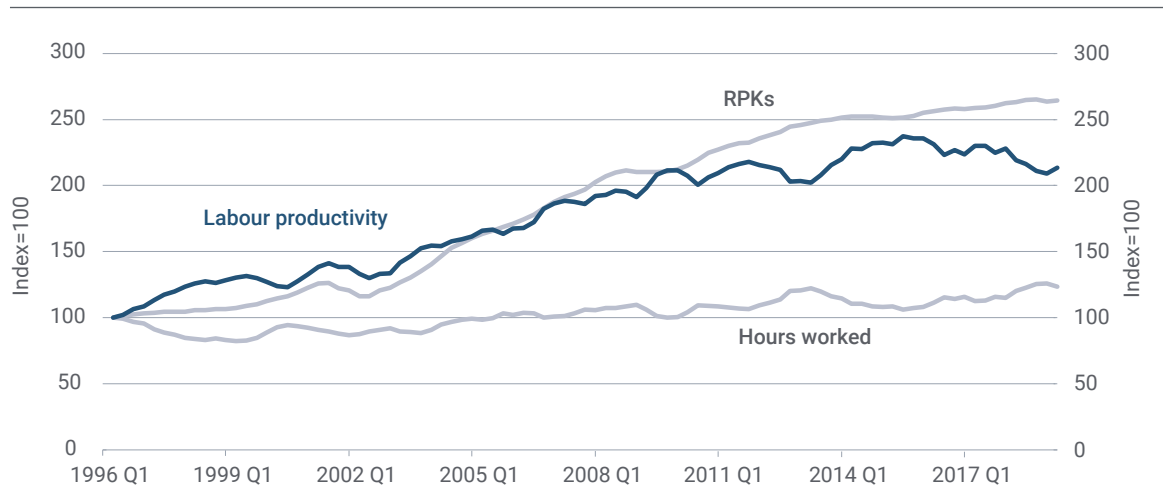
A measure of labour productivity – revenue passenger kilometres per hour worked in the sector – more than doubled between 1995 and 2015 (Figure 3) as the numbers of fare-paying passengers grew strongly, while the number of hours worked by employees in the sector remained relatively stable.

39 Bureau of Infrastructure, Transport and Regional Economics (BITRE), *Freight Performance Dashboard*, Freight Australia website, Australian Government, n.d.

40 L.E.K. Consulting, *Aviation White Paper: Scenario Analysis of the Future of Australian Aviation*, report to the Department of Infrastructure, Transport, Regional Development, Communications and the Arts, L.E.K. Consulting, 2023.

41 Transport and Infrastructure Council, *National Freight and Supply Chain Strategy*, Transport and Infrastructure Council, Australian Government, 2019.

Figure 3: Australian aviation labour productivity, revenue passenger kilometres (RPKs) versus hours worked⁴²



However, at the same time, deregulation has led to changes to many workers' wages and conditions, with outsourcing and labour hire practices regarded by some as contributing factors to staff shortages and service depletion due to the less attractive wages and conditions. The Australian Government will continue to improve job security and respect in Australia's workplaces through recent industrial reforms.

The aviation sector's productive use of its aircraft and other assets (its capital productivity) is harder to measure, although privatisation has led to a greater focus on capital utilisation. Incremental technological advancements, such as better flight planning to follow wind conditions and improved air traffic management (ATM), have also enabled more efficient flight decisions across the sector. But revenue passenger kilometres per unit of fuel used (a measure of energy productivity) has stagnated, as the domestic fleet has not seen a significant uptake of more fuel-efficient aircraft since the early 2000s. However, recent investments in aircraft by Australian airlines are likely to improve energy productivity over coming years.

2.3 Outlook to 2050

Australian and global aviation activity is forecast to grow strongly to 2050, driven by rising incomes and living standards. However, aviation faces a range of uncertainties. Demand for business travel may have permanently shifted downwards due to new ways of working, and future travel demand may also be affected by environmental and climate concerns.

The trend towards larger aircraft appears to have slowed or reversed, limiting this traditional driver of aviation productivity growth. However, the rollout of new and emerging aviation technology could result in a productivity step change, fundamentally reshaping how Australians travel and access a wide range of services by air.

It is not year clear when the step change in aviation technology will occur or what it will look like. The government's approach to new aviation technology will be based on 3 principles: (1) embracing technology; (2) protecting safety; and (3) maintaining social licence.

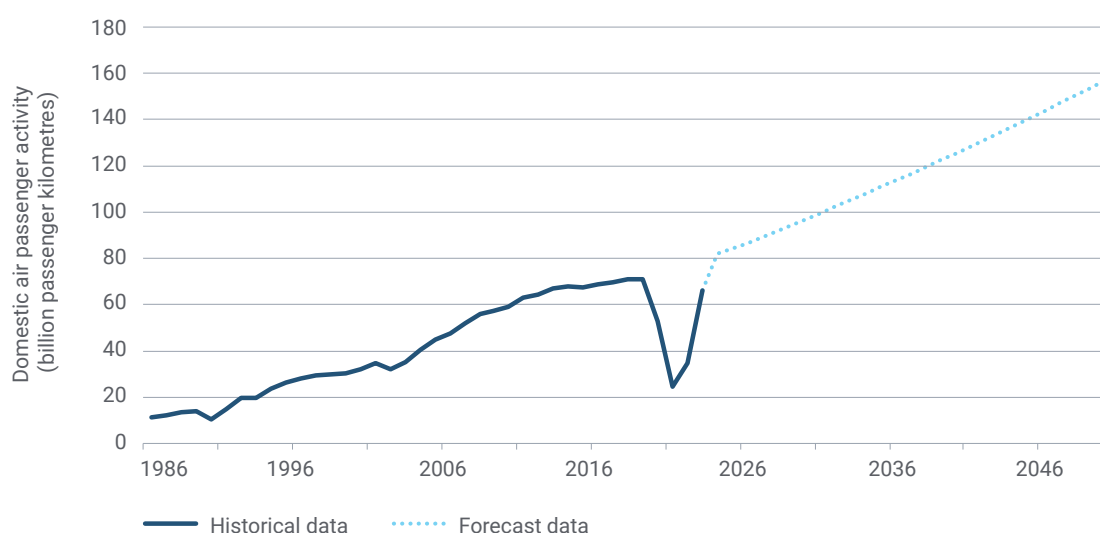
⁴² Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), based on: Australian Bureau of Statistics (ABS), *Labour Force, Australia, Detailed*, ABS website, Australian Government, June 2024. Bureau of Infrastructure and Transport Research Economics (BITRE), *Australian Domestic Airline Activity – time series*, BITRE website, Australian Government, 2024.

Rising incomes and living standards will support growth in aviation demand

The 2023 Intergenerational Report projects the Australian economy will be 2 and a half times larger in 40 years and Australians' real incomes will be 50% higher.⁴³ While this projection represents a slower rate of economic and productivity growth than the past 40 years, Australian incomes are expected to be significantly higher in 2050, and demand for air travel has historically had a strong positive relationship with income.⁴⁴

Australian aviation activity is forecast to grow strongly to 2050. BITRE's latest forecast of aviation activity, released in May 2024, predicts that domestic revenue passenger kilometres (RPKs) – the sum of all kilometres travelled by domestic airline passengers – will increase from 68 billion in the year to November 2023 to 163 billion in 2050 – an increase of 140% (Figure 4). The number of international passengers carried to and from Australia will increase from 42.3 million in the year to October 2023 to 94.7 million in 2050 – an increase of 124%.

Figure 4: Historical and forecast domestic revenue passenger kilometres⁴⁵



New ways of working and climate concerns may affect future demand

While aviation demand is forecast to grow, the aviation sector faces a significant challenge in meeting that demand while delivering on the obligation to decarbonise. Without effective decarbonisation plans, the industry's growth may well be constrained.

In Europe and North America, there is already evidence that concerns about the impacts of aviation on the climate have affected demand for air travel.⁴⁶ It remains too early to tell how significant this factor will be in Australia, where air travel is often the only feasible option. As discussed in Chapter 6: Maximising aviation's contribution to net zero, the Australian Government is committed to decarbonisation of aviation, which will help to support demand among climate-conscious travellers. But government support

⁴³ Department of the Treasury, *Intergenerational Report 2023 – Australia's future to 2063*, Treasury, Australian Government, 2023.

⁴⁴ International Air Transport Association (IATA), *Air travel demand – IATA Economics Briefing No. 9: Measuring the responsiveness of air travel demand to changes in prices and incomes*, IATA, April 2008.

⁴⁵ Actual revenue passenger kilometres (RPKs) to 2022, forecast to 2050 (Source: BITRE).

⁴⁶ L.E.K. Consulting, *Aviation White Paper: Scenario Analysis of the Future of Australian Aviation*, report to the Department of Infrastructure, Transport, Regional Development, Communications and the Arts, L.E.K. Consulting, 2023.

for decarbonisation efforts must be targeted to sectors where market forces are unable to support decarbonisation and where we assess it is within Australia's interests to intervene. In most instances, industry will be best placed to design and implement decarbonisation strategies.

Another key factor affecting long-term aviation demand is the effect that new ways of working have on business travel demand. COVID-19 accelerated the use of remote working, virtual collaboration and videoconferencing, and this trend appears to be persistent. Some analysis suggests that this is likely to have had a structural impact on domestic business travel – potentially a 10% to 25% reduction.⁴⁷ International business travel is likely to be more stable in the long term because it enables high-value in-person interactions that cannot be replicated online. However, business travel demand may also be affected by climate concerns, with many businesses adopting their own targets for reducing carbon emissions.

Decarbonisation and climate adaptation will see significant changes to aviation operations

Internationally, governments have begun implementing a range of measures to decarbonise their aviation sectors. For example, all aircraft departing from a European Union airport will use a percentage of SAF from 2025, as fuel suppliers will be required to provide SAF-blended fuel to major airports. The blending rate will start at 2% in 2025, moving to 6% by 2030, 20% by 2035, 34% by 2040 and 70% by 2050.⁴⁸ Australian airlines will need to incorporate SAF into their operations from 2025 to continue operating from European Union airports. As set out in this white paper, the Australian Government has also committed to investigate an LCLF production incentive to accelerate development of an LCLF industry in Australia, with an initial focus on producing SAF and renewable diesel. The government is consulting on the best way to design this incentive. The government will also consult on low carbon liquid fuel (LCLF) demand-side measures.

As discussed further in Chapter 6: Maximising aviation's contribution to net zero, SAF is currently the only viable technology for decarbonising medium and long-haul flights in the period to 2050. The increased use of SAF – which is more expensive than traditional jet fuel – has the potential to cause a structural increase in airfares. This could suppress future demand growth. The scale of this effect will depend on how quickly Australian and global SAF production is able to ramp up and drive down costs.

Over the long term, electric, hydrogen-electric and hydrogen aircraft are considered the most prospective solution for industry decarbonisation. These aircraft may enter the fleet in the medium to long term and would primarily replace regional turboprops and small jets due to range and payload constraints. However, without a step change in technology, and due to the long asset lives of aircraft, these aircraft are unlikely to comprise a material portion of the Australian commercial aviation fleet by 2050.

Fleet renewal, and the gradual introduction of more fuel-efficient aircraft, will also deliver incremental sustainability gains in the short to medium term. New aircraft can be 15% to 25% more fuel efficient than those they replace. Optimising flight paths could also play a small but important role in increasing aviation sustainability in the short to medium term. While these improvements will support decarbonisation, SAF will still be required to meet our emissions targets.

The aviation sector will also need to adapt to the effects of climate change. Australian airports and aircraft face increasing climate risks, including from heat waves, sea level rise, storm tides, major rainfall events and bushfires. Higher temperatures can threaten airport infrastructure, pose safety risks to passengers

47 L.E.K. Consulting, *Aviation White Paper: Scenario Analysis of the Future of Australian Aviation*, report to the Department of Infrastructure, Transport, Regional Development, Communications and the Arts, L.E.K. Consulting, 2023.

48 European Union (EU), *Regulation (EU) 2023/2405 of the European Parliament and of the Council of 18 October 2023 on ensuring a level playing field for sustainable air transport (ReFuelEU Aviation)*, EU website, n.d.

and staff, and impact operations – with aircraft requiring more thrust and longer runways to take off at higher temperatures. Airports can also play a critical role in responding to emergencies, and this can affect routine operations. We are already seeing the impact of more frequent severe weather events on Australia's east coast aviation market. Revised planning, development and response practices are needed to enhance the aviation sector's resilience to climate change.

The rollout of drones and other new technology brings both risks and opportunities

It is expected that the use of emerging aviation technologies such as AAM and drones will result in a significant increase in aircraft movements and change the way passengers and freight move within Australia. As Australia's skies become busier, and as uncrewed aircraft begin flying in the same airspace as conventional aircraft, new ways of managing and regulating airspace, air traffic, safety and security will be needed. Chapter 11: Enabling new aviation technologies sets out the Australian Government's approach to this.

The adoption of AAM in Australia could lead to a substantial increase in aircraft movements in the long term, but specific uses will depend on range and payload. In an unconstrained policy environment, aircraft movements could increase from 3 million per year to 8 or 9 million per year by 2050. The proliferation of drones could see total aircraft numbers increase by an order of magnitude, particularly in low altitude airspace.

Conventional air traffic control systems, which rely primarily on human decision-making, will not be suitable for managing this new type of aviation activity. Australia will need to implement digital and automated ATM capabilities for drones. Collectively known as the Uncrewed Aircraft System Traffic Management (UTM), these new capabilities will safely and efficiently manage the predicted volumes of drones and AAM traffic operating in Australian airspace.

A UTM system is currently under development by the Australian Government, in partnership with the emerging aviation technology industry.⁴⁹ UTM will allow smaller distances between uncrewed aircraft than are required by the separation standards applied to conventional aviation, given the different operating model for uncrewed aircraft. Outside of controlled airspace, challenges will arise in ensuring that conventional and new types of aircraft are able to share the sky safely. In congested airspace, automated coordination systems will prioritise flights to allow safe, efficient and fair use of airspace for all types of aircraft. The deployment of appropriate technology is essential to mitigating the risk of collisions with new operational models.

Traditional drivers of aviation productivity growth are likely to slow, but new technology could offer a productivity step change

Historical drivers of aviation productivity are not repeatable, so new sources of productivity growth will be required for the aviation sector to support the growth of Australia's economy.

One source of future productivity growth is likely to be continued investment in fleet renewal, which will further expand opportunities for point-to-point route growth. Many newer aircraft, such as the A220, the A321XLR and the 737 MAX, can support longer routes between smaller markets, expanding opportunities to connect communities more directly. Continued fuel efficiency improvements from these newer aircraft will also decrease the amount of fuel needed for each passenger kilometre, helping to improve energy productivity. Further technological progress will reinforce these gains, such as through

⁴⁹ Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), *Uncrewed Traffic Management*, DITRDCA website, Australian Government, n.d.

better route planning and maintenance activities. Over the long term, the uptake of electric aircraft could significantly reduce inputs and running costs for smaller flights, further expanding opportunities for many regional or remote consumers.

More broadly, new and emerging technologies have the potential to drive productivity enhancements across other economic sectors. The expanding use of drone and AAM technologies across a wide range of applications – from inspections and surveys to photography, farming, logistics and passenger transport – will create whole new avenues for the provision of goods and services.

Alongside new technologies, future productivity growth in the aviation sector could also come from an additional injection of competition into the sector. Reforms that remove barriers to new entry into the sector and increase the competitive pressure on incumbent businesses, such as the Australian Government's reforms to the Sydney Airport Demand Management Scheme and the Aeronautical Pricing Principles, will incentivise airlines, airports and other aviation service providers to prioritise consumer outcomes and increase productivity.

The aviation sector may also face some productivity headwinds as the sector decarbonises. Driving down the cost of SAF production will be important to ensure that this transition does not reverse the long-term trend of productivity growth in the sector.





A better passenger experience





The Australian Government is committed to an accessible aviation sector that protects the rights of passengers, including people with disability.

Airline customers have existing rights and airlines have existing obligations under the Australian Consumer Law and the *Disability Discrimination Act 1992 (Cth) (DDA)*, but submissions to the Aviation White Paper have made clear that these rights and obligations are not always respected in practice.

The Australian Government will establish an Aviation Industry Ombuds Scheme to give customers access to an effective complaints and dispute resolution process. The ombuds scheme will outline the obligations that airlines and airports have to their customers.

To ensure the ombuds scheme has the powers needed to effectively handle complaints and monitor performance, airlines will be subject to a 'show cause' reporting requirement for cancelled and significantly delayed flights.

The Australian Government is committed to creating a better air travel experience for people with disability. New aviation-specific disability standards will be created as a Schedule to the *Disability Standards for Accessible Public Transport 2002 (Transport Standards)* to clarify and uphold the rights of people with disability to equal access to air travel.

Passengers requiring assistance will have a simpler process for communicating their needs to airlines. Compensation for damage to wheelchairs and mobility aids by domestic airlines will be increased, in recognition of the value and importance of these devices and to incentivise airlines to treat them carefully.

Leased Federal Airports (LFAs) will be required to demonstrate how they will facilitate disability access in airport master plans and major development plans (MDPs).



How we will deliver

To deliver a better passenger experience, the Australian Government will:

- Legislate for an **Aviation Industry Ombuds Scheme**, which will have the power to direct airlines and airports to provide remedies to consumers and investigate customer complaints about airlines' and airports' conduct, with penalties for non-compliance. The enabling legislation for the ombuds scheme will outline requirements for airlines and airports to become members of the scheme, as well as the compliance and enforcement mechanisms. The ombudsperson will issue guidance on appropriate consumer conduct by airlines and airports, publish independent reports on the industry's complaints handling, make recommendations to the Australian Government for policy or regulatory change, and refer instances of systemic misconduct that may raise concerns under the *Competition and Consumer Act 2010* (Cth) to the Australian Competition and Consumer Commission (ACCC) for investigation and enforcement.
- Establish a new **Aviation Customer Rights Charter** to be produced by the ombuds scheme, setting out the fair and appropriate treatment of customers by airlines and airports. The charter will outline minimum customer service levels, give customers greater certainty about what they can expect when flights are cancelled and delayed, and when passenger journeys are disrupted, including in relation to the prompt payment of refunds, across all fare types.
- **Adopt a 'show cause' arrangement**, requiring airlines to report the reasons for delays and cancellations as part of the airlines' regular reporting of flight data to the Australian Government Bureau of Infrastructure and Transport Research Economics (BITRE). The ombudsperson will also have powers to request additional information from airlines in relation to specific flights. Regular reporting of additional data about industry performance and conduct will increase transparency and public accountability for on-time performance and support the government to identify if further regulatory action is required.
- Make **new aviation-specific disability standards** as a schedule to the Transport Standards under the DDA. The aviation-specific disability standards will affirm the rights of people with disability during air travel and affirm the obligations that airlines and airports have to provide equal access. The Australian Government will co-design the aviation-specific disability standards with people with disability and consult industry on the draft standards in 2025.
- **Require airlines and airports to coordinate the facilitation of passenger journeys for people with disability**. The new aviation-specific disability standards will set out obligations of airlines and airports to improve the coordination of passenger facilitation – from arrival at the airport terminal and throughout air travel until exiting the terminal at the destination airport.
- **Require airlines to offer passenger assistance profiles** that will enable people to communicate accessibility requirements to airlines online, in advance. Passengers will be able to grant airlines permission to store information so that they can book future travel with a complete profile and so that airlines can access their assistance information each time they travel. Profiles will allow passengers to upload documentation about assistance animals and wheelchair battery specifications so that airlines can confirm in advance that air safety requirements can be met. The Australian Government will consult on options to implement this requirement through the new aviation-specific disability standards.
- **Review airline policies that limit the number of passengers who require assistance**. In developing the new aviation-specific disability standards, the Australian Government will consider options to prohibit airline policies that limit the number of passengers who require assistance aboard a flight – sometimes referred to as '2-wheelchair policies' – except where there is a clear and demonstrated aviation safety reason.



- **Review industry compliance with the new aviation-specific disability standards.** The Australian Government will publicly report on airlines' and airports' compliance with the new aviation-specific disability standards after the rules come into effect.
- The Australian Government will produce **user guides that outline airlines' and airports' legal requirements under the DDA** and the new aviation-specific disability standards. These accessible user guides will inform passengers about their rights and about airlines' obligations to facilitate more effective provision of assistance. The content and format of the user guides will be co-designed with people with disability.
- Provide **improved remedies for damage to wheelchairs and other mobility devices.** The Australian Government will consult on amendments to the *Civil Aviation (Carriers) Liability Act 1959* (Cth) and supporting regulations to increase the maximum compensation entitlement for passengers whose wheelchairs or other mobility devices are damaged or lost by domestic airlines.
- Amend the Airports Regulations 2024 to **require master plans and MDPs to set out how development of the airport will enable access for people with disability.** The Minister has written to the operators of LFAs advising that the Minister will have regard to consistency with the new aviation-specific disability standards when deciding whether to approve a master plan or MDP.

These Aviation White Paper initiatives to create a better passenger experience will complement broader Australian Government reform processes to protect consumers and ensure the rights of people with disability. These include:

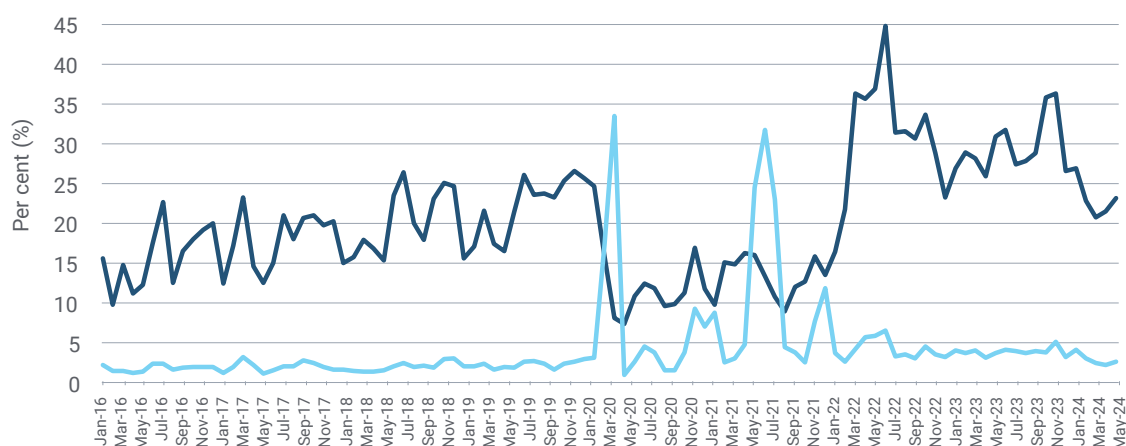
- consideration of options to **strengthen compliance with the consumer guarantees**, including a potential prohibition against not providing a consumer guarantees remedy when required by law
- implementation of broader **reforms to the Transport Standards**, including the introduction of requirements for staff training and improvements to the provision of service information in accessible formats
- **reviewing and modernising the DDA**, as outlined in the Australian Government Response to the Disability Royal Commission, with a view to strengthening and clarifying protections for people with disability.

The need for action

Airlines' on-time performance and support for customers are not meeting expectations

The period since the start of the COVID-19 pandemic has seen a significant increase in consumer complaints about airlines. In many cases, airlines' handling of flight cancellations, delays, refunds and flight credits has been unsatisfactory.

Despite more than 2 years having passed since most COVID-19 travel restrictions were lifted, the performance of airlines remains well below what Australians expect. Over the 12 months to December 2023, 29.4% of all flight arrivals were delayed, compared to the long-term average of 18.9%; and 3.7% of flights were cancelled, compared to the long-term average of 2.2% (Figure 5).

Figure 5: Flight cancellation and delayed arrival rates⁵⁰

Airlines' policies and practices have made it difficult for some customers to access refunds or redeem travel credits for cancelled or significantly delayed flights. Some credits were provided with strict terms and conditions that many customers found difficult to comply with. Customers reported long delays in airlines' responsiveness to complaints and unsatisfactory outcomes from complaints referred to the industry-led dispute resolution body – the Airline Customer Advocate (ACA).

As described in Chapter 4: A competitive and efficient aviation sector, the Australian domestic airline industry lacks effective competition on many routes and market segments, with consumers having limited or no choice of carrier. For this reason, airlines may not face the same commercial consequences from poor consumer practices as they would in a more competitive market, providing limited incentive to improve.

In 2020, the ACCC and state and territory fair trading bodies published the *ACCC and ACL regulators' guidance for the travel industry for COVID-19 related travel cancellations* to set out best-practice guidance in circumstances where airlines have cancelled travel services as a result of the pandemic. In August 2023, the ACCC launched action in the Federal Court of Australia alleging Qantas had engaged in false, misleading or deceptive conduct by advertising tickets for over 8,000 flights that it had already cancelled but not removed from sale.⁵¹

Concerns about airlines' treatment of customers predate the COVID-19 pandemic. In a 2017 report, the ACCC examined consumer complaints about airlines and identified a number of issues with the Australian airlines' policies, terms and conditions.⁵² The ACCC identified failings by airlines with respect to their Australian Consumer Law (ACL) obligations, including consumer guarantee rights and contract terms that may be unfair. The ACCC subsequently engaged with airlines about its expectations for change and published new guidance on travel delays and cancellations.⁵³ Despite these concerns, no action has been undertaken until this point.

50 Bureau of Infrastructure and Transport Research Economics (BITRE), *Airline On Time Performance Monthly Reports*, BITRE website, Australian Government, June 2024.

51 Australian Competition and Consumer Commission (ACCC), *ACCC takes court action alleging Qantas advertised flights it had already cancelled* [media release], ACCC website, Australian Government, 31 August 2023.

52 ACCC, *Airlines: Terms and conditions report*, ACCC, Australian Government, December 2017.

53 ACCC, *Travel delays and cancellations*, ACCC website, Australian Government, n.d.

People with disability face a range of barriers when travelling by air

In 2022, the Disability Royal Commission heard evidence of people with disability being denied access to flights, waiting for extended periods for assistance, being left stranded without access to wheelchairs or mobility aids, and experiencing inappropriate treatment by airline staff that poses risks to their health and safety.⁵⁴ On 3 February 2023, the Chair of the Disability Royal Commission, the Honourable Ronald Sackville AO KC, wrote to the chief executive officers of Australia's major airlines and domestic airports outlining a range of concerns, including that people with disability frequently faced 'inaccessible facilities and services' and 'unhelpful practices and systems adopted by airlines'. These concerns were repeated in submissions to the aviation White Paper process, showing us that a response can no longer be left to industry alone.

Australia has a legal framework to protect the rights of people with disability – the DDA. The DDA includes provisions to ensure the accessibility of services such as public transportation and access to premises. Airports that received Regular Public Transport (RPT) services and air carriers that provide RPT services are covered by these standards. The Transport Standards made under the DDA seek to remove discrimination against people with disability in relation to public transport services, including RPT air travel.

While there is a need to ensure greater compliance with existing rules, a 2022 review of the Transport Standards, as well as testimony to the Disability Royal Commission and submissions to the Aviation White Paper, have highlighted a range of gaps in the Transport Standards and other legislation related to air travel. Improvements are needed in the way all parts of the aviation sector work together to facilitate access to air travel, the rules for the carriage of assistance animals and disability aids, and compensation for damage to wheelchairs and other mobility aids during flight.

The role of the Australian Government

The role of the Australian Government in aviation is to facilitate competition and growth in the commercial market, while regulating the sector to ensure appropriate safety, security, workforce, consumer and environmental outcomes as well as ensuring sovereign capability in times of crisis. The Australian Government has taken a light-touch approach to economic regulation of the aviation sector, intervening only where clear market failures demonstrate a pressing need.

Consultation for the Aviation White Paper highlighted that such a need exists in aviation consumer protection and disability access. There are weaknesses in the information available to customers about their rights, the interpretation of legal obligations by industry, the processes for complaints and dispute resolution, and the standards for ensuring people with disability can access air travel free from discrimination.

In this context, the Australian Government's role is to create a better passenger experience by:

- improving the industry and public's understanding about the legal rights of customers, and obligations of airlines, under ACL and other legislation
- ensuring an effective process for handling customer complaints about airlines' conduct, with appropriate and timely remedies available when airlines breach their obligations
- addressing gaps in the Transport Standards to improve the travel experience for people with disability; and working with all parts of the aviation sector to better facilitate passenger travel
- amending regulations to impose proportionate additional obligations on industry.

⁵⁴ Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability (Disability Royal Commission), *Workshops find people with disability an afterthought in domestic air travel* [media release], Disability Royal Commission website, 24 November 2022.

3.1 Protecting the rights of airline customers

The Australian Consumer Law applies to all sectors of the economy, including aviation

The ACL sets out consumer rights and obligations for all Australian businesses, including airlines and airports. It is enacted through the *Competition and Consumer Act 2010*.

The conduct of airlines, including terms and conditions of contracts between airlines and consumers, is subject to the ACL. The ACCC is the primary Commonwealth agency responsible for enforcing the ACL in Australia. The ACCC does not generally resolve individual complaints; it focuses its compliance activities on systemic breaches of the ACL that can result in widespread harm. State and territory fair trading bodies can also take enforcement action under the ACL and have a role assisting individuals to resolve complaints. Individuals can also take their own legal action.

The ACL contains a number of consumer guarantees which set out basic rights and obligations that businesses must meet when supplying products or services, including flights. For example, it contains guarantees that services will be rendered with due care and skill, be fit for purpose and be supplied within a reasonable time. The ACL also provides that appropriate remedies, including refunds, will be available to affected customers when services do not meet these obligations, including when services are not delivered within a reasonable time.

The ACL prevents businesses from including unfair terms in standard form contracts (contracts consisting of standard terms and conditions), such as contracts entered into when purchasing airline tickets. Unfair terms could include allowing the business (but not the consumer) to avoid or limit their responsibilities under the contract or allowing the business (but not the consumer) to change the terms of the contract. This could potentially include cancellation fees that are disproportionate to the original fare, where the airline has cancelled the flight for reasons within their control; and clauses that penalise a consumer (but not the airline) for breaching or terminating the contract.

The Australian Government is consulting on reforms to the Australian Consumer Law to strengthen consumer guarantees

Between December 2021 and February 2022, the Commonwealth Treasury led a consultation process on options to ensure businesses comply with the consumer guarantees and that consumers can access the remedies they are entitled to. This includes consideration of a civil prohibition for failure to provide a consumer guarantees remedy.⁵⁵

The consultation paper recognised that many consumers are not willing to enforce their rights in a court or tribunal and that, even when they do, the supplier's refusal to provide a remedy is not a contravention that attracts a penalty. As a result, there may be insufficient incentives for suppliers of goods and services to comply with their obligations under the consumer guarantees.

In response to this problem, the Australian Government is considering options to strengthen compliance with the consumer guarantees, including a potential prohibition on failure to provide a consumer guarantees remedy, supported by penalties and enforcement mechanisms. The Treasury estimates that applying an economy-wide civil prohibition on failure to provide a consumer guarantees remedy could create a net benefit of \$4.6 billion (net present value) over the 10 years to 2031, with a benefit-cost ratio of 4.7.

⁵⁵ Department of the Treasury, *Improving consumer guarantees and supplier indemnification provisions under the Australian Consumer Law*, Treasury website, Australian Government, n.d.



Penalising suppliers when they fail to provide a consumer guarantees remedy would also create stronger incentives for businesses, including airlines, to provide appropriate remedies where their products or services do not meet expectations.

The Airline Customer Advocate is not delivering effective dispute resolution

The ACA was established in 2012 to provide complaint resolution services to customers of major Australian airlines (Qantas, Jetstar, Rex and Virgin Australia). Rex withdrew from the scheme in mid-2024. The ACA is funded and managed by the participating airlines.

The ACA acts as a facilitator between passengers and airlines, aiming to resolve complaints within 20 business days. A majority of complaints dealt with by the ACA relate to refund requests, issues arising from flight cancellations and delays, followed by baggage services, and fees and charges.

The vast majority of submissions to the Aviation White Paper that discuss the ACA consider it ineffective. This includes submissions from airlines that acknowledge the ACA can be significantly improved. Specific criticisms are as follows:

- **Complaint ineligibility:** A high number of complaints referred to the ACA (ranging from 45% to 89% across domestic airlines in 2023) cannot be considered. To be eligible for ACA consideration, complaints must meet strict criteria, including supplying 2 prior correspondences from the airline. This means airline responsiveness is a necessary prerequisite for ACA consideration, which can have perverse outcomes. It can also mean lengthy delays between complaining to the airline and a final outcome from the ACA.
- **Perceived lack of independence:** As reported in the ACA's *Annual Report 2022*, only 25% of customers believed the ACA was independent in all interactions. Without the approval of the participating airlines, the ACA does not have authority to make public reports about airlines' complaints handling.
- **Limited powers:** The ACA can make recommendations, but it does not have the power to direct airlines to provide remedies to consumers. According to a survey published in the ACA's *Annual Report 2023*, only 37% of customers who had a complaint finalised by the ACA considered the outcome satisfactory.
- **Incomplete coverage:** The ACA can only investigate complaints against the participating airlines (Qantas, Jetstar and Virgin Australia). Other domestic airlines (smaller regional carriers) and foreign airlines that fly to Australia are not within its remit.

The ACA was originally established in response to the Australian Government's 2009 Aviation White Paper, which stated that 'The Government also expects the industry to establish a mechanism for consumers to have unresolved complaints examined by a third party, such as an industry ombudsman, independent of the airline involved. The Government is reluctant to burden industry with further regulations in this area, and is confident airlines are committed to constantly improving the services they offer to the Australian public'.

The 2009 Aviation White Paper also stated that 'The Government will monitor the industry's efforts to develop proposals to better handle consumer complaints ... and will consider a more interventionist approach should this become necessary'.

The Australian Government's view is that the ACA has not delivered an effective complaint resolution service in the way it was intended and that it is appropriate for the Australian Government to now establish a more effective body.



3.2 Aviation Industry Ombuds Scheme

The Australian Government will establish an Aviation Industry Ombuds Scheme in 2024 and will legislate to enshrine the powers of the ombudsperson by 2026. The ombuds scheme will apply to domestic and international airlines operating in Australia, and to Australian airports, with the ombudsperson empowered to:

- deliver an external dispute resolution service in relation to airlines' and airports' conduct in a way that is accessible, independent, fair and accountable
- direct airlines and airports to provide specific remedies to customers issue public guidance on airlines' and airports' obligations to their customers, consistent with relevant legislation
- publish reports on airline and airport conduct and make policy recommendations to the Australian Government
- refer instances of systemic misconduct that may raise concerns under the *Competition and Consumer Act 2010* to the ACCC for potential investigation and enforcement.

The government will consult on the design of the ombuds scheme, including funding from industry for its operations. The design of the ombuds scheme will be informed by the design of the existing Telecommunications Industry Ombudsman (TIO), which is also industry funded and applies a 4-stage complaint escalation process of referral, conciliation, investigation and determination. Customers who are unhappy with the outcome of an Aviation Industry Ombuds Scheme investigation will be able continue to seek remedies through other mechanisms, including through court action.

Industry-specific ombuds schemes (or similar dispute resolution bodies) exist for a range of sectors of the Australian economy, including telecommunications, energy and water, financial services and aged care. These ombuds schemes have proven effective at handling high volumes of complaints. The Australian Financial Complaints Authority and the TIO, 2 of the largest industry ombuds schemes, received 66,388 and 96,987 complaints respectively in the financial year ending 30 June 2023. While many of these complaints were referred back to the business for resolution, involvement of the ombudsperson provides external scrutiny and the prospect of an external, binding decision if parties to a dispute could not reach an appropriate and timely resolution.

A new Aviation Customer Rights Charter will outline the rights of customers and the obligations on industry

The Aviation Industry Ombuds Scheme will develop a new Aviation Customer Rights Charter, which will outline the obligations that the industry has to its customers. The charter will be informed by consumer guarantee rights under the ACL and other relevant legislation.

The charter will set out what the ombudsperson considers to be fair and reasonable conduct by airlines and airports, which would be expected to include matters such as:

- customers' entitlements to refunds – which are the same across all fare types – for flights that are disrupted, cancelled or unreasonably delayed, including circumstances where airlines must provide a refund in cash or the original form of payment rather than a travel voucher
- appropriate and prompt time frames and methods for providing refunds
- the length of flight delays that are considered unreasonable
- reasons for disruptions, delays and cancellations that are considered within the airline's control
- accessible and timely communication with passengers in providing services in line with customer rights
- other obligations that airlines may have to their customers when flights are disrupted, cancelled or delayed, such as providing support to make alternative travel arrangements.

The charter will be updated from time to time as the ombudsperson makes decisions on individual complaints and identifies common and emerging issues in the sector. Consistent with the approach taken in other industries such as telecommunications, which relies on the Telecommunications Consumer Protection Code, the charter will complement, not replace, consumers' existing rights under the ACL.

The purpose of the charter is to provide clarity on the minimum standard of consumer protections that apply to all airlines operating in Australia. Airlines will continue to have the option to offer services and remedies over and above their obligations under the charter, and the government considers it appropriate that airlines can choose to compete on these service offerings.

The ombuds scheme will be supported by a legislative framework that enables robust compliance and enforcement action.

Airlines will be required to 'show cause' for delays and cancellations

Airlines will be subject to a 'show cause' arrangement, with additional requirements to report the reasons for delays and cancellations as part of the airlines' regular reporting of flight data to government. This will increase transparency and public accountability for on-time performance.

The government will consult industry and consumer stakeholders on the design of the show cause arrangement, including on how delays and cancellations are categorised and attributed and how the compliance burden can be minimised.

Aggregated data about the reasons for flight delays and cancellations will be published regularly and would be expected to include the reasons for cancellation by airline and air route. Airlines currently report to BITRE each month on the percentages of flights that are cancelled and delayed, with a summary of airlines' on-time performance published by BITRE, broken down by airline and route. In designing the show cause requirement, the government will consider options to expand on this existing process.

Where appropriate, the ombudsperson will also have the power to audit reasons for delays and cancellations and to request additional information from airlines about specific delays or cancellations that are subject to a customer complaint to the ombuds scheme.

Transparency over the reasons for cancellations and delays will inform consumers' travel choices and sharpen incentives for the aviation industry and government to address the sources of cancellations and delays within their control.

Reliable information will also inform the government's understanding of the drivers of cancellations and delays and assist in determining whether regulatory settings remain appropriate.

3.3 Accessible air travel for people with disability

People with disability face barriers when travelling by air. The Disability Royal Commission has heard that people with disability continue to encounter inaccessible facilities and services at airports and face unhelpful practices and systems adopted by airlines, including:

- denial or lack of access to necessary information and support prior to flights
- extended and unreasonable wait times and hold times when checking into flights
- experiences of discrimination and refusal to carry people with disability who use assistance animals



- airlines limiting the number of wheelchairs in a cabin to 2; and not all RPT aircraft having the ability to carry onboard wheelchairs
- lack of consideration of the needs of people with disability amid flight cancellations
- lack of access to timely and appropriate responses by airlines, with reports of people feeling ‘silenced’ or ‘dismissed’
- no requirement for single-aisle aircraft to have an accessible toilet
- a lack of accessible flight options and carriers in regional and remote locations.⁵⁶

Consultations on the Aviation Green Paper highlighted a range of similar issues, including from people with disability who shared personal examples about their treatment during air travel and the impacts this has had on their health and wellbeing (see Box 1). This is not good enough.

Box 1: Some air travel experiences of people with disability

- A passenger with spinal cord damage and nerve pain reported being disembarked and left without a wheelchair in an aerobridge for more than an hour.
- A solo traveller with a spinal cord injury reported that an airline refused to transfer them from a custom electric wheelchair to an aisle chair. The passenger reported being left stranded at the airport.
- A passenger with vision impairment, who travels with a guide dog, reported being unable to book flights online. Despite lodging paperwork with their regular airline, each booking involves an extended phone call to provide detailed information about their accessibility requirements, and they must purchase an additional fare for their guide dog to travel.
- A passenger with an intellectual disability reported that, due to the way they spoke, cabin crew perceived them to be intoxicated and had them removed from a flight by the Australian Federal Police. The passenger was required to sleep the night at the airport and pay for a replacement flight the next day.
- A passenger who uses a wheelchair reported being physically lifted out of a wheelchair by airline staff to transfer from the aerobridge to an aisle wheelchair on the aircraft, as there was no ramp available to bridge the gap between the aerobridge and the aircraft.
- A passenger who uses a wheelchair reported not being provided assistance to navigate between the taxi rank and airport terminal. The passenger reported that the taxi driver was not permitted to leave the taxi in the drop-off area to provide assistance to enter the airport and that airline staff stated they were not authorised to exit the terminal to meet the passenger.

Policy Priority Five of the Inclusive Homes and Communities Outcome Area of Australia’s Disability Strategy 2021–2031 is that ‘transport systems are accessible to the whole community’. The Australian Government is committed to removing barriers to enable people with disability to exercise full choice and control over their lives, including by accessing air travel.

⁵⁶ Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability (Disability Royal Commission), *Workshops find people with disability an afterthought in domestic air travel* [media release], Disability Royal Commission website, 24 November 2022.

It is unlawful to discriminate against people on the basis of disability

The DDA is the Commonwealth's framework to prevent discrimination against people with disability. The DDA includes provisions to ensure the accessibility of services such as public transportation; and access to premises:

- Under section 23 of the DDA, it is unlawful for a person to discriminate against another person on the grounds of disability by refusing to allow the other person access to, or the use of, any premises that the public or a section of the public is entitled or allowed to enter or use or in relation to the terms and conditions and means of access.
- Under section 24, it is unlawful for a person who provides goods or services, or makes facilities available, to discriminate against another person on the ground of the other person's disability. Services include services relating to transport or travel (section 4).

The Transport Standards, made under the DDA, seek to remove discrimination for people with disability in relation to public transport services, to provide equality and independence. The Transport Standards establish the minimum accessibility requirements to be met by providers and operators of public transport services. The Transport Standards cover the conveyances (such as aircraft), infrastructure and premises used to support their services.

The majority of Australian airports are covered by the Disability (Access to Premises – Buildings) Standards 2010 (Premises Standards), made under the DDA. The Premises Standards specify how public buildings, including airports, must provide access for people with disability. The standards aim to ensure people with disability have equal access to public buildings and that building managers fulfil their obligations under the DDA. All new and substantially refurbished premises must comply with the Premises Standards.

To achieve the objectives of the DDA, the Australian Government encourages airports and airlines to publish Disability Access Facilitation Plans, which typically include information such as:

- the services and facilities on aircraft and in airport terminals
- procedures for transporting mobility aids and assistance animals
- the extent of direct assistance available to passengers with disability
- advice to passengers on ways to work with airline and airport operators to meet specific needs
- contact details to assist passengers with disability to provide feedback on the travelling experience.⁵⁷

The Australian Government is implementing reforms to the Transport Standards

In March 2024, the Australian Government announced a package of reforms to update the Transport Standards. These reforms reflect the significant innovations in public transport provision and usage since the Transport Standards were first drafted. The reforms aim to eliminate discrimination, as far as possible, against people with disability and provide greater certainty to operators and providers regarding their responsibilities under the DDA. Further information about the reforms is available at www.infrastructure.gov.au/transport-standards-reform.

⁵⁷ Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), *Disability Facilitation Action Plans*, DITRDCA website, Australian Government, n.d.

Separately, the Australian Government is reviewing the Transport Standards to assess whether they are working efficiently and effectively and if further reforms are required. The review report will be published in due course. Further information about the review is available at www.infrastructure.gov.au/transport-standards-review.

Through input to the 2022 review of the Transport Standards and the Disability Royal Commission, and submissions to the Aviation White Paper, people with disability have emphasised the importance of having a platform to provide advice on government policy, including public transport accessibility. The Australian Government is investigating options to establish this platform, including its link to the Aviation Access Forum, which was established in 2013 to provide advice on disability access issues in an aviation setting.

3.4 New aviation-specific disability standards

The Australian Government will make new aviation-specific disability standards as a schedule to the Transport Standards. The new aviation standards will strengthen and affirm the rights of people with disability during air travel; and affirm the obligations that airlines and airports have to provide equal access.

The new aviation standards will affirm many of the existing obligations that airlines and airports have under the Transport Standards, which apply to all providers of public transport services. However, the new aviation standards will go further in clarifying the obligations that airlines, airports and other aviation service providers have to facilitate the passenger journey for people with disability. The new aviation standards will also include new obligations, as discussed in this chapter, for airlines to offer assistance profiles for people to communicate their accessibility requirements; and will consider options to address airline policies that limit the number of passengers on flights who require assistance.

The Australian Government will co-design the new aviation standards with people with disability and consult industry on the draft standards in 2025. As part of that consultation, the government will conduct an analysis of the regulatory impacts on industry. The standards will be designed to be consistent with Australia's international obligations.

The Australian Government will consult on options to improve passenger facilitation across the air travel journey

An aviation journey consists of multiple segments where different service providers assist passengers, from arriving at the airport and checking in, through security screening, waiting, boarding and disembarking aircraft, using facilities onboard an aircraft, through arrivals and baggage collection, and onwards to leaving the terminal.

Submissions to the Aviation White Paper claimed that people with disability often do not receive consistent and accessible facilitation across their aviation journey. In some cases, people with disability have been left without the assistance they require and are entitled to under the DDA. In its submission to the Aviation White Paper, the Australian Airports Association noted several high-profile incidents have 'highlighted where there are gaps in accessibility across the whole aviation journey, generally at interfaces between ground transport, airports and airlines. This is an area the sector can work on together to improve the passenger experience and improve accessibility'.

Airlines, airports and other service providers have existing obligations under the Transport Standards. For example, airports must ensure check-in counters are accessible, and airlines must provide accessible booking and boarding services. However, these requirements relate to individual journey segments.



Submissions to the Aviation White Paper called for greater consistency and coordination in facilitation across the entire passenger journey, clarity over who is responsible for facilitating different journey segments and greater detail about what these obligations involve.

To further clarify and strengthen responsibilities for the provision of assistance between airlines and airports, the Australian Government will consult on options to include whole-of-journey facilitation obligations in the new aviation standards.

Disability advocates have also raised concerns about inadequate facilities for boarding and using aircraft, which can compromise passenger safety and dignity. Concerns raised include the use of boarding hoists where aerobridges are unavailable, aisle wheelchairs that are not suitable for some people with disability, and a lack of accessible toilets on single aisle aircraft. Consultation will consider longer term options to address these issues, noting constraints arising from the size and specifications of aircraft may not be easily addressed, as passenger aircraft are not manufactured in Australia.

The Australian Government will consult on a simpler process for communicating accessibility requirements to airlines, including for carriage of assistance animals and batteries

To ensure compliance with air safety requirements, airlines require documentation to approve the carriage of assistance animals and wheelchairs powered by lithium-ion batteries. Submissions to the Aviation White Paper reported that airline processes for approving the carriage of assistance animals and batteries can be inconsistent, burdensome and repetitive.

Lithium-ion batteries are considered dangerous goods and must be transported safely onboard aircraft according to rules for carriage of dangerous goods specified by the Civil Aviation Safety Authority (CASA). Airlines require information about battery specifications to confirm that they can be carried safely, but it may not be easy for passengers to produce this information quickly. The Australian Government has heard that device manufacturers and retailers do not always provide information about air safety requirements when supplying mobility aids.

Under CASA rule 91.620, a person can take an assistance animal onboard an aircraft with the permission of the captain or operator. A captain can refuse to carry the animal if it could have adverse effects on air safety. Airlines report difficulty verifying that an animal is an assistance animal – that is, to verify that the animal is accredited or appropriately trained to assist the person and meet certain standards of hygiene and behaviour. Even where an animal is an assistance animal, the captain may still refuse to board the animal in the circumstances set out in section 54A of the DDA or under CASA regulations if the airline considers it is in the interests of public safety.⁵⁸ In practice, airlines apply their own policies for the carriage of assistance animals, and policies vary between airlines.

To demonstrate that assistance animals and batteries can be carried safely, passengers are required to provide information in advance of each flight, even when they have previously flown on the airline with the same assistance requirements. Some people reported instances of staff of the same airline making different decisions when presented with the same information.

The Australian Government recognises there may be cases where airlines will need to deny access on the basis of aviation safety. However, improvements are needed so that passengers who require assistance understand relevant processes, can easily communicate information about their needs to airlines and arrive at check-in with certainty they can travel.

⁵⁸ Civil Aviation Safety Regulations 1998 (Cth), reg 91.620(3).

To facilitate this, the Australian Government will consult on options to require airlines to enable 'passenger assistance profiles' as part of the new aviation standards. This would give people the option to provide information about their assistance requirements – for example, documentation about assistance animals and battery specifications – online, in advance. Passengers would have the option to grant airlines permission to store information, so they can book future travel with a complete profile and so airlines can access their assistance information each time they travel.

The Australian Government will review airline policies that limit the number of passengers on a flight who require assistance

Through the Disability Royal Commission, the 2022 review of the Transport Standards and submissions to the Aviation White Paper, people with disability have expressed concerns about airline policies that limit the number of passengers requiring assistance that can be carried per flight. This is often referred to a '2-wheelchair policy', but it can also affect passengers requiring assistance who do not use a wheelchair.

People with disability reported instances of these policies resulting in passengers being denied boarding or moved to a later flight, causing unexpected disruptions to their journey, sometimes at very short notice. The impact of these policies may be exacerbated when passengers are travelling from locations with infrequent service or when there are groups of passengers that require assistance travelling together.

While there may be operational and safety reasons underpinning the adoption of these policies by airlines, it is appropriate that such policies be reviewed to ensure limits are not arbitrary and to identify solutions that favour increased access to air travel for people with disability. The Australian Government will consult on options to prohibit these policies through the new aviation standards, except where there is a clear and demonstrated aviation safety reason.

Submissions noted that other countries have enacted regulations preventing the adoption of policies that limit the number of passengers requiring assistance per flight. For example, in the United States of America, section 382.17 of the *Air Carriers Access Act 1986* (USA) requires that 'Carriers are not permitted to limit the number of passengers with disability who travel on a flight'.

The government will publicly report on airlines' and airports' progress towards compliance with the new standards

The Australian Government will publicly report on airlines' and airports' compliance with the new aviation standards after the rules take effect.

Depending on the final design of the new standards, some requirements may come into effect straight away, while others will have a longer implementation period. The public reporting will consider which airlines and airports are meeting their obligations under the standards and assess whether airlines and airports are on track to achieve compliance by the time other requirements come into effect.

The reporting will increase scrutiny of industry practices, identify areas for improvement and inform future policy consideration to improve access to air travel for people with disability. The Australian Government is announcing in advance that the reporting will be conducted so that industry is put on notice that it will be publicly held to account for complying with the new rules.



The Australian Government will consult on options to increase compensation for loss or damage to wheelchairs and other mobility devices during domestic air travel

People with disability have provided evidence of damage to wheelchairs and other mobility devices during air travel. Damage can be caused by the way a mobility device is transferred to and carried in aircraft, as well as the way it is disassembled and assembled by airline staff at check-in or arrival. The submission from the Public Interest Advocacy Centre noted that wheelchairs lost or damaged by airlines have left people with disability incurring significant cost and being left without essential mobility, which can have profound impacts on health and wellbeing.

The Australian Government is committed to ensuring the right policies and incentives are in place for airlines to minimise damage and loss of mobility devices and provide appropriate remedies when such damage or loss occurs. People with disability should reasonably expect that their mobility device will be handled with care and returned to them in the condition provided. If mobility devices are damaged or lost in the course of carriage, people with disability should have access to sufficient remedies to rectify the damage quickly.

Liability for loss or damage of baggage on international flights is governed by a range of international conventions, including the 1998 Convention for the Unification of Certain Rules for International Carriage by Air (Montreal Convention). The *Civil Aviation (Carriers' Liability) Act 1959* (Cth) (CACL Act) incorporates these conventions into Australian law and also implements a liability scheme covering domestic flights. Section 31(2) of the CACL Act caps domestic carriers' liability for destruction, loss or injury to baggage at \$3,000 (section 31(2A)). This cap applies to wheelchairs and mobility devices carried on flights. Customised wheelchairs can cost over \$15,000,⁵⁹ meaning the CACL Act liability cap can result in significant out-of-pocket costs for people whose wheelchairs are damaged.

The Australian Government will consult in 2025 on options to amend the CACL Act to increase compensation for loss or damage to mobility devices by domestic airlines. As well as enabling people with disability to claim more substantial compensation, raising the liability cap would also send a strong signal to industry to improve handling practices to avoid damage in the first instance.

The Australian Government will have regard to international practice in developing options for consultation. For example, regulations applying to domestic flights in the United States provide that the basis for calculating the compensation for a lost, damaged or destroyed wheelchair or other assistive device shall be the original purchase price of the device.⁶⁰

User guides will clarify airlines' and airports' obligations under the Disability Discrimination Act

Submissions to the Aviation White Paper describe poor awareness of the legal obligations of airlines and airports under the DDA, Transport Standards and Premises Standards and claim that information is provided inconsistently across airlines and airports.

The Australian Government will produce user guides that outline these obligations to help to address gaps in available information, improve passengers' understanding of their rights and outline where passengers can access information about airline policies and procedures. This will involve a co-design process with stakeholders to develop both the content and format of the guides. User guides will be published on the department's website.

⁵⁹ National Disability Insurance Agency (NDIA), *How do we fund assistive technology?*, NDIA website, Australian Government, February 2023.

⁶⁰ Government of the United States of America, *Air Carriers Access Act 1986*, Code of Federal Regulations website, Office of the Federal Register (National Archives and Records Administration), section 382.131.

The government will consider options for the Aviation Industry Ombuds Scheme to investigate noncompliance with the new aviation standards

Submissions to the Aviation White Paper process identified that, when airline customer service does not meet the needs of people with disability, airlines often do not provide timely and appropriate remedies.

Concerns were also raised that the onus of enforcing compliance with the DDA and Transport Standards rests with the person who has been discriminated against on the basis of their disability. Where a complaint cannot be resolved directly with the airport or airline, the person with disability can make a complaint to the Australian Human Rights Commission (AHRC). If the complaint is still not resolved, the person can take action in the Federal Court of Australia. This can be a time consuming and difficult process, as well as a costly process if court proceedings are initiated. Submissions from people with disability called for the Australian Government to establish a proactive investigation regime to increase compliance by industry.

The Australian Government will consider options for the new Aviation Industry Ombuds Scheme to investigate complaints about airlines' and airports' noncompliance with the Transport Standards and communicate to the airlines and airports where the ombudsperson thinks they are not meeting their obligations. This function of the ombuds scheme will be carefully designed to complement the existing role of the AHRC in handling complaints about disability discrimination.

Leased Federal Airports will be required to demonstrate their plans for disability access

As outlined in Chapter 9: A balanced approach to airport planning and noise, LFAs must submit periodic master plans to the Minister for Transport setting out their long-term plans for development of the airport site. Before commencing a major development, the airports must also seek the Minister for Transport's approval of an MDP. Master plans and MDPs include a period of public consultation so that members of the community can comment on proposed developments.

Master plans and MDPs are required to include a range of information about how the airport will ensure its development plans will meet the needs of airport users. The Australian Government will amend the Airports Regulations 2024 to require additional information in airport master plans about how development of the airport site will facilitate disability access. This will ensure the Minister for Transport and the Australian public have information about planned disability access arrangements at the airports and the opportunity to provide comments to the airport on options to improve disability outcomes.

The Minister has also written to the operators of Australia's LFAs, advising that the Minister will have regard to compliance with the standards under the DDA when making a decision to approve or refuse a master plan or MDP.



A competitive and efficient aviation sector





Australian airlines and airports are major contributors to the Australian economy and provide services to millions of Australians each year. A competitive and efficient aviation sector is an important enabler of economic and productivity growth. The sector also supports thriving regional communities and economies through greater connectivity and export growth opportunities.

On-time performance has been poor since the COVID-19 reopening, with cancellations and delays well above the long-term average, but it is improving in 2024. Australia's airfares are higher than in many other countries.

These indicators do not point to a competitive and efficient aviation sector. Airlines are not providing the service levels Australians want or need.

The Australian Government will strengthen regulatory intervention to promote competition in the domestic airline sector and drive lower fares and better services for consumers. We have already announced reforms to the Sydney Kingsford Smith Airport (Sydney Airport) slot regime, which are designed to improve efficiency, competition and opportunities for new entrants. We will also reform the compliance and enforcement framework supporting the slot regime to incentivise the efficient use of scarce slots and address slot misuse.

The Australian Competition and Consumer Commission (ACCC) will continue to monitor the prices, costs and profits of domestic airlines and, subject to a regulatory impact analysis process, will conduct enhanced monitoring of airport prices and performance. Enhanced ACCC monitoring will increase transparency, enable greater public scrutiny of industry behaviour and determine whether large aviation businesses misuse their market power. Pricing negotiations between airlines and airports will be informed by revised principles that promote competition in the market, and the government will consider options for the ACCC to monitor the conduct of negotiations at major airports.



As set out in Chapter 3: A better passenger experience, the government is introducing new protections for aviation customers, including a new provision for airlines to ‘show cause’ for cancelled and delayed flights. This increased transparency around the reasons for cancellations and delays will support choice and competition by informing consumers about airlines’ performance and reliability. It will also sharpen incentives for airlines to address the sources of cancellations and delays.

Longer term, emerging aviation technologies have the potential to disrupt the domestic and regional air travel industry, bringing productivity benefits and service alternatives to travellers. We will facilitate this growth.



How we will deliver

To oversee a more competitive and efficient aviation sector, the Australian Government will:

- **Reform Sydney Airport slot management arrangements** to improve efficiency in the allocation and use of take-off and landing slots at Sydney Airport and reduce incentives for anti-competitive slot misuse:
 - The government has adopted recommendations from the 2021 Review of the Sydney Airport Demand Management Scheme (Harris Review) to improve operational efficiency at Sydney Airport, increase transparency of slot allocation and use, provide expanded definitions of slot misuse and rebalance slot allocation towards new entrants.
 - The government will also reform governance arrangements for the Slot Manager and Compliance Committee, providing for more effective enforcement of slot rules. The Slot Manager will be appointed through a competitive process, with an appropriate corporate structure and governance arrangements to manage real or perceived conflicts of interest an essential criterion for selection.
- **Revise principles for the aeronautical pricing negotiation process between airlines and airports.** The Australian Government will consult on amendments to the Aeronautical Pricing Principles (APPs) to specify that: (1) pricing agreements between airports and airlines should not contain anti-competitive clauses; and (2) airports should provide such information and data to airlines as necessary to ensure transparent pricing negotiations.

In addition, the government will consider options for the ACCC to monitor the conduct of aeronautical pricing negotiations at Sydney, Brisbane, Melbourne, Perth and Western Sydney airports.

- Task the next **Productivity Commission (PC) inquiry into the economic regulation of airports** to consider whether there is evidence that airports are misusing market power and whether the current framework allows large airlines to unduly delay beneficial airport expansions. The next PC inquiry will also consider the costs and benefits of further reforms to slot rules for domestic flights, including:
 - a stricter ‘use it or lose it’ rule
 - a limit on the period for which slots can be ‘grandfathered’.
- **Monitor domestic airline pricing and performance.** In October 2023, the Australian Government directed the ACCC to monitor the pricing of domestic air passenger transport services until the end of 2026. Reports on domestic airline prices, costs and profits are published quarterly to enable greater public scrutiny of airline practices and help identify any instances of airlines misusing market power.
- Consult on implementing **an enhanced version of the ACCC’s monitoring of pricing and service quality at Australia’s major airports**, Sydney, Melbourne, Brisbane and Perth – with Western Sydney International (Nancy-Bird Walton) Airport (Western Sydney Airport) to be included in the price monitoring regime at an appropriate time. The Australian Government will conduct an impact analysis to consider whether to require the collection of more detailed disaggregated data about airport revenue, costs and assets and whether a revised set of quality of service indicators is warranted:
 - Enhanced data collection could inform more transparent pricing negotiations between airports and airlines and make it easier for the ACCC to identify misuses of market power by airports.



- The next periodic PC inquiry into the economic regulation of airports will consider the data collected and analysed by the ACCC in advising government if changes are required to the current light-touch approach to the economic regulation of airports.
- **Publish additional data on airline performance and aviation competition.** The Bureau of Infrastructure and Transport Research Economics (BITRE) has powers to collect data from airlines under the Air Navigation Regulation 2016; however, the regulations limit publication of this data. The government will consult on amendments to these regulations by 2026 to enable the collection and publication of more detailed data to support increased transparency and scrutiny of airline performance. BITRE will also develop and report on aviation competition indicators to monitor trends in the sector.
- Adopt a new ‘show cause’ provision for delayed and cancelled flights, as described in Chapter 3, which will promote competition by **increasing transparency of airlines’ performance and reliability**, enabling more informed travel choices by consumers.
- **Review government travel purchasing policies** to consider whether changed policy settings could better support competition. The Department of Finance will conduct the review in 2024.

The Australian Government’s commitments to enhance competition and productivity in Australia’s aviation sector will help to deliver better prices and services for Australian consumers and complement the commitments set out in Chapter 3: A better passenger experience.

The need for action

A competitive aviation market is an important enabler for a strong and productive Australian economy. The benefits of enhanced aviation competition include lower prices for Australian travellers with a better range of service offerings; a reduction in the cost of goods delivered by airfreight; and improved economic opportunities for other Australian businesses, including in the \$166 billion visitor economy.

But, like many aviation markets around the world, Australia’s domestic aviation market is highly concentrated. The Qantas Group (including Qantas and its wholly owned low-cost carrier, Jetstar) has 61.8% of passenger market share. Virgin Australia holds 31.3% of the domestic aviation market. Prior to entering voluntary administration in July 2024, Rex held 5%.⁶¹ While Bonza carried only 2% of domestic passengers in March 2024,⁶² its exit makes the sector even more concentrated.

Australia’s regional aviation market (flights that involve at least one regional city⁶³) is also highly concentrated. The Qantas Group (including Jetstar and QantasLink) operates 67.1%, Virgin 26% and Rex 4.4%.⁶⁴

Australia’s capital city airports are natural monopolies with no effective substitutes available for the majority of users. Most Australian capital cities are served by only a single major airport. In Melbourne, Avalon Airport provides an alternative for some travellers, but 95.8% of domestic airline services operate from Melbourne (Tullamarine) Airport.⁶⁵ In south-east Queensland, Gold Coast and Sunshine Coast airports may provide an alternative to Brisbane Airport for some travellers, with Brisbane Airport receiving

61 Australian Competition and Consumer Commission (ACCC), *Domestic airline competition in Australia*, ACCC, Australian Government, 2024.

62 ACCC, *Domestic airline competition in Australia*, ACCC, Australian Government, 2024.

63 Cities that are not Adelaide, Brisbane, Canberra, Melbourne, Sydney, Gold Coast and Perth.

64 Bureau of Infrastructure and Transport Research Economics (BITRE), unpublished data.

65 BITRE, unpublished data.

69.3% of domestic passenger traffic in the region.⁶⁶ Sydney is currently served only by Sydney Airport, but Western Sydney Airport will provide important competition in the Sydney Basin when it opens in 2026. However, all overnight freight flights will be required to use Western Sydney Airport.

Australia's airline and airport sectors are both characterised by inherent and substantial barriers to entry that can prevent businesses from entering the market or expanding to scale. The structure of the domestic aviation market creates a clear role for the Australian Government in overseeing the sector to ensure it operates in the best interests of consumers.

Australia's domestic airline market has relatively few competitors

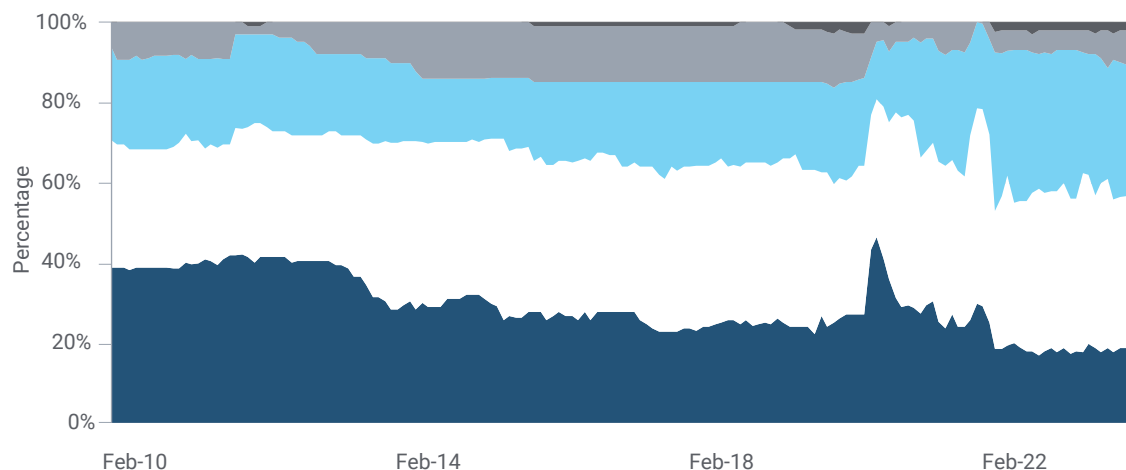
Since deregulation in 1990, the Australian domestic market has typically comprised 2 major airlines and several smaller regional or leisure carriers.

Today, the Qantas Group and Virgin Australia operate around 93% of services. Qantas Group is by far the largest player and collected over 80% of all industry profits in 2022–23, despite only providing around 62% of the services.⁶⁷ Virgin Australia, which restructured following its voluntary administration during the COVID-19 pandemic, is no longer competing head to head across all market segments targeted by Qantas and its low-cost carrier (LCC) Jetstar.

The Australian market has historically faced challenges accommodating a third carrier comparable to Qantas or Virgin. However – despite recent airline failures – the ongoing market growth, combined with structural increases in capacity on the golden triangle (Brisbane, Sydney and Melbourne routes), could create an opportunity for a new carrier to scale up and sustainably compete with Virgin or Qantas.

While the market comprises relatively few major airlines, over the past decade the proportion of domestic travellers benefiting from competition has increased. In 2010, around 40%, or 2 in 5, of the top 200 domestic routes by passenger volume were operated by a single airline (Figure 6). In 2024, only 20%, or 1 in 5, of those routes were operated by a single airline. The number of routes flown by 3 or more carriers has also increased from around 35% in 2010 to 40% in 2024.

Figure 6: Number of airlines flying on the top 200 domestic routes by passenger volume⁶⁸



66 Gold Coast Airport receives 23.6% of south-east Queensland domestic passengers and Sunshine Coast receives 7.1%.

67 Australian Competition and Consumer Commission (ACCC), *Domestic airline competition in Australia*, ACCC, Australian Government, 2024.

68 Source: Treasury Competition Taskforce analysis of OAG data.

Not all air routes in Australia have sufficient demand to attract multiple airlines. However, where competition does exist, recent research by Treasury's Competition Taskforce has found that it can have a significant impact on airfares in Australia. When a route in Australia is serviced by a single airline, average airfares are around 40 cents per kilometre. For 2 airlines, this falls to less than 30 cents. The figure continues to decline as more airlines compete on a route.⁶⁹

Since 2010, the share of Australian domestic passengers serviced by low-cost carriers (LCCs) has steadily increased, reaching 40% in 2020. The majority of these passengers are flown by Jetstar, which is part of the Qantas Group. Australia currently has no independent LCCs, following the exit of Bonza in May 2024, and has had no independent LCCs operating on capital city routes since Virgin Australia acquired Tiger Airways in 2007.

Regional air routes typically exhibit less competition than capital city routes and tend to have far higher fares per kilometre. As set out in Chapter 7: Connecting regional Australia, the PC will undertake a review of the determinants of regional airfares to identify opportunities to improve service levels, lower airfares, increase competition and enhance reliability.

Airline service quality has been low since the COVID-19 pandemic

Domestic airline service reliability has been consistently low since the COVID-19 pandemic. Over the 12 months to June 2024, on-time arrivals were significantly lower than the long-term average (72.5% versus 80.9%). Cancellations were significantly higher than the long-term average (3.4% versus 2.2%).⁷⁰ While these indicators have continued to recover, reliability remains just below the long-term average. The ACCC, in its submission to the Aviation White Paper, argued, '[t]he lack of competition and choice in the sector results in high prices, poor customer service (particularly poor communication), decreasing service quality, issues resolving disputes and obtaining redress, and a general lack of accountability'.⁷¹

Airports are natural monopolies with significant market power

Australia's capital city airports are natural monopolies, often with no effective substitutes available for the services they provide. Yet these airports are not regulated in the same way Australian governments regulate other monopoly infrastructure, including energy, utilities, communications and rail infrastructure.

Airports' status as natural monopolies create the risk that they will misuse their market power, ultimately to the detriment of consumers. This could include raising prices, lowering service standards or investing at inefficient levels – in ways that would not be in the commercial interests of businesses operating in a more competitive market.

The PC, in its 2019 Inquiry into the Economic Regulation of Airports, did not find evidence of systematic misuse of airports' market power but found that 'relatively high aeronautical charges for international services at Brisbane and Sydney Airports could be consistent with the exercise of market power'.⁷² It also 'identified gaps in the monitoring regime as it applies to car parking and landside access'.⁷³

69 O. Majeed, R. Breunig & A. Domazet, *How competition impacts prices: The Australian aviation sector*, Department of the Treasury website, Australian Government, August 2024.

70 Bureau of Infrastructure and Transport Research Economics (BITRE), *Domestic airline on time performance – June 2024*, BITRE website, Australian Government, June 2024.

71 Australian Competition and Consumer Commission (ACCC), *Submission in response to the Aviation Green Paper*, ACCC, 2023.

72 Productivity Commission (PC), *Economic Regulation of Airports – Inquiry Report*, PC, Australian Government, 2019.

73 PC, *Economic Regulation of Airports – Inquiry Report*, PC, Australian Government, 2019.

Ongoing monitoring and the collection of more detailed data is appropriate to support further analysis of airports' use of market power.

Airports negotiate commercially with airlines for the use of aeronautical infrastructure. Airport charges make up a significant proportion of airline costs and the fares paid by passengers (estimated by the ACCC at 10–12% of the average airfare).⁷⁴ The terms that airlines negotiate with airports can affect the range of routes and services the airlines choose to offer. The terms that new airlines are able to agree is also a factor in the rate of new entry into the market.

Australia's regional and rural airports are also natural monopolies; however, they are less likely to be able to exert market power.⁷⁵ Many regional passenger airports are serviced by a single airline and have relatively few passengers each year. Low demand for services means that operators of many regional airports are unable to cover operating costs, including security.⁷⁶ Some regional routes may have marginal profitability for the airlines, meaning that airlines may choose to withdraw services if airports increase charges. This limits those airports' negotiating power. Regional and rural airports (many of which are owned by local governments) have a strong economic incentive to keep charges at a reasonable level.

The role of the Australian Government

Since privatisation, the role of the Australian Government in aviation has been to ensure a stable regulatory environment that facilitates investment in aeronautical infrastructure. The Australian Government also regulates the sector to facilitate competition and growth in the private market, while ensuring appropriate safety, security, consumer, employment and environmental outcomes.

The Australian Government's view is that Australia's light-touch approach to the economic regulation of airports remains largely appropriate; however, further incremental reforms are warranted. Australia's regulatory approach has led to increased investment in airports over previous decades, lower airfares in real terms and increases in passenger numbers well above population growth. However, Australian airfares are higher than in many other developed economies, and low levels of competition in the sector is a key factor.

Natural monopoly characteristics, high barriers to entry and high levels of market concentration means there remains an important role for the Australian Government in overseeing the sector to ensure incumbent businesses do not misuse their scale and market power to the detriment of competition and consumers. The government's role includes:

- lowering barriers to entry into the market – for example, by ensuring that airlines do not retain movement slots they do not intend to use and that could be used by other airlines
- collecting and publishing data and information on the commercial activities of airlines and airports to enable public scrutiny and help identify any anti-competitive practices that may warrant a policy response
- periodically analysing and investigating competitive behaviour in the sector to determine whether regulatory settings remain appropriate.

74 Australian Competition and Consumer Commission (ACCC), *Airline competition in Australia – March 2022 report*, ACCC, Australian Government, 2022, p 3. This is an average estimate of the percentage of airfares made up by aeronautical charges; however, the percentage is likely to vary considerably between airports and airlines. For example, airport charges would likely constitute a higher proportion of an airfare on a short flight on a low-cost carrier, compared to a long international flight on a full-service airline.

75 Productivity Commission (PC), *Economic Regulation of Airports – Inquiry Report*, PC, Australian Government, 2019.

76 PC, *Economic Regulation of Airports – Inquiry Report*, PC, Australian Government, 2019.

4.1 Reforms to Sydney Airport slot arrangements

The Sydney Airport Demand Management (SADM) framework was put in place in 1997 to legislate a limit of 80 aircraft movements (take-offs and landings) per hour at Sydney Airport. The movement cap is a key part of the strategy to manage the impacts of aircraft noise on residents living near the airport. Under the SADM framework, a Slot Manager is appointed by the Australian Government to allocate movement slots to airlines, within the hourly cap. The process for allocating slots follows the Sydney Airport Slot Management Scheme 2013, made under the SADM framework.

A number of other Australian airports also operate slot management systems to allocate airport capacity, particularly during peak periods. These other airports operate within a global framework, primarily using the Worldwide Airport Slot Guidelines (WASG) as the basis for slot allocation. The WASG are jointly published by the International Air Transport Association, Airports Council International and the Worldwide Airport Coordinators Group. The SADM scheme is adapted for local conditions, leading to a number of differences from the WASG rules.

Stakeholders have argued that the Sydney Airport slot scheme creates perverse outcomes

Submissions to the Aviation White Paper claim that the design of the SADM scheme creates incentives for airlines to reserve more slots at Sydney Airport than they intend to use, which limits competition, imposes barriers to new entrants and results in higher rates of flight cancellation to the detriment of the travelling public. The perceived scarcity of slots, especially during peak periods, has also been identified as a barrier to airlines seeking to enter the Australian market or to compete on the busiest routes.

The submission from the ACCC argues that the SADM scheme allows airlines to reserve additional slots for strategic reasons, such as to prevent competitors' access to slots, resulting in inefficient slot use and diminished opportunities for increased competition. The submission from Canberra Airport notes that cancellation rates on the Canberra-Sydney route have been disproportionately high compared with other routes. It contends that this is because airlines schedule more flights to Sydney than they intend to operate in order to reserve slots that may otherwise be taken up by other airlines.

The Australian Government has adopted recommendations of the Harris Review

In 2021, Mr Peter Harris AO provided a report of the Harris Review to the government. The report recommended a range of reforms to the SADM framework to improve the operational efficiency of Sydney Airport, improve transparency of slot availability, increase scrutiny of slot misuse and increase priority for new entrants in slot allocation.

In February 2024, the Minister for Transport announced a substantial package of reforms to the SADM framework. Specific reforms include:

- temporarily allowing up to 85 movements in an hour to support the recovery of operations at the airport following a significant and sustained disruption, such as a severe weather event, for a maximum of 2 hours
- requiring additional reporting by airlines and the Slot Manager of slot allocation and use, including the reasons for cancellations or irregular slot movements and slots lost due to misuse or not meeting the 80:20 rule



- allowing operators of New South Wales regional services to access additional slots in more desirable peak times and allowing other airlines to use slots that had been reserved for regional New South Wales flights but were not being used
- providing flexibility for the Slot Manager to 're-time' certain slots to improve efficiency, with agreement of the relevant airlines
- allowing airlines greater flexibility to use different sized aircraft
- making the Minister responsible for development of the SADM, rather than the Slot Manager
- adopting international definitions of 'new entrants' to increase these operators' priority in slot allocation – with 'new entrants' to include airlines with fewer than 7 historical slots on a given day, up from fewer than 5
- adopting the WASG definition of 'slot misuse' to enable improved scrutiny and enforcement.

New governance arrangements for the Slot Manager will address perceived conflicts

The position of Sydney Airport Slot Manager is held by the company Airport Coordination Australia (ACA), which is jointly owned by Qantas, Virgin Australia, Sydney Airport and the Regional Aviation Association of Australia. Some submissions to the Aviation White Paper argue that the ownership arrangements for ACA may create a conflict of interest in its role in allocating slots between different airlines.

The Australian Government agrees that, as best practice, the governance arrangements for the Slot Manager (whose duties centre on allocating access to a critical piece of national infrastructure) should ensure no actual or perceived conflicts of interest affect the performance of its duties.

The Minister for Transport has announced that the Australian Government will conduct a competitive selection process for the appointment of the Slot Manager. The Australian Government will have regard to actual and perceived conflicts when selecting the Slot Manager .

A stronger compliance regime will be established to enforce the slot rules

The Australian Government will reform the compliance arrangements for Sydney slots by appointing independent members to the Compliance Committee and amending the regulations to:

- strengthen powers for monitoring of compliance, investigation of noncompliance and enforcement
- adopt clear requirements, based on WASG where possible, about slot misuse (such as holding slots without the intention to use them or failing to use a significant proportion of slots) to enable future allegations of slot misuse to be investigated and, if substantiated, enforcement action to be taken
- legislate new and updated penalties to incentivise good behaviour, including to address anti-competitive behaviours – for example, when operators request slots they do not intend to use
- transfer responsibility for the design and revision of the Compliance Framework to the government rather than the Compliance Committee
- provide for independent audits, with results published, to better detect and deter anti-competitive practice or slot misuse and enable increased public scrutiny.

The Australian Government will consult on the implementation of these reforms. In 2024, the government is also conducting an audit of slot use to inform the design of regulatory changes and improve transparency around slot allocation and use.



4.2 'Show cause' requirement to support competition through improved transparency

As set out in Chapter 3: A better passenger experience, as part of the new Aviation Industry Ombuds Scheme, the government will introduce a 'show cause' reporting requirement for delayed and cancelled flights. This will enable the ombuds scheme to monitor trends in aviation industry performance, provide information to consumers to inform their travel choices and sharpen incentives for airlines to address the sources of cancellations and delays within their control.

While reforms to the SADM framework will improve efficiency at Sydney Airport, elevated rates of cancellation and delay have been a persistent issue across Australia's domestic air network in recent years. Submissions to the Aviation White Paper pointed to various potential reasons, including inclement weather, airline staff shortages, air traffic controller shortages and supply chain disruptions for aircraft and components, as well as allegations of slot hoarding.

The 'show cause' requirement will support the ombuds scheme and the government to identify airlines that are cancelling or delaying flights for strategic reasons. This analysis will also inform future consideration by the PC of any further regulatory changes that may be warranted.

4.3 Enhanced monitoring of airlines and airports

The ACCC monitors and enforces compliance with Australia's competition and consumer laws for the benefit of consumers, businesses and the Australian community. To support strong competition and consumer outcomes, the ACCC actively monitors and reports on the level of competition in the economy through its market study and inquiries function.

The ACCC has been directed to actively monitor airline prices, costs and profits

On 6 November 2023, the Treasurer issued a direction to the ACCC under section 95ZE(1) of the *Competition and Consumer Act 2010* (Cth) to monitor prices, costs and profits relating to the supply of domestic air passenger transport services. The monitoring provides important scrutiny to help ensure airlines compete on their merits and brings to light any inappropriate market conduct should it occur.

The first report under the monitoring direction was released in February 2024, which found the domestic airline industry is stabilising following COVID-era volatility and an uneven period of recovery. Aviation activity is largely back to pre-COVID levels. Post-pandemic, there has been more leisure travel and less corporate travel. Domestic travellers have more choice of airlines on some routes but face less reliable services.

The report also found that, during 2023, airfares had reduced following record highs in late 2022. In December 2023, average airfares were 13.4% lower in real terms compared to December 2022 and 1.4% lower compared to December 2019, before the pandemic. However, the cost of air travel, as experienced by passengers, is higher in December 2023 in line with broader inflationary trends.



The Australian Government will enhance ACCC data collection and monitoring at Sydney, Melbourne, Brisbane, Perth and Western Sydney airports

The ACCC has an ongoing direction to monitor prices, costs, profits and quality of service at Sydney, Melbourne, Brisbane and Perth airports. Western Sydney Airport will be brought into the monitoring regime at an appropriate time.

The ACCC produces annual reports on these airports' performance that help to identify where service quality or price competitiveness may have deteriorated. The results of quality of service monitoring vary from year to year but typically remain stable in the 'Good' rating.

In its 2019 inquiry report, *Economic regulation of airports*, the PC recommended that the Australian Government amend Part 7 of the Airports Regulations 1997 to require monitored airports, in addition to current requirements, to provide the ACCC with more detailed information in relation to passenger numbers; the breakdown of costs and revenues in relation to the provision of aeronautical and other services; and the methodologies airports use to allocate those costs to specific services.

The Australian Government asked the ACCC to identify any information that might be needed to give effect to these recommendations. The ACCC consulted airports on potential additional data that could be collected to improve its monitoring activities. In May 2023, it recommended that the Airports Regulations be amended to require the airports to maintain records of, and report to the ACCC on, disaggregated data and detailed cost allocation methodologies for aeronautical, car parking and landside access services. The ACCC also recommended that the set of quality of service indicators that airports must report on be revised to better reflect contemporary consumer expectations.

The Australian Government will amend the Airports Regulations to require additional data collection and reporting, subject to confirmation, through a cost-benefit analysis process, that the cost to airports is proportionate.

The additional public information about airport financial performance and service quality will provide a range of benefits, including enhanced public scrutiny and better informed pricing negotiations between airports and airlines. The next PC inquiry into the economic regulation of airports will consider the ACCC's findings on these issues and will be asked to advise the government on whether a negotiate-arbitrate regime should be implemented for aeronautical pricing agreements.

4.4 An improved process for pricing negotiations between airlines and airports

Unlike many other types of natural monopoly infrastructure in Australia, the Australian Government generally does not regulate the prices that major airports can charge for use of their infrastructure, although head leases ultimately prevent Leased Federal Airports from turning operators away. Aeronautical charges, such as movement charges and terminal usages fees, are commercially negotiated between airlines and airports with reference to non-binding APPs established by the Australian Government in the early 2000s.

In recent years, pricing negotiations between some airlines and airports have been protracted, and this creates risks of delayed investment in aviation infrastructure necessary to meet forecast air transport demand. Submissions to the Aviation White Paper from several airlines argued that the Australian Government should impose additional regulation, either to mandate that the APPs must be used when negotiating prices or to require that pricing negotiations be resolved through mediation or arbitration when the parties cannot agree terms.

The Australian Government will consider options for ACCC monitoring of the conduct of aeronautical pricing negotiations between airlines and major airports and task the PC with advising the government on this issue as part of its next inquiry into the economic regulation of airports.

The existing regulatory framework has overseen significant investment and expansion at Australian airports

Since privatisation of major airports in the late 1990s and early 2000s, the Australian Government has maintained a policy of 'light-touch' economic regulation of airports. Under this policy framework, investment at airports has increased significantly, with new runways and terminals providing substantial increases in capacity to the benefit of consumers. A 2023 report by Deloitte Access Economics for the Australian Airports Association estimates that, across the past 3 years, Australia's major airports⁷⁷ averaged \$210 million in capital investment.⁷⁸ The report estimates that, nationally in 2022, Australian airports contributed \$105 billion to the economy and supported 690,000 full-time jobs.

The current light-touch approach to economic regulation of airports comprises:

- head leases for the 22 Leased Federal Airports, which oblige airports not to deny access to aviation users
- price and quality of service monitoring of Sydney, Melbourne, Brisbane and Perth airports by the ACCC, which will be expanded to include Western Sydney Airport at an appropriate time, with second-tier airports also providing voluntary self-reported monitoring
- periodic reviews of the economic regulation of airports by the PC
- a set of non-binding APPs to guide pricing negotiations between airports and airlines
- price notifications under the *Competition and Consumer Act 2010* for regional air services operating into Sydney Airport, which will be expanded to include Western Sydney Airport at an appropriate time
- the possibility of the Australian Government exercising its various powers to increase airport regulation if airports are found to consistently exercise their market power to the detriment of consumers. This could include declaration under the National Access Regime, institution of price inquiries and additional price notifications under the Competition and Consumer Act.

This framework provides transparency over airport performance, a set of regulatory levers for the Australian Government to use should it consider that an airport is exercising market power and periodic in-depth reviews to assess whether the regulatory regime remains fit for purpose. The framework also sets out expectations for how commercial negotiations for use of aeronautical infrastructure should be conducted.

⁷⁷ This includes all state and territory capital airports as well as Cairns and Gold Coast airports.

⁷⁸ Deloitte Access Economics, *Taking Flight: The economic and social contribution of Australia's airport*, report to the Australian Airports Association (AAA), Deloitte Access Economics, 2023.

The Australian Government will update the Aeronautical Pricing Principles

The APPs provide a voluntary high-level framework to guide pricing negotiations between airports and airlines. Among other things, the APPs provide that prices should be set to generate an appropriate rate of return on capital, that agreements should incentivise cost reduction and productivity enhancement, that risks and returns should be shared appropriately between airports and airlines and that negotiations should be conducted in good faith with transparent information.

The Australian Government will consult on the inclusion of the following additional APPs:

- that pricing agreements between airports and airlines should not contain anti-competitive clauses, including clauses that limit airports' ability to offer more favourable terms to another airline
- that airports should provide such information and data to airlines as necessary to ensure transparent pricing negotiations, including:
- detailed disaggregated data about airport revenues, costs and assets
- methodology for how costs and revenues are allocated to different line items.

The proposed revised APPs are listed in Box 2. Following a consultation process, revised APPs will be published on the department's website. The proposed new APPs do not prohibit price discrimination where it aids efficiency but are designed to protect against price discrimination that could damage competition or act as a barrier to new entry. The changes are primarily designed to discourage incumbent airlines from using their negotiating power to limit the entry or expansion of other airlines and to reduce information asymmetries in negotiations that could lead to inefficient outcomes.

The government will consider options for the ACCC to monitor the conduct of pricing negotiations between airlines and major airports

While the government does not consider that mandating the APPs is necessary at this time, it will consider options for the ACCC to monitor the conduct of aeronautical pricing negotiations at Sydney, Brisbane, Melbourne, Perth and Western Sydney airports as part of its ongoing airport monitoring role. This additional ACCC monitoring would expand the evidence base available to PC for its next inquiry into the economic regulation of airports.

The Australian Government will not hesitate to impose more prescriptive regulation on airport pricing if it is identified that airports are systematically misusing their market power.

4.5 The next Productivity Commission inquiry into the economic regulation of airports

Periodic PC inquiries into the economic regulation of airports are a feature of the Australian Government's light-touch regulatory approach. The expectation that major airports' competitive conduct will be periodically assessed to consider whether additional regulation is required provides an incentive for airports not to misuse market power.

Building on the issues considered through the Aviation White Paper process, and drawing on the additional information to be collected by the ACCC, the next PC inquiry will be asked to advise the government on whether a negotiate-arbitrate regime should be adopted for aeronautical pricing agreements.

The government is yet to decide when the next PC inquiry into the economic regulation of airports will be conducted. It is appropriate that sufficient time be provided for implementation of Aviation White Paper policies, and for the effects of those policies to be evident, before conducting the next inquiry.

Aviation White Paper submissions and advice from the Competition Taskforce in the Treasury identified a range of reform options that the government will refer to the PC for consideration in its next inquiry into the economic regulation of airports:

- the effectiveness of the current light-touch regulatory framework where there are significant imbalances of market power – including between large airports and smaller airlines and between small airports and larger airlines
- whether the current regulatory framework allows large airlines to unduly delay beneficial expansions of airport infrastructure, which would provide additional capacity that could be used by competitors
- whether a hybrid-till model that captures all aeronautical-related revenue and expenditure would be a more appropriate basis for determining whether airports are recovering their reasonable costs of operation, either on a standalone basis or alongside a dual-till model
- the merits of a stricter ‘use it or lose it’ rule for slots used by domestic services
- potential competition benefits of limiting the period for which slots used for domestic flights can be ‘grandfathered’.

4.6 Additional collection and reporting of airline competition data

The Australian Government will consider regulatory amendments to enable collection and reporting of additional data about airline performance and competition.

Under the Air Navigation Regulation 2016, the government (through BITRE) collects extensive data from airlines, including detailed passenger and freight traffic data, by air route and airport. This data collection enables BITRE’s role in providing economic analysis, research and statistics to inform the Australian Government’s aviation policy.

Under the Air Navigation Regulation 2016, BITRE is restricted from publishing or disclosing the information collected in a way that allows individual responses to be identified, with limited exceptions. These restrictions prevent publication that would support greater transparency of airline performance and competition outcomes.

While some restrictions on publication may be warranted for privacy and commercial reasons, the Australian Government will consider regulatory amendments to allow more airline data to be shared and published. The Air Navigation Regulation will sunset on 1 April 2026 and new regulations will be required from 2 April. The Australian Government will consult on amendments through the process of remaking the regulations.

In conjunction with the proposed regulatory changes, BITRE will develop and report on additional aviation competition indicators to monitor trends in the sector. For example, indicators could include:

- the number of domestic routes served by each airline
- the average number of airlines operating on routes
- the share of seats operated by LCCs.

This additional data collection and reporting will increase transparency of competition outcomes, inform analysis of aviation productivity and consumer outcomes and support future policy development.



4.7 Review of Australian Government procurement policies for official travel and airfares

The Australian Government is a major airline customer, with government employees required to travel across Australia and internationally to conduct government business.

Australian Government employees are subject to domestic and international travel policies, which require selection of the cheapest and most practical fare that meets their business needs (Lowest Practical Fare). Some Aviation White Paper submissions suggested that Australian Government travel policies may not include adequate protections to prevent government employees from preferencing certain airlines when booking travel. This could have negative implications for airline competition.

The Department of Finance will conduct a review in 2024 to consider whether current travel policies remain fit for purpose.



Box 2: Proposed revised Aeronautical Pricing Principles

The pricing principles relating to prices for aeronautical services and facilities (as defined in Part 4 of the Airports Regulations 2024) provided by airports are:

- that prices should:
 - be set so as to generate expected revenue for a service or services that is at least sufficient to meet the efficient costs of providing the service or services
 - include a return on investment in tangible (non-current) aeronautical assets, commensurate with the regulatory and commercial risks involved and in accordance with these pricing principles
- that pricing regimes should provide incentives to reduce costs or otherwise improve productivity
- that prices (including service level specifications and any associated terms and conditions of access to aeronautical services) should:
 - be established through commercial negotiations undertaken in good faith, with open and transparent information exchange between the airports and their customers and utilising processes for resolving disputes in a commercial manner (for example, independent commercial mediation/binding arbitration)
 - reflect a reasonable sharing of risks and returns, as agreed between airports and their customers (including risks and returns relating to changes in passenger traffic or productivity improvements resulting in over or under recovery of agreed allowable aeronautical revenue)
- that price structures should:
 - allow multi-part pricing and price discrimination when it aids efficiency (including the efficient development of aeronautical services)
 - notwithstanding the cross-ownership restrictions in the *Airports Act 1996*, not allow a vertically integrated service provider to set terms and conditions that discriminate in favour of its downstream operations, except to the extent that the cost of providing access to other operators is higher
- that service-level outcomes for aeronautical services provided by the airport operators should be consistent with users' reasonable expectations
- that aeronautical asset revaluations by airports should not generally provide a basis for higher aeronautical prices, unless customers agree
- that at airports with significant capacity constraints, peak period pricing is allowed where necessary to efficiently manage demand and promote efficient investment in and use of airport infrastructure, consistent with these Principles

Proposed additional principles are:

- that pricing agreements between airports and airlines should not contain anticompetitive clauses, including clauses that limit airports from offering more favourable terms to another airline
- that airports should provide such information and data to airlines as necessary to ensure transparent pricing negotiations, including:
 - detailed disaggregated data about airport revenues, costs and assets
 - methodology for how costs and revenues are allocated to different line items.



A skilled, secure and productive aviation workforce







The Australian Government's vision is for a diverse and skilled aviation workforce – supported by clear training pathways, fair working conditions and secure jobs – to enable a productive and dynamic Australian aviation sector.

The Australian Government's 2022 Secure Jobs, Better Pay reforms limited the use of fixed term contracts, strengthened equal pay provisions, improved access to flexible working arrangements, and modernised the bargaining system to lift wages and productivity. The 2023 and 2024 Closing Loopholes reforms sought to address behaviours that undermine pay, security and safety for workers, including allowing the Fair Work Commission to make orders to ensure labour hire employees earn at least the same as directly hired employees, and ensuring a practical definition of casual employment with a clear pathway to secure work. The Government will continue to engage closely with unions and advocates to support safety and job security for workers in the industry.

Training and licensing arrangements for aircraft maintenance engineers are being streamlined to help address a critical skills shortage in the sector. The Australian Government will set expectations for large Australian airlines to support a sustainable domestic pipeline of pilots.

The Australian Government and industry are working together with education and training providers, through Jobs and Skills Councils (JSCs), to plan for future skills and workforce needs – including to support the expected uptake of drones, advanced air mobility and low emissions technologies and fuel.

Around two-thirds of people employed in the aviation sector are men, with an even higher gender imbalance in many operational and technical roles. The Australian Government is investing to promote aviation careers to women. Employers in the sector will be asked to sign up to a Gender Equity Charter for Aviation, committing to targets for the employment women in senior and operational roles and elimination of gender pay gaps.

Building on its plan for a dynamic and inclusive labour market, as set out in the 2023 Employment White Paper Working Future, the Australian Government has closed the labour hire loophole to support secure and fair paid jobs for aviation workers.

How we will deliver

To position Australia's aviation workforce to meet the needs of the sector, now and to 2050, the Australian Government will:

- **Streamline training and accreditation pathways** for licenced aviation maintenance engineers (LAMEs), including:
 - **Allowing for modular licensing of LAMEs.** Aircraft maintenance engineers can now be licenced by the Civil Aviation Safety Authority (CASA) for specific competencies relevant to their careers, without having to complete the full LAME examination process.
 - **Recognition of licences from overseas authorities** with similar standards and requirements. CASA already recognises aviation maintenance engineer licences issued by the Civil Aviation Authority of New Zealand. By the end of 2025, CASA will adopt a framework for recognition of licences issued by civil aviation authorities in nations that apply regulations that are equivalent to those applied by CASA. Engineers licenced by these authorities will still be required to pass exams on Australian aviation law to be licenced by CASA.
 - **Improving alignment between CASA licensing and vocational education and training (VET) qualifications.** The Manufacturing JSC, Manufacturing Industry Skills Alliance, has established an Aviation Working Group with representation from industry, unions, training providers and CASA to recommend changes to the Certificate IV in Aeroskills to provide graduates with a more direct pathway to CASA licensing. The initial scoping project will report later in 2024.
- **Set expectations for large Australian airlines to train and employ newly qualified pilots,** rather than relying solely on recruiting experienced pilots from other aviation businesses. The Minister for Transport has written to Qantas and Virgin Australia asking them to advise how they will increase pilot training and early career development to support a sustainable pipeline of Australian pilots. If the airlines fail to put in place appropriate arrangements, the Australian Government will consider other options, which could include a levy on large Australian airlines to fund pilot training programs and cadetships.
- **Establish a new Gender Equity Charter with the aviation industry.** The Australian Government will partner with the aviation industry and unions to commit to employment targets for women in senior and operational roles and elimination of gender pay gaps, as well as improving policies and practices to support traditionally feminised sections of the aviation industry. Charter members will report publicly on progress against charter commitments. Charter membership will be a consideration in the awarding of some Australian Government aviation sector grants funding.
- **Plan for the future workforce needs of the aviation sector.** The Transport and Logistics JSC has published an Initial Workforce Plan for operational personnel (including pilots, cabin crew and air traffic controllers) and the Manufacturing JSC, Manufacturing Industry Skills Alliance, will undertake planning for the aircraft maintenance workforce. These plans will identify aviation skills and set out training priorities, including support for decarbonisation and the rollout of new technologies. They will inform future work by the respective JSCs to align training courses with industry needs.



These measures will complement recent Australian Government initiatives to improve job security, wages and working conditions for aviation workers and address skills shortages:

- the \$8 million **Women in the Aviation Industry Initiative**, which promotes aviation careers to women and girls and addresses employment barriers.
- the Australian Government's 2023 **Migration Strategy** will make it easier for Australian businesses to recruit skilled workers from overseas to address skills shortages, through a new Skills in Demand visa. The Skills in Demand visa includes a new Specialist Skills pathway for highly skilled workers and a new Core Skills pathway for occupations identified as in shortage.

The need for action

A skilled and responsive aviation workforce is a critical enabler of a growing aviation sector and a strong Australian economy.

Employment in the aviation sector⁷⁹ fell significantly during the COVID-19 pandemic, declining by around 40% by May 2020⁸⁰ (Figure 8). However, employment in the sector had returned to pre-COVID levels by August 2023, and significant employment growth is expected in coming years to meet the forecast increase in demand for aviation services.⁸¹

The aviation industry faces shortages of key workers – including pilots, flight instructors, aviation maintenance engineers (AMEs), aeronautical engineers, cabin crew, security screening personnel, baggage handlers and air traffic controllers⁸² – which could hold back the medium-term growth of the industry. The shortage of air traffic controllers, exacerbated by a retirement incentive scheme, is already impacting service delivery by Airservices Australia. As identified in *Working future: the Australian Government's white paper on jobs and opportunities* (2023), persistent workforce shortages are a key risk to Australia's long-term productivity and economic growth.⁸³

Efforts to reduce operating costs and improve profits such as the use of outsourcing and labour hire arrangements, and the illegal sacking of almost 1,700 ground handlers by Qantas in 2020, have meant that parts of Australia's aviation workforce have seen their wages and conditions eroded.⁸⁴ Aviation businesses like Qantas need to rebuild the trust of their workforces. At a time of historically low unemployment (4.1% in June 2024, seasonally adjusted), Aviation White Paper submissions argue that less attractive wages and conditions in aviation, compared with other sectors, have made it difficult for the industry to recruit to meet increasing demand.⁸⁵

The need to seek alternative employment during the COVID-19 crisis exposed aviation workers to other options, with higher pay or better working conditions. The aviation industry needs to work to make employment in the sector attractive again.

79 The 'air and space' sector of the economy, as defined by the Australian Bureau of Statistics (ABS).

80 ABS, *Labour Force, Australia, Detailed*, ABS website, Australian Government, June 2024.

81 Bureau of Infrastructure and Transport Research Economics, forthcoming.

82 Industry Skills Australia (ISA), *Aviation industry 2023 initial workforce plan*, ISA, n.d.; Jobs and Skills Australia (JSA), *Skills Priority List*, JSA website, Australian Government, n.d.

83 Department of the Treasury (Treasury), *Working future: the Australian Government's white paper on jobs and opportunities*, Treasury, Australian Government, 2023.

84 E. Visontay, 'Qantas vows to go to high court after losing appeal over unlawful baggage handler sackings', *The Guardian* website, 4 May 2022.

85 ABS, *Labour Force, Australia, Detailed*, ABS website, Australian Government, June 2024.

Figure 7: Australia's aviation workforce



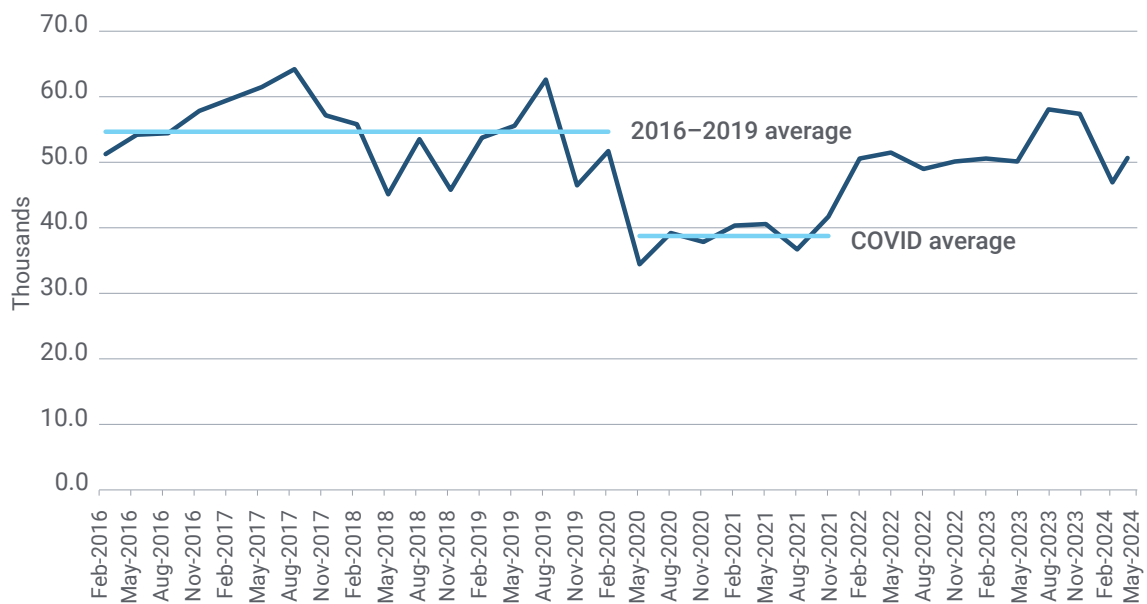
COVID-19 had a devastating impact on aviation employment, but the workforce has rebounded strongly

The COVID-19 pandemic was an unprecedented crisis for aviation, in Australia and globally. It is estimated that 2.3 million jobs were lost worldwide across airlines, airports and civil aerospace groups following the outbreak of the pandemic in early 2020.⁸⁶

In Australia, approximately one-third of aviation workers left the sector during the pandemic, with many skilled workers moving into other industries or retiring.

Prior to the COVID-19 pandemic, the number of people employed in the aviation sector⁸⁷ averaged around 55,000.⁸⁸ This fell to around 35,000 during the period of lockdowns and travel restrictions between early 2020 and the end of 2021, but employment had recovered to pre-pandemic levels by August 2023 and in May 2024 was estimated at 50,900 (Figure 8).

Figure 8: Aviation sector employment 2016–2023⁸⁹



While these figures include workers employed directly in the air and space transport sector, there are estimates that the number of Australian workers involved in aviation has been upwards of 90,000.⁹⁰ This figure includes people working in aviation occupations but employed in other sectors of the economy, such as agriculture or mining.

⁸⁶ N. Fearn, 'Aerospace industry grounded by lost jobs and lack of staff', *Financial Times* website, 20 July 2022.

⁸⁷ The 'air and space' sector of the economy, as defined by the Australian Bureau of Statistics (ABS).

⁸⁸ ABS labour force figure is based on average employment in the air and space sector 2016–2019.

⁸⁹ ABS, *Labour Force, Australia, Detailed*, ABS website, Australian Government, June 2024.

⁹⁰ Department of Infrastructure, Transport, Regional Development, Communications and Arts (DITRDCA), *The future of Australia's aviation sector – flying to recovery (issues paper)*, DITRDCA, Australian Government, 2020.

The aviation sector also supports Australia's broader visitor economy workforce, including in tourism and travel services. Prior to the pandemic, the visitor economy employed more than one million people directly and indirectly, including around 700,000 in the tourism sector. Tourism jobs almost halved during COVID-19, but in the December quarter of 2023 the number had recovered to 626,400⁹¹ – 10.6% lower than the pre-pandemic peak. Without aviation, there is no visitor economy.

Further strong growth is expected to 2050

As discussed in Chapter 2: Australia's aviation sector to 2050, the Bureau of Infrastructure and Transport Research Economics (BITRE) forecasts that Australian aviation activity will expand significantly in the period to 2050, with the number of domestic and international passengers expected to double (subject to decarbonisation constraints, as per Chapter 2). Australia's national visitor economy strategy, THRIVE 2030 (The Re-Imagined Visitor Economy), sets a target of \$230 billion for total visitor expenditure by 2030, which would require a significant increase in the aviation workforce. Boeing has estimated that 39,000 new aviation personnel will be needed in Oceania by 2043.⁹²

Strong growth is also expected globally, meaning that Australia's aviation sector will face global competition for skills. Globally, industry organisations expect passenger numbers will reach 119% of pre-COVID levels in 2025 and 124% in the Asia-Pacific region.⁹³ The International Air Transport Association projects a 3.4% annual passenger growth globally to 2040 and a 4.5% growth in the Asia-Pacific.⁹⁴ By 2042, Boeing predicts that the global aviation sector will require an additional 649,000 pilots, 690,000 aviation technicians and 938,000 cabin crew.⁹⁵ While we need to acknowledge these forecasts, the impact of decarbonisation on the sector's trajectory is a significant unknown.

The Department of Defence and defence-related industries' demands for pilots, engineers and air traffic controllers are increasing and exceeding supply. As Australia's largest training organisation for fixed and rotary wing pilots, pilot instructors and aircraft maintenance engineers, Defence's increasing demands will further exacerbate future skilled aviation workforce challenges in Australian civil aviation.

Australia is experiencing aviation skills shortages

With aviation demand returning strongly following the lifting of COVID-19 travel restrictions, stakeholders have reported difficulties filling roles and bringing back capacity.

Aviation is a cyclical industry, with demand in the sector closely linked to economic conditions.⁹⁶ Because of long lead times to develop and accredit certain aviation professionals – including the requirement for significant hours of experience for pilots and flight instructors – aviation can experience labour shortages during growth periods.

The Australian aviation sector is experiencing this currently. In April and September 2023 and in February 2024, Rex announced it would reduce flights to some regional destinations and suspend others,⁹⁷ citing pilot shortages. Aviation White Paper submissions from other airlines, and a wide range of industry participants, stated that shortages of aviation professionals – particularly pilots and of engineers – are becoming worse right across the sector, especially in regional areas, forcing aviation businesses to reduce services.

91 Australian Bureau of Statistics (ABS), *Tourism satellite accounts: quarterly tourism labour statistics*, ABS website, Australian Government, December 2023.

92 Boeing, *Pilot and technician outlook 2023–2042*, Boeing website, June 2023.

93 International Air Transport Association (IATA), *Global Outlook for Air Transport: A local sweet spot*, IATA, 2023.

94 IATA, *Global outlook for air transport: a local sweet spot*, IATA, 2023.

95 Boeing, *Pilot and technician outlook 2023–2042*, Boeing website, June 2023.

96 Expert Panel on Aviation Skills and Training, *Report of the Expert Panel on Aviation Skills and Training*, report to the Australian Government Department of Infrastructure, Transport, Regional Development, Communications and Arts (DITRDCA), 2018.

97 Rex Airlines, *Rex to make more reductions to its regional network* [media release], Rex Airlines, 22 September 2023.

Data from Jobs and Skills Australia (JSA) shows that job vacancies for air transport professionals (which includes pilots and air traffic controllers) have more than tripled since 2019 and remain well above longer term averages (Figure 9).⁹⁸

In 2023, JSA identified the following aviation occupations as in shortage nationally:⁹⁹

- aircraft maintenance engineers: avionics, mechanical and structures (in shortage in all states and territories)
- aircraft baggage handler and airline ground crew (in shortage in all states and territories)
- flight attendants (in shortage in all states and territories except Western Australia)
- aeroplane pilots (in shortage in all states and territories except Queensland, where pilots are identified as in shortage only in regional areas)
- flying instructors (in shortage in all states and territories except Tasmania, the Northern Territory and the Australian Capital Territory).

Airservices Australia also has a critical shortage of air traffic controllers

The Australian Government owned air navigation service provider, Airservices Australia, has experienced staff shortages since the COVID reopening, including among air traffic controllers and Aviation Rescue and Fire Fighting Service workers. These shortages have contributed to a significant number of flight delays and cancellations – for example, in December 2023, 16% of all delay minutes and 6.5% of arrival cancellations were attributable to Airservices Australia. In June 2024, this had improved to 0.8% of delay minutes and 0.3% of arrival cancellations.¹⁰⁰

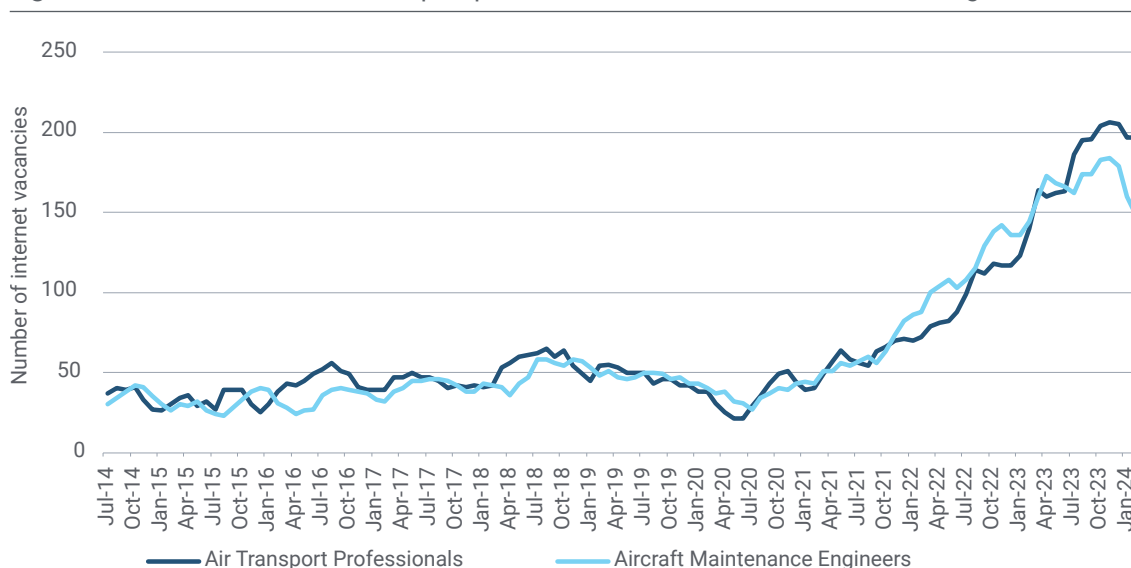
Staff shortages at Airservices Australia have been compounded by the implementation of a retirement incentive scheme during the COVID-19 pandemic and increased rates of absences due to illness following the pandemic, with sick leave for air traffic controllers increasing from an annual average of 13 days before the pandemic to an average of 18 days.

Airservices Australia is working to recruit an additional 80 to 140 trainee air traffic controllers each year to help address staff shortages and is considering changes to its operating model to allow for more flexibility in deploying employees to different roles during staff absences.

98 Jobs and Skills Australia (JSA), *Internet Vacancy Index*, JSA website, Australian Government, September 2023.

99 JSA, *Skills Priority List*, JSA website, Australian Government, n.d. The Core Skills Occupation List has not yet been determined.

100 Airservices Australia, *Australian Aviation Network Overview Financial Year 2024*, Airservices Australia website, Australian Government, June 2024.

Figure 9: Job vacancies for air transport professionals and aviation maintenance engineers¹⁰¹

Skills shortages can have a disproportionate impact on General Aviation

In Australia, General Aviation (GA) has been relied upon as the training ground for many pilots and engineers, supporting the future aviation workforce to develop the skills and experience needed for a career in aviation.

Shortages of pilots and engineers often have the greatest impact on GA businesses. This is because major airlines, and other large companies that offer higher wages, tend to attract workers away from smaller businesses during skills shortages. Aviation White Paper submissions note that this can cause many GA businesses, especially in regional areas, to reduce services or cease operations – which has implications for regional connectivity and service delivery.

Working as a flight instructor in GA has historically been a step in many pilots' early careers. They do this to gain hours of experience before moving on to fly larger commercial aircraft. The current demand for commercial pilots has seen some pilots make this transition earlier or skip the step altogether. A decline in the number of flight instructors has the potential to compound pilot shortages by reducing the sector's capacity to train new recruits.

Automation is not expected to reduce demand for pilots in the near term

Automation technologies are not expected to replace human pilots in the foreseeable future. Proposals from aircraft manufacturers to use automation technology to reduce flight crew numbers have received pushback from the airline industry due to safety concerns. Future uptake will also require acceptance by the travelling public.¹⁰²

¹⁰¹ Jobs and Skills Australia (JSA), *Internet Vacancy Index January 2024*, Occupations, States and Territories (ANZCO04), 3 month rolling average, Air transport professionals (ANZSCO 2311) and aircraft maintenance engineers (ANZSCO 3231), JSA website, Australian Government, January 2024.

¹⁰² L.E.K. Consulting, *Aviation White Paper: Scenario Analysis of the Future of Australian Aviation*, report to the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), L.E.K. Consulting, 2023.

International regulators are assessing the safety risks associated with extended minimum crew operations (eMCO) and single pilot operations (SiPO) systems,¹⁰³ which may present options to reduce pilot ratios in the medium term. eMCO involves a crew of 2 pilots (instead of the current 3 or 4 on long-haul flights), both controlling the aircraft during take-off and landing but with only a single pilot required to remain at the controls during cruise phases, supported by technology. SiPO involves a single onboard pilot for all phases of flight, with a higher level of support from technology. Completely uncrewed flights are likely to be decades away from public acceptance on conventional passenger flights,¹⁰⁴ if ever.

Autonomous flight systems are being used for drones and other new aviation technologies, as discussed in Chapter 11: Enabling new aviation technologies. These new applications are expected to generate additional jobs in the aviation sector. Analysis by Deloitte Access Economics finds that drones and advanced air mobility could generate over 10,000 Australian jobs by 2040.¹⁰⁵

The role of the Australian Government

The Australian Government's primary role in relation to the aviation workforce is to regulate training and licensing of aviation professionals. The Australian Government does this to ensure professionals in the sector have the required skills and experience to deliver safe and secure aviation services that meet Australia's needs. The Australian Government will simplify training, licensing and accreditation pathways for aviation workers to reduce barriers to entry in the sector, without compromising safety standards.

The *Fair Work Act 2009* sets minimum employment standards and conditions. These are supported by the independent Fair Work Commission, which sets minimum wages through its Annual Wage Review and additional industry and occupation conditions through modern awards. The Australian Government also controls Australia's migration settings, which can support Australian business to access workers from overseas during local skills shortages.

The Australian Government has a role in addressing gaps in available information and about training and employment opportunities and incomplete industry understanding of long-term skills needs. The Australian Government will take steps to provide clear information about aviation training and employment pathways so that prospective workers can make informed career decisions. The Australian Government will also work with the sector to identify and plan for future skills and workforce needs so that Australia's future aviation workers are equipped for change in the sector, including the rollout of new automated and low emission technologies.

State and territory governments also have an important role in delivering education and training for the aviation sector, including through the VET system. The Australian Government works with states and territories through the National Skills Agreement to ensure the VET system provides high-quality, responsive and accessible education and training.

103 European Union Aviation Safety Agency (EASA), *eMCO-SiPO – Extended Minimum Crew Operations – Single Pilot Operations – Safety Risk Assessment Framework*, EASA website, n.d.

104 L.E.K. Consulting, *Aviation White Paper: Scenario Analysis of the Future of Australian Aviation*, report to the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), L.E.K. Consulting, 2023.

105 Deloitte Access Economics (DAE), *Economic benefit analysis of drones in Australia*, report to the Department of Infrastructure, Transport, Regional Development and Communications (DITRDCA), DAE, 2020.

5.1 Planning for the future aviation workforce and increasing awareness of aviation careers

Australia's aviation sector will change significantly in the period to 2050.

The transition to net zero emissions will bring about one of the most significant shifts in Australia's economy, including in aviation, since the Industrial Revolution. Advances in aviation technology, including the widespread use of drones and advanced air mobility, will also reshape the industry and boost productivity.

These changes will shift the demand for particular skills and amplify global competition for certain expertise. Australia's ability to meet the changing demand for aviation skills will be important if we are to take advantage of the new economic opportunities.

Strong demand is also expected for many conventional aviation jobs, which are currently experiencing skills shortages. Aviation White Paper submissions suggest that poor awareness of aviation careers, perceptions of poor working conditions and a lack of information about training and career pathways are barriers to recruiting workers in this sector.

Jobs and Skills Councils are planning for future skills needs of the aviation sector

JSCs develop an Annual Workforce Plan for their industry sectors. The Transport and Logistics JSC, Industry Skills Australia, produced an Initial Workforce Plan for Australia's aviation industry in December 2023.

Priorities identified in the Workforce Plan will inform work by the JSC to develop and revise VET training modules for the aviation industry and identify focus areas for the JSC's research and analysis. The Workforce Plan will be updated each year, in consultation with governments, regulators, industry and the training sector.

The 2023 Workforce Plan describes economy-wide trends, including decarbonisation and automation, and how these are expected to affect future skills needs in the aviation sector. It analyses key trends and barriers in the aviation sector, including skills shortages, high training costs, VET training packages that are misaligned to industry needs, and issues with licensing and qualifications.

The JSC is also currently conducting stakeholder consultation and further research to examine in more detail the workforce and skills implications of:

- automation and other new technologies that are transforming the aviation industry
- sustainable aviation fuel and alternative aviation fuels – in consultation with JSA's Clean Energy Capacity Study.¹⁰⁶

Collaboration on this analytical work will involve the Manufacturing JSC, CASA, Airservices Australia, the Commonwealth Scientific and Industrial Research Organisation (CSIRO), industry, unions and training organisations. It will inform the JSC's future planning for aviation skills and training requirements.

¹⁰⁶ Job Skills Australia (JSA), *Clean Energy Capacity Study*, JSA website, Australian Government, n.d.

Poor perceptions of aviation sector jobs are a barrier to recruitment

Australia currently has a low unemployment rate of 4.1% and a high participation rate of 66.9%.¹⁰⁷ This tight labour market creates challenges for all sectors to attract enough skilled workers.

Aviation White Paper submissions describe particular challenges in attracting and retaining staff in the aviation sector. This is partly attributed to perceptions about poor industry working conditions and a lack of long-term career opportunities. These challenges are especially acute in occupations involving long working hours, outdoor work in all weather conditions, physically demanding work, shift work and work far from home.

At the same time, aviation offers a diversity of careers, many of which go largely unseen by the travelling public. As well as pilots and cabin crew, there are aircraft engineers, other engineers and technicians, air traffic controllers, customer service agents, refuellers, baggage handlers, caterers, other ground services, instructors, regulators, management, and finance and administration professionals (see Figure 7).

Aviation White Paper submissions highlighted a lack of career visibility and unclear training and employment pathways as key barriers to young people pursuing an aviation career. Submissions also suggested that the aviation sector does less to promote aviation careers to high school and higher education students than other sectors.

5.2 Improving licensing outcomes for aircraft engineers

AMEs are responsible for conducting the physical maintenance of aircraft – including the inspection and repair of engines and other aircraft components. LAMEs are licenced by CASA to check, or direct the checking of, the condition of the aircraft engine and other components and certify that repairs are completed correctly and that the aircraft is safe to fly. Having sufficient numbers of AMEs and LAMEs available across Australia is critical for a strong and diverse aviation industry.

Aviation White Paper submissions highlight that Australia currently has an acute shortage of LAMEs, which is holding back the growth of the sector. JSA has found that LAMEs were in shortage across all Australian states and territories in 2023.¹⁰⁸ With an average age of over 50 years, many current LAMEs are likely to retire in the next decade, adding to the existing shortage.

The supply of new LAMEs is not keeping pace. Since 2014–15, the number of licences issued to new LAMEs has fallen significantly, from an average of over 300 per year to around 130 (Figure 10). This coincides with the transition from the previous licensing regime under Civil Aviation Regulation (CAR) 31 to Civil Aviation Safety Regulation (CASR) Part 66, which is modelled on regulation from the European Union Aviation Safety Agency (EASA).

¹⁰⁷ Australian Bureau of Statistics (ABS), *Labour Force*, ABS website, June 2024.

¹⁰⁸ Jobs and Skills Australia (JSA), *Skills Priority List*, JSA website, Australian Government, n.d.

Figure 10: LAME licences issued by financial year¹⁰⁹

Although CASR Part 66 was introduced over a decade ago, stakeholders report that widespread confusion remains about how to progress through the training and licensing pathway. Aviation White Paper submissions stated that this is one of the main barriers to attraction and retention of AMEs. Submissions reported that some apprentices had left the sector after discovering the training course they had enrolled in would not lead directly to a licensing outcome. Submissions also reported that the licensing pathway to become a LAME was too inflexible.

The Australian Government has introduced flexible licensing for LAMEs

To provide greater flexibility and allow AMEs to become licenced to sign off specific types of maintenance work sooner, CASA introduced flexible licensing for LAMEs in 2023.¹¹⁰

Through changes to CASA's Manual of Standards, certain LAME licences can now be issued with exclusions. For example, an AME who has completed the training and examination requirements for maintenance of piston engines can now be granted a licence to sign off maintenance work on piston engines, with exclusions for other types of maintenance works. For example, the exclusions could mean the AME cannot sign off maintenance works on airframes or other aircraft systems without completing further training and examinations.

Previously, an AME would need to complete the full set of LAME training and examination requirements across 18 basic knowledge modules before they could receive a licence. That meant, for example, an AME who worked exclusively on piston engines could not become licenced to sign off the maintenance of those engines without also becoming licenced to sign off other types of maintenance work that may not have been relevant to their career.

¹⁰⁹ Source: Civil Aviation Safety Authority (CASA).

¹¹⁰ CASA, *Flexible options now available to get an aircraft maintenance engineer licence sooner*, CASA website, Australian Government, December 2023.

The Australian Government will work to better align training and licensing for LAMEs

The adoption of CASR Part 66 in 2011 established a competency pathway, under the VET system, as the primary means to become a LAME. Under CASR Part 66, training and examination is conducted by organisations approved by both CASA and the Australian Skills Quality Authority (ASQA). In August 2021, in addition to the VET pathway, CASA reintroduced a self-study training and examination pathway for LAMEs to allow additional flexibility. This is especially useful for AMEs working in regional areas and other locations far from approved training organisations.

To obtain a full licence with no exclusions, an AME must demonstrate theoretic knowledge and practical maintenance experience across 18 basic knowledge modules. Under the VET system, in addition to the modules required for a licensing outcome, the wider 'aeroskills package' includes a broad set of competencies aimed at meeting the needs of the industry. These competencies are packaged with certain Certificate II and Diploma qualifications to provide a direct pathway to licensing. However, certain Certificate IV qualifications include a package of competencies that, while important and useful to industry, do not directly lead to a licensing outcome.

Aviation White Paper submissions reported that some AMEs completing a Certificate IV in Aeroskills have been unaware that they will subsequently be required to undertake further training and examination to become licenced. Stakeholders reported that the differences between the Certificate IV competencies and CASA licensing requirements has created confusion. While the introduction of flexible licensing will help to address this issue, there are opportunities to further increase alignment between the VET course and CASA licensing requirements.

To achieve this, the Australian Government is working with the Manufacturing JSC, Manufacturing Industry Skills Alliance, through a new Aviation Working Group, which in part will recommend changes to the Certificate IV in Aeroskills to support modular licensing of AMEs. The working group includes CASA, ASQA, VET providers and industry representatives, and the initial scoping project will report later in 2024.

CASA will streamline the recognition of licences from comparable authorities

Aviation White Paper submissions have reported challenges and inconsistencies in the process for having licences issued by overseas aviation authorities recognised in Australia. Stakeholders argue this can be a strong disincentive for AMEs to relocate to Australia or can result in AMEs leaving the sector. Under the *Trans-Tasman Mutual Recognition Act 1997* (Cth), Australia recognises licences issued by the Civil Aviation Authority of New Zealand (CAANZ). AMEs licenced by other authorities have to undergo a more complex process to have their qualifications recognised, which can often involve substantial retraining in Australia.

To speed up processing times, reduce costs and deliver consistent outcomes for other overseas licence holders, by the end of 2025 CASA will adopt a framework to recognise AME licences issued by the civil aviation authorities that apply regulations that are equivalent to those applied by CASA, which are modelled on EASA regulations. As is the case with CAANZ licence holders, applicants with licences from these authorities will still need to pass exams on Australian aviation safety legislation to be licenced by CASA.

CASA is also considering options to allow prospective foreign qualified LAMEs to work with an airline for a year while achieving their remaining credentials.

CASA and the Defence Aviation Safety Authority are also working to streamline the recognition process for Australian Defence Force and civil-trained LAMEs and other aviation professionals, including pilots and flight instructors.

5.3 Industry initiatives to support a sustainable pipeline of airline pilots

The Australian Government expects the airline industry to do more to support sustainable employment in the sector, including providing training, apprenticeship and cadetship opportunities for pilots.

Global pilot shortages have emerged following the COVID-19 pandemic

Globally, airlines reduced their pilot workforces during the COVID-19 pandemic and suspended recruitment activities. With global air travel demand returning to pre-COVID levels in 2024, and expected to reach 119% of pre-COVID-19 levels in 2025,¹¹¹ airlines are competing internationally to attract a limited pool of qualified pilots.

Aviation White Paper submissions, including from airlines and the Australian and International Pilots Association, note that Australian airlines and aviation businesses are facing greater competition for skilled labour both domestically and internationally. Airlines in the United States are reportedly offering higher wages and packages to attract qualified pilots from Australia.¹¹²

In 2023, JSA identified aeroplane pilots as in shortage nationally and in all states and territories except Queensland (in Queensland, JSA identifies pilots as only in shortage in regional areas). This has changed from 2022, when pilots were only identified as in shortage in Western Australia and the Northern Territory (and in 2021 only in the Northern Territory).

Shortages of qualified pilots in Australia have had a disproportionate impact on GA businesses and smaller and regional airlines. Pilots have left these businesses to take roles at larger airlines, which often offer higher wages, and the number of newly qualified pilots has been too low to fill the resulting vacancies.

Australian airlines have historically played a greater role in pilots' early career progression

Historically, the Qantas Group – the largest employer of pilots in Australia – invested significantly in apprenticeship and cadetship programs, providing employment pathways for newly qualified pilots within the airline group. However, these programs ceased in the late 2000s.

In January 2020, the Qantas Group established the Qantas Group Pilot Academy, run in partnership with Flight Training Adelaide, which can train 250 pilots per year. However, the cost to individuals of completing pilot training at the academy is approximately \$140,000, plus accommodation costs, and takes up to 16 months. Students at the academy can access Australian Government VET student loans. Graduation from the Qantas Group Pilot Academy does not guarantee a job with a Qantas Group airline. However, in its Aviation White Paper submission, Qantas states a number of graduates have been employed within the group. The Qantas Group has advised that over the next 5 years it will offer 50 scholarships to women and First Nations people to support the cost of onsite accommodation at the academy. Given Qantas's estimated need for 4,000 pilots over the next 10 years, it must do more to create a sustainable pilot pipeline.

¹¹¹ International Air Transport Association (IATA), *Global Outlook for Air Transport: A local sweet spot*, IATA, 2023.

¹¹² Australian and International Pilots Association (AIPA), *Submission in response to the Aviation Green Paper*, AIPA, 2023.

The Rex Group operates the Australian Airline Pilot Academy (AAPA), which can train up to 400 pilots each year. Prior to entering voluntary administration, Rex offered a 'direct entry' option to around 80 AAPA candidates each year. Upon graduation, direct entry candidates were offered employment by Rex as a First Officer on the SAAB 340 fleet. Candidates accepted into the direct entry pathway were required to pay \$25,000 upfront towards the cost of the training and Rex provides a loan for the remaining amount. After completion of the course, and upon taking a role with the airline, the loan was repaid to Rex over a 7-year period. The future of this arrangement may be affected by any changes to Rex's long-term operating model.

Virgin Australia, Australia's second largest airline, does not currently offer any pilot training or cadetship program. It relies on recruiting experienced pilots in the labour market to fill vacancies. Virgin Australia can do more to develop the pilot pipeline.

The Australian Government expects airlines to do more to develop newly qualified pilots

Australia's large airlines need to do more to develop pilots internally rather than relying primarily on recruitment of experienced pilots to meet their workforce needs. Airlines should contribute to the development of a sustainable domestic pipeline of pilots in Australia, given their outsized impact on employment in the sector.

The Qantas Group in particular – as Australia's largest employer of pilots – should recommence offering cadetship places to newly qualified pilots, which could include a direct employment pathway for a percentage of graduates of the Qantas Group Pilot Academy, similar to the Rex direct entry model. International examples such as British Airways' Speedbird Pilot Academy, which funds up to 60 places per year and guarantees a job as a British Airways pilot for graduates, also provide a useful model for Australia's large airlines to consider.

The Minister for Transport has written to the Qantas Group and Virgin Australia asking them to advise how they will increase pilot training and career development to support a sustainable pipeline of Australian pilots and minimise the impact on smaller aviation businesses during pilot shortages. If the airlines fail to put in place appropriate arrangements, the Australian Government will consider other options, such as a levy on large Australian airlines to fund pilot training and cadetships.

5.4 Reforming the migration system

During periods of strong industry growth, long lead times to develop and accredit certain aviation professionals can result in protracted labour shortages. While migration is not a substitute for investing in Australian skills, well-targeted migration can help to address local skills shortages and complement enhanced training pathways.

The Australian Government is reforming the visa system to address skills shortages

The Australian Government's 2023 Migration Strategy announced the creation of a new 4-year temporary Skills in Demand visa, with targeted pathways and visa settings that encourage migrant worker mobility in the labour market. The Skills in Demand visa will replace the complex single-employer sponsored Temporary Skills Shortage visa. The Skills in Demand visa includes:

- a new Specialist Skills pathway to make it easier for Australia to attract highly skilled workers
- a Core Skills pathway to meet targeted workforce needs, with a simpler, regularly updated occupation list of the skills Australia needs

- new visa settings that give migrant workers more mobility in the labour market to help tackle worker exploitation and drive productivity
- streamlined labour market testing and visa processing.

The Specialist Skills pathway visa will target high-skill, high-wage workers

The Specialist Skills pathway visa recognises highly skilled migrants can be highly beneficial to Australia's national productivity and can bring capabilities that complement and enhance the skills and expertise of the Australian workforce.

This pathway will be a new streamlined approach for recruiting highly skilled specialists to ensure Australia can quickly and easily access top talent in areas of need. The Specialist Skills pathway will be available to applicants who meet the general eligibility criteria (for example, be nominated by an approved employer and meet health and character requirements) and who are:

- in any occupation except trades workers, machinery operators and drivers, and labourers
- earning at least the Specialist Skills Threshold, currently \$135,000, and no less than Australian workers in the same occupation.

The Specialist Skills pathway visa will be available to highly skilled workers in the aviation sector, including pilots, aeronautical engineers and technical specialists working with new technologies, such as drones and advanced air mobility.

The Australian Government will put in place a range of protections for the integrity of this visa pathway, including monitoring of labour market impacts by JSA and monitoring of employment conditions by the Department of Home Affairs, to ensure that the skills involved are genuinely specialised and in high demand.

The Core Skills pathway will target identified skills shortages in Australia

The Core Skills pathway visa is designed to bring in the skilled employees Australia needs now and in the future. The visa will be available to applicants who meet the general eligibility criteria and:

- whose occupation is on a new Core Skills Occupation List, which will be determined by government taking account of advice from JSA regarding occupations identified as in shortage or where Australia has committed to providing access to our labour market in relation to that occupation through international trade agreements
- who will be paid a salary at or above the Core Skills Threshold, currently \$73,150.

Aviation workers in occupations included on the Core Skills Occupation List, taking account of advice from JSA, will be eligible for the Core Skills pathway visa. In 2023, aviation occupations identified by JSA as in shortage nationally included aircraft maintenance engineers, aircraft baggage handlers and airline ground crew, flight attendants, aeroplane pilots and flying instructors.



5.5 Promoting inclusive, dynamic workplaces and improving job security

Safe, inclusive and flexible workplaces provide benefits to both employers and employees. Workforce diversity is an element of any business's social licence to operate. Diversity allows employers to draw on the widest possible talent pool, increase staff retention and improve staff performance and wellbeing.¹¹³

Employment in Australia's aviation sector is not representative of our population, with key groups including women, First Nations people and people from non-English speaking backgrounds poorly represented while, like many female-dominated industries, roles within aviation traditionally filled by women remain undervalued.

Two-thirds of aviation workers are men, and First Nations people are under-represented in aviation employment

Around two-thirds of people employed in the aviation sector are men, and there is an even higher gender imbalance in many operational and technical roles. Research from the Workplace Gender Equality Agency shows in 2021–22 women represented between 4.1% and 21.1% of employees in roles such as air traffic controllers, pilots, mechanics and engineers¹¹⁴, while businesses within the sector have some of the largest gender pay gaps across the economy.

Analysis conducted by JSA suggests many sectors with skills shortages also have a highly gender skewed workforce.¹¹⁵ It is possible that gender barriers are constraining labour supply in the aviation sector.

A government-funded study on barriers to women entering and progressing in transport roles highlighted the importance of inclusive workplace culture.¹¹⁶ Research undertaken for the Australian Government's Women in the Aviation Industry Initiative indicates that both the attraction and the retention of women in the sector are challenges, with discrimination, sexual harassment and cultural issues identified as drivers of women leaving the industry.¹¹⁷ It is incumbent on employers to change their workplace culture.

First Nations people comprise 3.8% of Australia's population¹¹⁸ but only make up 1.2% of the aviation workforce.¹¹⁹ First Nations employment in aviation has increased slowly over the past 2 decades. In 2006, only 0.5% of aviation workers were First Nations people. This had increased to 0.7% in 2011 and 1.1% in 2016.¹²⁰

The Women in the Aviation Industry Initiative is addressing barriers and promoting aviation careers to women and girls

The Australian Government has invested \$8 million in the Women in the Aviation Industry Initiative between 2018 and 2026. The government has allocated \$3.1 million to activities, including demonstrations and guidance material, focused on women's awareness of aviation as a career. To date, collaborative efforts with industry partners have reached more than 200,000 women and girls, directly engaging with and mentoring more than 30,000 students, parents, teachers and career advisors.

113 G. Onken-Menke, S. Nüesch, and C. Kröll, *Are you attracted? Do you remain? Meta-analytic evidence on flexible work practices*, Business Research, 2018, 11: 239–277; M. Jack and D. Jack, *Bridging the work and family divide: Understanding the benefits of family friendly workplaces*, Family Friendly Workplaces, 2022; IP Australia, *Australian IP report 2023*, IP Australia website, Australian Government, 2023; R. Cassells and A. Duncan, *Gender equity insights 2020: delivering the business outcomes*, Bankwest Curtin Economics Centre with Australian Government Workplace Gender Equality Agency (WGEA), WGEA website, Australian Government 2020; Diversity Council Australia (DCA), *Inclusion@Work index 2021–2022: mapping the state of inclusion in the Australian workforce*, DCA, 2021.

114 Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), *Women in the Aviation Industry Initiative – next phase strategic action plan*, DITRDCA website, Australian Government, 2023.

115 Jobs and Skills Australia (JSA), *Towards a National Jobs and Skills Roadmap*, JSA website, Australian Government, 2023.

116 iMOVE Cooperative Research Centre (iMOVE), *The barriers to women entering and progressing in transport roles*, iMOVE website, February 2022.

117 Women in Aviation / Aerospace Australia, *Barriers to the Pipeline Research Project*, interim report, Aviation/Aerospace Australia, 2022.

118 Australian Bureau of Statistics (ABS), *Estimates of Aboriginal and Torres Strait Islander Australians*, ABS website, Australian Government, 2023.

119 Industry Skills Australia (ISA), *Aviation industry 2023 initial workforce plan*, ISA website, n.d.

120 ISA, *Aviation industry 2023 initial workforce plan*, ISA website, n.d.

A Strategic Action Plan for the Women in the Aviation Industry Initiative was released in September 2023.¹²¹ It seeks to ensure the initiative contributes to the sustainability of the aviation industry by addressing the gender imbalance and skills shortages in the sector. It notes that almost half of the Australian workforce is women and that this talent pool presents a significant opportunity for the aviation industry in the face of likely continuing labour and skill shortages. But raising awareness of the careers available in aviation will not be enough. Women must be able to thrive in the workplace once recruited.

Employers will be asked to sign up to a new Gender Equity Charter for Aviation

The Australian Government will establish a new Gender Equity Charter for Aviation, in partnership with industry and unions. Public and private sector aviation organisations that sign up to the charter will commit to targets for employment of women in senior and operational roles, elimination of gender pay gaps and more inclusive workplaces and will report publicly on progress against charter commitments. Membership of the charter will be a consideration in the awarding of some Australian Government aviation grants.

The United Kingdom (UK) Women in Aviation and Aerospace Charter offers a successful model for Australia's charter. The UK charter was launched in 2018, in partnership between the UK Government and industry, to address a similarly entrenched aviation workforce dominated by men. Membership of the UK charter now includes hundreds of firms, including major airlines and aerospace manufacturers. The focus of the UK charter has extended beyond the number of women employed to include the gender pay gap, numbers of women interns, internal promotions of women, and inclusive employment terms and conditions.

Outsourcing has eroded some aviation workers' wages and conditions

The aviation sector has experienced widespread outsourcing in recent decades as industry has sought to cut costs by replacing long-term experienced workers with external labour hire. In September 2023, the High Court ruled that Qantas' outsourcing of 1,700 ground crew workers breached the *Fair Work Act 2009* (Cth).

Aviation White Paper submissions have pointed to outsourcing and labour hire practices as sources of reduced service quality in the sector and as contributing factors to staff shortages, due to the less attractive wages and conditions. The Transport Workers Union's submission argues that outsourcing has resulted in unfair working conditions, poorer customer service and safety risks to the travelling public due to increased mistakes by undertrained and overworked staff.

The Australian Government is improving job security and is committed to respect in Australia's workplaces

The Australian Government has acted to improve job security and respect in Australia's workplaces:

- The *Fair Work Legislation Amendment (Secure Jobs, Better Pay) Act 2022* (Secure Jobs Better Pay) amended the workplace relations framework in relation to bargaining, job security and gender equality. This included limiting the use of fixed term contracts, prohibiting pay secrecy, embedding the principles of job security and gender equality in the Fair Work Act, and improving access to flexible working arrangements and extensions of unpaid parental leave. It also included significant reform to modernise the bargaining system to lift wages and productivity. These changes are helping to improve job security and working conditions of aviation workers.

¹²¹ Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), *Women in the Aviation Industry Initiative – next phase strategic action plan*, DITRDCA website, Australian Government, 2023.

- The Fair Work Legislation Amendment (Closing Loopholes) Act 2023 and Fair Work Legislation Amendment (Closing Loopholes No. 2) Act 2024 built on these reforms, including by allowing parties to apply for orders that labour hire employees must be paid at least what they would receive under a host's enterprise agreement, introducing a fairer test for determining whether a person is an employee or an independent contractor, and by ensuring a practical definition of casual employment with a clear pathway to secure work.

The Australian Government's Women in the Aviation Industry Initiative identifies sexual harassment as a particular problem in aviation. The industry is dominated by men, and many women workers are in customer-facing roles, including as flight attendants, where sexual harassment can be a regular occurrence.

The *Sex Discrimination Act 1984* (Cth) prohibits sexual harassment, with employers potentially liable if they do not take reasonable steps to protect employees from discriminative behaviour. The *Anti-Discrimination and Human Rights Legislation Amendment (Respect at Work) Act 2022* (Cth) amended the Sex Discrimination Act to place a positive duty on employers to take reasonable and proportionate measures to eliminate sex discrimination and sexual harassment.

The Secure Jobs Better Pay Act also added a prohibition on sexual harassment to the Fair Work Act 2009, which prohibits sexual harassment in connection with work and provides workers the option to deal with sexual harassment complaints through the Fair Work Commission. This supplements the existing channels of the Australian Human Rights Commission and applicable state or territory anti-discrimination or work health and safety bodies.

These amendments are part of the Australian Government's commitment to fully implement all 55 recommendations of the *Respect@Work: sexual harassment national inquiry report* (2020) and complement other legislative amendments resulting from anti-discrimination legislation and the *Human Rights Legislation Amendment (Respect at Work) Act 2022*.





Maximising aviation's contribution to net zero





All sectors of the Australian economy face challenges in the transition to net zero carbon emissions by 2050. The aviation sector's net zero transition will require both airlines and airports to take action and will depend on renewable energy sources being available in sufficient quantities to support those steps. The aviation sector has a role to play in all the elements of transition that affect their businesses.

For airlines, efficiencies are primarily available through new fuel-efficient aircraft; the use of renewable hydrogen or electric powered aircraft for shorter routes; and the use of sustainable aviation fuel (SAF) as a drop-in fuel to replace traditional jet fuel. Safeguard Mechanism entities will also use high-quality offsets. Airports will need the infrastructure and the renewable energy supply to recharge hydrogen or electric powered aircraft and ground vehicles or to deliver and account for the use of SAF.

The Australian Government is planning and guiding an orderly economic transition to a net zero Australia by 2050, protecting communities and ensuring no one is left behind. Government action includes both demand and supply side measures – such as the Safeguard Mechanism, which requires major emitters to reduce their net emissions; and the Rewiring the Nation program, which will modernise Australia's electricity grid, making clean energy more accessible and affordable across Australia. These mechanisms both apply to and benefit the aviation sector.

Specific to the aviation sector, the Australian Government has established the Australian Jet Zero Council, which brings together domestic and regional airlines, airports, original equipment manufacturers and fuel suppliers to galvanise their action, as well as to provide advice to government.



Recognising the opportunities that the global transition to renewable energy presents for Australia, given its abundant sun and wind supply, highly educated workforce and vast, sparsely populated land mass, the Australian Government is fast-tracking support for a domestic low carbon liquid fuel (LCLF) industry, with an initial focus on SAF and renewable diesel. This industry will use Australian inputs from farm to bowser, with Australian workers processing Australian feedstock into SAF to decarbonise Australia's domestic aviation sector.

As part of the Future Made in Australia initiative, the government has announced it is undertaking targeted consultation to identify options for production incentives and other measures to support the establishment of a made in Australia LCLF industry. Complementing this, the Australian Government has announced it will undertake an impact analysis of the costs and benefits of demand-side measures for the use of LCLF, including SAF, in Australia. That consultation will take some time, in order to fully understand the impacts of any measures on Australia's unique domestic aviation sector.

The Australian Government will also establish the regulatory building blocks necessary to support a domestic sustainable aviation fuel market. We will extend the Guarantee of Origin Scheme to certify SAF and have introduced measures to allow SAF use to be accounted for under the Safeguard Mechanism. The Australian Government creates the framework for corporate measurement and accounting for our domestic emissions, including for aviation, through the National Greenhouse and Energy Reporting (NGER) Scheme.

More broadly, the Australian Government is issuing its Transport and Infrastructure Net Zero Roadmap and Action Plan, Electricity and Energy Sector Plan and National Battery Strategy to guide the transition of the entire sector.



How we will deliver

To support the aviation industry to meet its emissions reduction commitments, the Australian Government will:

- **Consult with industry and the community on the introduction of LCLF demand-side measures**, including through delivery of a regulatory impact analysis.
- **Establish a robust certification scheme**, consistent with international standards, to provide SAF purchasers and air travel consumers assurance of the environmental, safety and social credentials of SAF. The Guarantee of Origin Scheme will be expanded by mid-2028.
- **Provide access to the \$1.7 billion Future Made in Australia Innovation Fund to support the development of LCLF production technologies**, using new feedstock sources, building on the existing \$30 million allocated for activities to support development of a SAF and renewable diesel industry with production from renewable feedstocks in Australia.
- **Consider options for an LCLF production incentive and demand-side measures to accelerate development of an LCLF industry in Australia, with a key focus on producing SAF and renewable diesel**. The government is currently consulting on the best way to design production incentives and demand measures, and is seeking feedback on the optimal policy mix to support the industry.
- **Deliver the Transport and Infrastructure Net Zero Roadmap and Action Plan**, the government-guided sectoral emissions reduction plan for transport. The roadmap will include transport sector-wide measures which will further support the aviation industry to reduce its emissions. A consultation roadmap was released on 22 May 2024.

These measures will build on the Australian Government's existing actions to support the reduction of emissions in aviation, including:

- **delivery of the Transport and Infrastructure Net Zero Roadmap and Action Plan**, the government-guided sectoral emissions reduction plan for transport. The roadmap will include transport sector-wide measures which will further support the aviation industry to reduce its emissions. A consultation roadmap was released on 22 May 2024.
- **the establishment of the Australian Jet Zero Council** in June 2023, bringing together senior stakeholders from across the aviation sector and its supply chains to lead efforts to deliver net zero aviation in Australia.
- **the \$20 billion Rewiring the Nation program** to make clean energy more accessible and affordable across Australia.
- **the \$15 billion National Reconstruction Fund (NRF)**, which will provide finance (including debt and equity) for projects that diversify and transform Australia's industry and economy. The 7 government-identified priority areas under the NRF include transport and renewables and low emission technologies.
- **concessional financing of \$30.5 billion through the Clean Energy Financing Corporation** for clean energy projects, including bioenergy projects that create a low carbon fuel source for transport.
- **implementation of a Hydrogen Production Tax Incentive** to provide a \$2 incentive per kilogram of renewable hydrogen produced between 2027–28 and from 2039–40, for up to 10 years per project.



- **\$1.3 billion over the next decade towards the Hydrogen Headstart program** to provide additional support to early movers investing in the industry's development, building on the Australian Government's initial \$2 billion investment towards the program.
- **\$17.1 million to implement our National Hydrogen Strategy**, which will help Australia become a global hydrogen leader by 2030.
- **the National Battery Strategy**, which outlines how the Australian Government will support our domestic battery industry as it grows.
- **delivery of the Electricity and Energy Sector Plan**, which will outline the path to decarbonising the electricity and energy sector out to 2050, supporting emissions reduction across the economy while ensuring reliable, secure and affordable energy supply.
- **the Agriculture and Land Sector Plan** to support the reduction of emissions in the agriculture industry and contribute to the whole-of-economy transition to net zero, including through biofuels production.
- **creation of a new 'front door' for investors** with major, transformational investment proposals to make it simpler to invest in Australia and attract more global and domestic capital, complementing the functions of the Net Zero Economy Authority.
- **the Australian Government's commitment** to a renewable energy target of 82% by 2030.
- **continued engagement through the International Civil Aviation Organization (ICAO)** to support the Long Term Aspirational Goal for international aviation of net zero carbon emissions by 2050, including continued support of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).
- **development of a Net Zero Plan**, as outlined in the 2022 Annual Climate Statement. The plan will set out how we transition to net zero and do so in a manner that creates jobs, drives investment and delivers opportunities for the nation .
- **continuing economy-wide emissions reduction arrangements**, including the Safeguard Mechanism and reporting arrangements under the NGER Scheme.



The need for action

Australia has committed to reaching net zero carbon emissions by 2050

Under the Paris Agreement, the Australian Government adopted economy-wide, domestic greenhouse gas emissions reduction targets of 43% below 2005 levels by 2030 and committed to achieve net zero emissions by 2050. Additionally, the Australian Government is expected to submit a 2035 emissions reduction target in early 2025.

Australia, along with global partners, also supported the ICAO adoption of a long-term aspirational goal for international aviation of net zero carbon emissions by 2050 and a collective global aspirational vision to reduce CO₂ emissions in international aviation by 5% by 2030 through the use of SAF, lower carbon aviation fuels (LCAF) and other aviation cleaner energies.

The International Air Transport Association, Qantas and Virgin Australia have also committed to achieving net zero by 2050.

As an end-of-the-line destination, Australia is at risk of reduced inbound demand for business travel and tourism as consumers increasingly act to reduce their carbon footprint, if we do not make meaningful sustainability changes.

All parts of the aviation sector need to play their role in reducing emissions

Globally, the aviation sector generates approximately 2% of the world's energy related CO₂ emissions.¹²² Aviation was 2% of domestic emissions in 2023 (up to June 2023). As long-term aviation demand is expected to continue to grow out to 2050, aviation emissions are predicted to continue to rise without further emissions reduction policies and efforts.¹²³

With its large landmass, dispersed population and geographical isolation, there are limited practical substitutes for air transport in many parts of Australia. Aviation will continue to play a vital role in connecting Australians domestically and internationally, but it must do so in a way that reduces its carbon emissions.

The Bureau of Infrastructure and Transport Research Economics (BITRE) has derived preliminary estimates of Australia's aviation carbon emissions based on its latest long-term forecasts of domestic and international air passenger and freight activity, expected improvements in aircraft efficiency and trends in average aircraft size and load factors.

¹²² International Energy Agency (IEA), *Aviation*, IEA website, 2024.

¹²³ Bureau of Infrastructure and Transport Research Economics (BITRE) projection, forthcoming.

Figure 11: Actual and projected future Australian domestic aviation CO₂-e emissions under alternative scenarios, 1990–2050

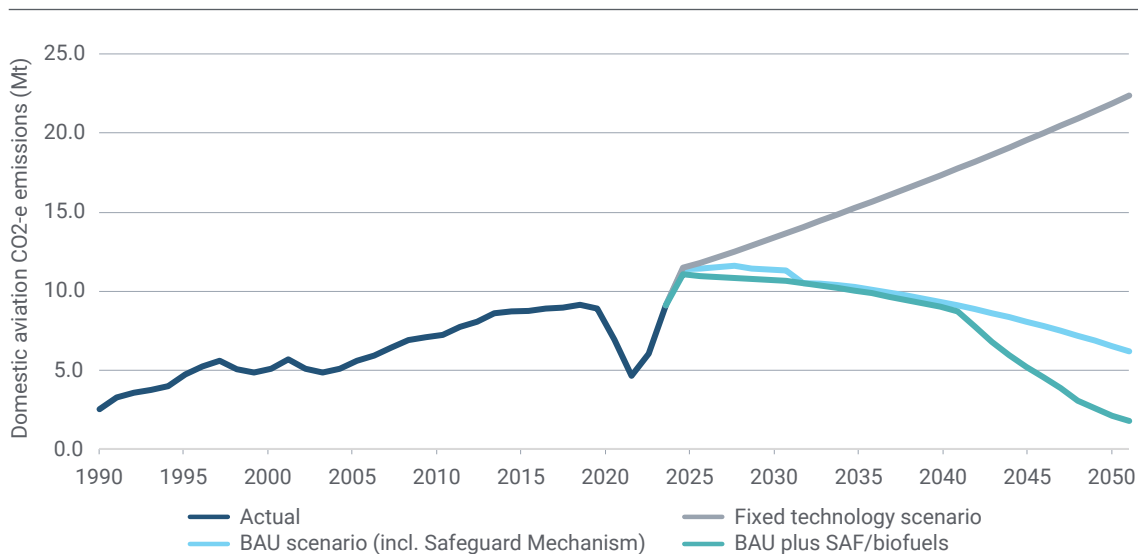
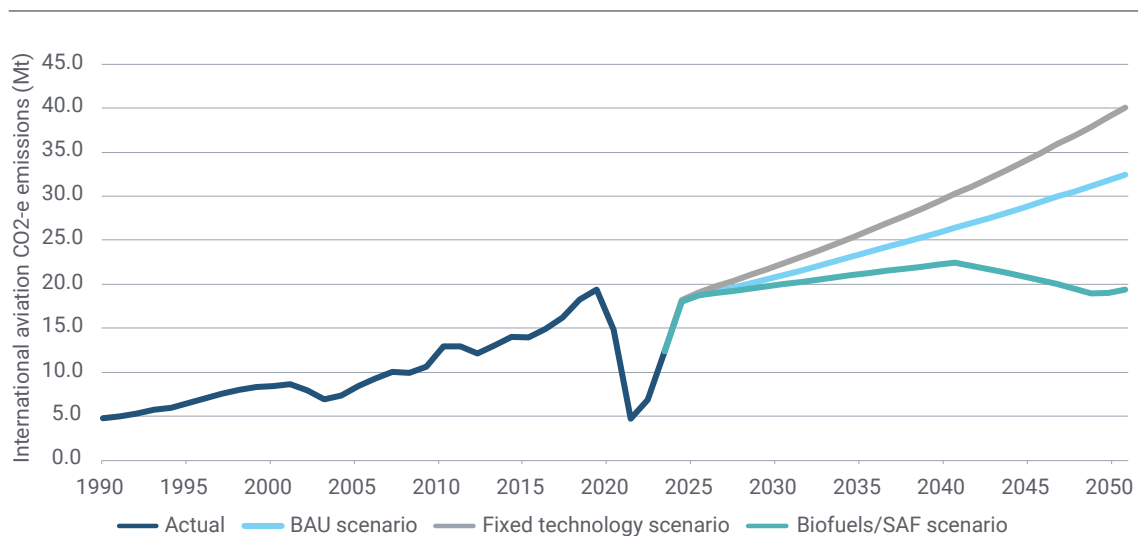


Figure 12: Actual and projected future Australian international aviation CO₂-e emissions under alternative scenarios, 1990–2050



Assuming continuing reliance on aviation fossil fuels and continuing improvements in aircraft fuel efficiency, domestic CO₂-e emissions would increase by 1.7% per annum between 2024 and 2050, and international CO₂-e emissions (based on fuel uplifted – the measurement of fuel loaded in Australia onto flights) would increase by approximately 2.3% per annum.



For domestic aviation emissions, the baseline scenario incorporates the projected impact of the 2023 reforms to the Safeguard Mechanism, which ensure that covered facilities are meeting legislated emissions targets. BITRE assumes the Safeguard Mechanism will deliver lower aviation emissions over time via a combination of offsets, increased operational efficiencies and earlier uptake of low carbon fuels. Under this scenario, total domestic emissions are projected to fall to near 2005 levels by 2050.

The SAF/biofuels scenario incorporates the baseline scenario (with Safeguard Mechanism), and assumes increased supply and uptake of SAF/biofuels beyond 2040. Under this scenario, domestic aviation emissions would fall even further, potentially to levels below those of the 1990s by 2050.

While the Safeguard Mechanism does not apply to international aviation activity, under CORSIA, international airlines from participating States monitor, verify and report their CO₂ emissions to their participating State who reports this to ICAO. Where international airline emissions exceed the globally agreed baseline, the measures in CORSIA request international airlines to offset their emissions using CORSIA eligible emissions units or internationally certified SAF.

The potential impact of CORSIA on Australian international aviation emissions is not included in the Baseline scenario. Under the Baseline scenario, total international emissions from Australian aviation are projected to continue increasing to 2050.

The SAF/biofuels scenario for international aviation assumes increased supply and uptake of SAF/biofuels beyond 2040 (depending on SAF cost, availability and regulation around SAF blending requirements). Under this scenario, direct emissions from Australia's international aviation would continue to increase to 2040 (though at a much slower rate than under the business-as-usual expectations), and thereafter fall to around 2018-19 levels by 2050.¹²⁴

SAF could contribute a majority of emissions reductions needed for net zero aviation by 2050

The analysis makes clear that, while the aviation sector will need to continue to pursue emission reductions through improved aircraft efficiency and new propulsion technologies, SAF use will be likely to make the major contribution towards net zero aviation by 2050.

SAF is a mature technology already in use. When blended with conventional jet fuel, it can be used without modifications to existing aircraft (with a maximum allowable blend of up to 50%).

The industry is working towards ratios of 100%, with trials underway. In November 2023, Virgin Atlantic operated the first transatlantic flight powered by 100% SAF between London's Heathrow Airport and New York's John F Kennedy International airport. The Civil Aviation Safety Authority (CASA) will work with safety agencies across the world to ensure safety standards are in place.

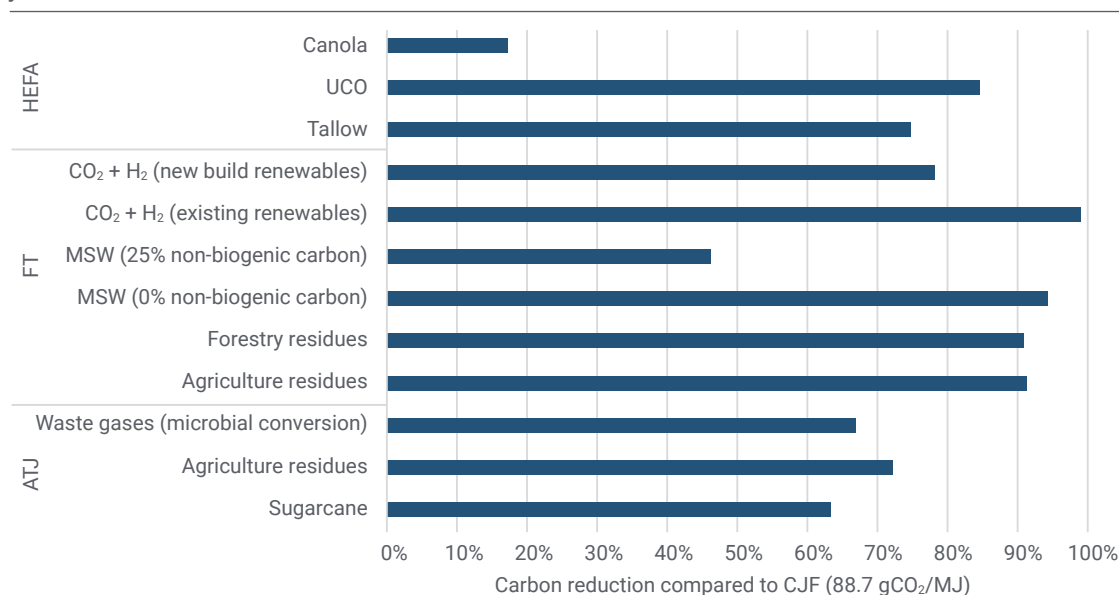
SAF's potential lifecycle emissions reductions vary depending on their feedstock and production pathway. In particular, the emerging Power to Liquid (PtL) pathway offers significant emissions reductions. While the pathway is nascent, research in this space is encouraging and could offer a longer term solution to reducing aviation emissions.

SAF also significantly reduces production of particulate matter emissions and soot, which lead to formation of ice crystals and contrails. These, when accumulated and persistent, have significant warming effects on the atmosphere.¹²⁵

124 Domestic scenario assumes SAF uptake of 10% by 2030, 20% by 2035 and 90% by 2050 and international scenario 5% by 2030, 10% by 2035 and 45% by 2050.

125 Commonwealth Scientific and Industrial Research Organisation (CSIRO), *Sustainable Aviation Fuel Roadmap*, CSIRO website, Australian Government, 2023.

Figure 13: Life cycle assessment reductions for Carbon Offsetting and Reduction Scheme for International Aviation (CORSA) eligible SAF pathways and feedstocks compared to conventional jet fuel value¹²⁶



HEFA Synthesised paraffinic kerosene from hydroprocessed esters and fatty acids
 FT Fischer-Tropsch hydroprocessed synthesised paraffinic kerosene
 ATJ Alcohol-to-jet synthetic paraffinic kerosene

Consultations have confirmed that SAF is currently the only mature mechanism capable of offering meaningful reductions in airline emissions and is the most viable pathway for aviation to meet its emissions reduction obligations out to 2050.

Therefore, in the short to medium term the Australian Government is focusing its action on measures to support the supply of SAF, including considering support options aimed at establishing a domestic production industry. The Australian Government is also considering putting in place measures to encourage demand.

The Australian Government is committed to international green economy collaboration, working closely with international partners on SAF technology developments to enable early uptake by encouraging stronger research, industry and government linkages.

Efficiency gains will not be sufficient to achieve net zero by 2050

In aggregate, the introduction of next-generation aircraft could contribute as much as a 25% reduction in fuel burn by 2050.¹²⁷ In addition, route optimisation can offer incremental efficiency improvements of about 1-2% per annum.¹²⁸ However, even with further improvements in aircraft efficiency, increased long-term aviation growth will be likely to leave an 'emissions gap' to net zero of approximately 35–50% of total emissions by 2050 for Australia's domestic aviation movements.¹²⁹

¹²⁶ Commonwealth Scientific and Industrial Research Organisation (CSIRO), *Sustainable Aviation Fuel Roadmap*, CSIRO website, Australian Government, 2023.

¹²⁷ L.E.K. Consulting, *Aviation White Paper: Scenario Analysis of the Future of Australian Aviation*, report to the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), L.E.K. Consulting, 2023.

¹²⁸ L.E.K. Consulting, *Aviation White Paper: Scenario Analysis of the Future of Australian Aviation*, report to DITRDCA, LEK Consulting, 2023.

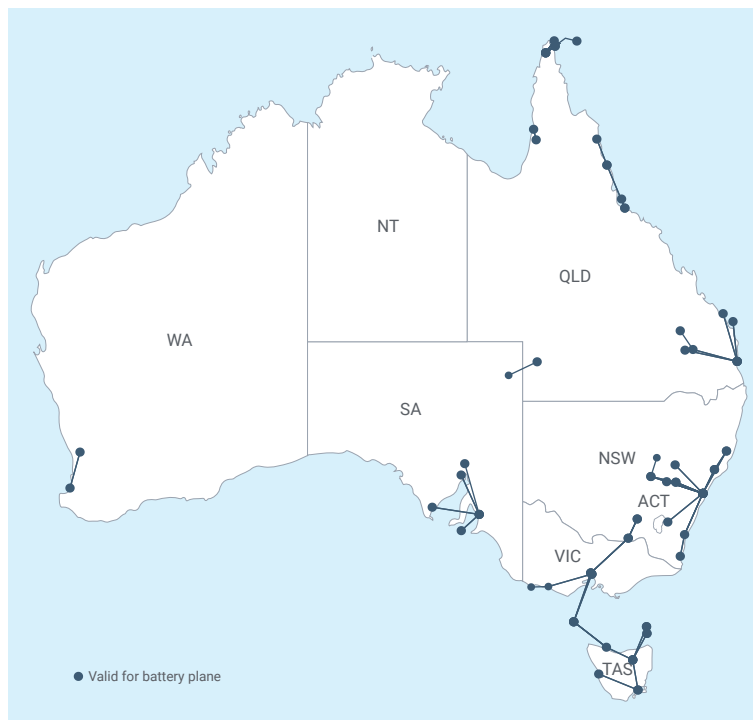
¹²⁹ L.E.K. Consulting, *Aviation White Paper: Scenario Analysis of the Future of Australian Aviation*, report to DITRDCA, LEK Consulting, 2023.

Internationally, optimising airspace management is a key priority to help lower aviation emissions. But, in Australia, high levels of air traffic management efficiency have already been realised. Airservices Australia analysis indicates further yield efficiencies may equate to only 1–2% in total. In contrast, potential efficiency gains from greater route optimisation in Europe are estimated to be about 6% in total.¹³⁰ Changes to optimise airspace management to improve efficiency and reduce emissions also need to be balanced with changed noise impacts on communities. There are also, in some instances, legislative constraints on the introduction of changes to modes of aircraft descent.

Over the long term we must also be positioned to adopt new propulsion technologies (such as electric or hydrogen powered aircraft) as they become available

Available evidence suggests that alternative emerging low and zero emissions aviation technologies are unlikely to be deployed on shorter haul routes until the 2030s and not on longer haul routes until the 2050s. With their initial deployment likely on shorter haul routes, these aircraft have potential to support decarbonisation of regional, remote and General Aviation in particular in the lead-up to 2050. However, parts of these sectors are probably least able to afford the capital expenditure required to adopt these new technologies.

Figure 14: Potential domestic flight routes for battery-electric aircraft^{131, 132}



130 Airlines for Australia and New Zealand (A4ANZ), *An Australian roadmap for sustainable flying: reaching net zero by 2050*, A4ANZ, n.d.

131 Based on a hypothetical battery-electric aircraft with capacity for 19 passengers or 1.8 tonnes of freight, following the technical characteristics described in International Council for Clean Transportation (ICCT), *Performance analysis of regional electric aircraft*, ICCT, 2022. Planes matching these characteristics are assumed to be available from 2030. Analysis is based on domestic 2018–19 aircraft routes, which reflect pre-COVID travel patterns. Maximum operational range of the hypothetical electric aircraft is assumed to be 300 km plus a 30-minute loiter time and a 5% emergency fuel contingency. Current Civil Aviation Safety Authority guidelines also require enough fuel to be carried to divert to an alternative destination for some routes, which would further reduce operational range.

132 Department of Infrastructure, Transport, Regional Development, Communications and the Arts analysis of OAG Schedules Analyser.

High-quality offsets continue to be needed to achieve net zero aviation by 2050

While directly abating greenhouse gas emissions should be the primary focus of emissions reduction in the aviation sector, even with the adoption of SAF and new technologies, high-quality offsets will remain part of the suite of measures needed to achieve net zero by 2050.

The Transport and Infrastructure Net Zero Roadmap and Action Plan will articulate the pathway to zero emissions for the transport sector, including aviation

To plan for the future, the Transport and Infrastructure Net Zero Roadmap and Action Plan will provide a clear strategy to:

- reduce emissions across the transport and infrastructure sectors
- support national and international commitments to reduce greenhouse gas emissions
- maximise economic and productivity opportunities
- inform the pathways, action and policies that the Australian Government can take to decarbonise the transport and infrastructure sectors.

The roadmap will outline potential pathways to reduce greenhouse gas emissions to net zero by 2050 across all transport modes (road, aviation, maritime and rail), freight and supply chains, active transport planning and supporting infrastructure. The action plan will outline the key initiatives the Australian Government is taking to support the transport sector to decarbonise, including the measures outlined in the Aviation White Paper. Critically, the roadmap and action plan will integrate the measures across the transport sector to generate maximum abatement for each dollar spent.

The role of the Australian Government

The Australian Government maintains the framework for measuring and accounting for our domestic emissions, including for aviation, through the NGER Scheme. It has legislated the requirements for Australia's largest emitters – which include Qantas and Virgin's operations, accounting for 93% of the domestic aviation market¹³³ – to reduce their emissions through the legislated Safeguard Mechanism. The Australian Government also sets the rules for crediting or certifying the reduction or abatement received – for example, through Australian Carbon Credit Units or SAF certification.

The Australian Government, through CASA, regulates the safety of alternative technologies that are developed to support aviation to move to net zero. The Australian Government represents Australia's interests in shaping the international rules around decarbonisation – primarily through the United Nations Framework Convention on Climate Change but also, for international aviation, in ICAO.

133 Australian Competition and Consumer Commission (ACCC), *Domestic airline competition in Australia*, ACCC website, Australian Government, May 2024.

6.1 Domestic sustainable aviation fuel production

The Australian Government is committed to establishing a domestic SAF production industry

The Australian Government considers market distortions in the international SAF market require intervention from government to allow Australia's natural assets to be brought to bear on global emissions reduction efforts in the creation of a domestic SAF industry. The Australian Government also considers intervention to support and encourage the development of new emissions reducing technologies in aviation is in Australia's interests.

It will be essential for domestic and international airlines to have access to SAF in Australia to meet Australian and international emissions reduction commitments, including for the 93% of the domestic market captured under the Safeguard Mechanism and international airlines with commitments under the ICAO's CORSIA. Access to SAF for use on domestic routes and international flights from Australia will also help meet consumer expectations for more environmentally sustainable air transport. A domestic SAF supply would provide a degree of fuel security for both Australia and others in the region (should supply be sufficient).

Without establishing domestic SAF refining capacity, Australian produced feedstocks will probably be exported overseas – a point emphasised by stakeholders in consultation on the Aviation Green Paper. If Australia is unable to establish a production industry, it will also mean we miss out on employment and business generation opportunities, losing these to other countries; regional development; and liquid fuel security benefits.

Depending on the production pathway, bio- or renewable diesels can be a co-product of SAF production. The establishment of new SAF refining capacity presents opportunities to support production of these fuels which will assist in the decarbonisation of other sectors that depend on liquid fuels, such as the heavy vehicle, rail, agriculture, construction and mining sectors.

Early support for production of SAF will be necessary, as SAF costs currently 2 to 4 times more than conventional fuel, mostly due to limited economies of scale and feedstock costs. This cost differential is likely to reduce over the longer term as more advanced technologies and access to cheaper renewable energy come online.

Australia has limited refining capacity to produce SAF locally

Domestic SAF production will help secure the availability in Australia. There is no current domestic SAF production in Australia. The Commonwealth Scientific and Industrial Research Organisation's (CSIRO) *Sustainable Aviation Fuel Roadmap* projects Australia's SAF production will be insufficient to meet jet fuel demand until 2050, absent intervention.¹³⁴

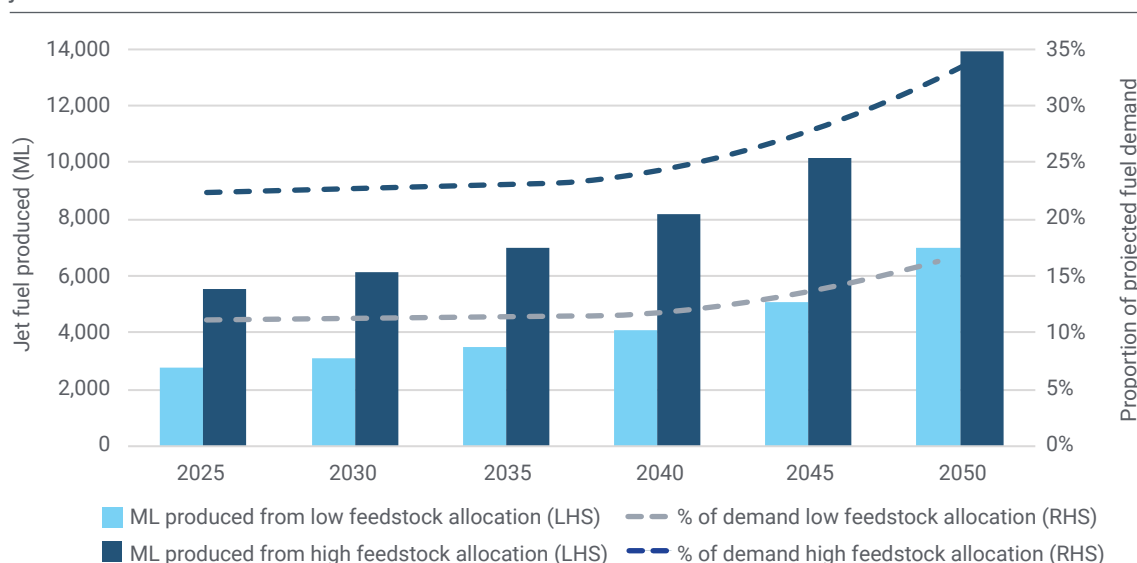
At the 2024–25 Budget, the government committed to consult on options for LCLF production incentives and demand measures to accelerate development of an LCLF industry in Australia, with an initial focus on producing SAF and renewable diesel.

Production of SAF will be important because domestic aviation emissions in Australia have more than tripled between 1990 and 2019 and Australian jet fuel demand is projected to increase by 75% from 2023 to 2050.¹³⁵

¹³⁴ Commonwealth Scientific and Industrial Research Organisation (CSIRO), *Sustainable Aviation Fuel Roadmap*, CSIRO website, Australian Government, 2023.

¹³⁵ CSIRO, *Sustainable Aviation Fuel Roadmap*, CSIRO website, Australian Government, 2023.

Figure 15: Potential Australian total SAF production and contribution toward domestic jet fuel demand



The government is consulting stakeholders further on supporting production and accelerating Australia's emerging low carbon liquid fuels industry. Consultation seeks feedback on:

- the optimal policy mix, including the design of production incentives and demand-side options and the interaction of these measures
- detailed production costs and market insights to support policy design
- other barriers or issues slowing the growth of an Australian LCLF industry.

The Australian Government will also provide access to the \$1.7 billion Future Made in Australia Innovation Fund to support the development of nascent LCLF production technologies using new feedstocks sources.

In addition, the Australian Government will progress a range of complementary measures that will further support the development of a domestic LCLF industry. For example, it will consider introducing an LCLF mandate, a target and other demand-side measures (discussed at 6.3), establishing a robust certification scheme (6.2) and updating emissions accounting arrangements (6.2).

The delivery of this investment will complement existing investment from state and territory governments. The Queensland Government has entered a memorandum of understanding with Qantas Group to work together to grow a local SAF industry in Queensland and has entered a partnership with Jet Zero Australia, Qantas Group and Airbus to develop a SAF biorefinery, contributing \$760,000 towards the project.

In 2022, the New South Wales Government provided \$1 million through its Clean Technology Research and Development Program to Southern Green Gas to support its development of solar powered e-kerosene production for SAF.

Together, Australian Government and state and territory government measures will help attract industry investment to build a domestic SAF industry and help Australia to achieve its ambition to become a renewable energy superpower.

To support demand for SAF, including domestically produced SAF, the Australian Jet Zero Council is developing advice to government on the appropriate regulatory mechanisms to enable SAF uptake, including arrangements for the appropriate certification of SAF's environmental attributes and arrangements to ensure SAF use is accounted for in emissions reporting schemes (see 6.2 Building blocks supporting SAF uptake).

Australia is uniquely positioned to realise the benefit of a domestic SAF industry

The CSIRO's *Sustainable Aviation Fuel Roadmap* assessed Australia's potential as a SAF feedstock producer and SAF manufacturer. The roadmap noted Australia has many natural advantages to support a domestic SAF feedstock industry, including large landmass, temperate climates, advanced farming practices and existing significant production of potential feedstocks.

The Australian Government's National Hydrogen Strategy sets a vision for a clean, innovative, safe and competitive hydrogen industry. On 24 February 2023, the Energy and Climate Change Ministerial Council agreed to a review of the strategy to ensure it positions Australia on a path to being a global hydrogen leader by 2030 both on an export basis and for the decarbonisation of Australian industries. These ambitions to become a producer of low and zero carbon hydrogen could build our capacity to produce types of SAF developed through the emerging PtL pathway that uses hydrogen, renewable energy and captured carbon dioxide to produce a synthetic equivalent to kerosene.

A domestic SAF industry could contribute to supporting regions to transition to the net zero economy

The Australian Government recognises that, as the world decarbonises, there will be a need for an orderly and positive economic transformation to ensure Australia, its regions and workers realise and share the benefits of the net zero economy. Alongside supporting decarbonisation of the aviation sector, a domestic SAF industry has the potential to support new employment and economic opportunities, including in Australia's regions.

Modelling in ARENA's *Bioenergy Roadmap* estimates bioenergy could potentially contribute 26,200 new additional jobs by the 2030s and 35,300 jobs by the 2050s, with at least one in 4 additional jobs expected to be in regional areas.¹³⁶ The production and collection of some biogenic feedstocks (such as sugarcane and agricultural and forestry residues) will depend heavily on infrastructure and supply chains in regional areas. Additionally, hydrogen development, which will support processing of biomass feedstocks into SAF in the near term, and as a new feedstock itself in PtL aviation fuels in the future, will also support employment in Australia's regions. The Australian Government's \$2 billion Hydrogen Headstart program will fund large-scale hydrogen production projects to accelerate development of Australia's hydrogen industry and help Australia connect to new global hydrogen supply chains.

Establishing a new SAF industry provides new markets for Australia's agricultural industry

The CSIRO's *Sustainable Aviation Fuel Roadmap* identifies sugarcane and sorghum as potential Australian produced biofuel feedstocks, diversifying market opportunities for growers of these commodities. Agricultural and forestry residues such as stalks, leaves, husks, woodchips and branches can be used as biofuel feedstocks, creating value from these previously low-value products.

¹³⁶ ENEA Consulting and Deloitte, *Australia's Bioenergy Roadmap*, report to Australian Renewable Energy Agency (ARENA), Australian Government, ENEA Consulting and Deloitte, 2021.

Additionally, some crops grown specifically for biofuel production may unlock new opportunities on marginal land which is unsuitable for growing food crops. Any land use changes will need to be balanced against the emissions and environmental impact of those changes. Expansion of the Guarantee of Origin Scheme discussed below (6.2) will help avoid detrimental impacts from increased biofuel production, including the allocation of land from food production and biodiversity impacts.

Alongside employment and regional development opportunities, becoming a domestic SAF producer also offers liquid fuel security benefits

Australia currently imports 90% of its liquid fuels (via direct and indirect imports), including jet fuel, through long supply chains exposed to geopolitical and climate change risks.¹³⁷ Domestic SAF production can help to mitigate the risks of supply interruptions to jet fuel. Domestic SAF production also helps to enhance Australia's liquid fuel security by diversifying our fuel mix into low carbon alternatives, alongside decarbonising the aviation sector.

6.2 Building blocks supporting SAF uptake

A successful domestic LCLF industry needs to be complemented by appropriate mechanisms to support SAF demand.

The Australian Jet Zero Council provides advice to government on actions to put in place 'building blocks' to support domestic SAF uptake

The Australian Jet Zero Council provides advice on:

- establishing arrangements to certify the sustainability credentials of SAF to ensure SAF produced and used in Australia meets intended sustainability goals and to provide stakeholder trust and confidence
- building social licence for SAF use and educating stakeholders on its benefits
- developing a framework for voluntary consumer purchasing of SAF, which would support customers to 'opt in' to procure a portion of SAF for their flight
- arrangements to ensure SAF use can be accounted for in existing emissions reporting schemes or new arrangements.

The Australian Government will develop a certification scheme for SAF

The Australian Government will develop certification arrangements for SAF, supported by advice from the Australian Jet Zero Council, through an expansion of the Guarantee of Origin Scheme.

The Guarantee of Origin Scheme is an assurance scheme being designed to track and verify emissions associated with hydrogen, renewable electricity and other products over time. The Guarantee of Origin Scheme will show where a product has come from, how it was made and its life cycle carbon intensity.

The Australian Government expects to deliver certification arrangements in mid-2028 and intends that certification arrangements will align with international standards.

The Australian Jet Zero Council is progressing advice on the development of a framework for voluntary consumer purchasing of SAF to be led by industry.

¹³⁷ Department of Climate Change, Energy, the Environment and Water (DCCEEW), *Australian Petroleum Statistics 2023*, DCCEEW website, Australian Government, n.d.; Department of Environment and Energy (DEE), *Liquid Fuel Security Review: Interim report*, DCCEEW website, Australian Government, 2019.

The Australian Government has introduced a new market-based approach to recognise SAF use in emissions accounting arrangements

In feedback to the Department of Climate Change, Energy, the Environment and Water's (DCCEEW) consultation on the NGER Scheme, submissions from the Australian Institute of Petroleum, Qantas and BP advocated for updates to emissions accounting methodologies to account for use of SAF when used in joint infrastructure or where SAF is purchased, but not physically used, by an airline.

Their submissions noted that, as SAF are 'drop-in' fuels, they may not use dedicated fuel infrastructure, and SAF may be co-mingled with conventional fuel. The infrastructure which distributes this blended fuel may be accessed by multiple airlines.

In December 2023, the Climate Change Authority delivered its Review of the National Greenhouse and Energy Reporting Act. In its review, the Climate Change Authority recommended introducing optional market-based reporting of renewable liquid and gaseous fuels once a framework for approving certifications for renewable fuels is operational.

In response to this stakeholder feedback, and the Climate Change Authority's recommendations, DCCEEW has introduced new arrangements commencing in the 2024–25 NGER reporting cycle to recognise and account for emissions from SAF use in the NGER Scheme. As the NGER Scheme is used as the basis for Safeguard Mechanism accounting, it will now be possible to recognise SAF use in these circumstances towards Safeguard Mechanism obligations.

The amendments made in the Update Determination are intended to enable market-based reporting of scope 1 emissions from combustion of renewable liquid fuels in circumstances where there is a reasonable physical link between the supply and consumption of the renewable liquid fuel which requires that the renewable liquid fuel being reported has been delivered into the shared infrastructure from which the blended fuel is drawn.

This will be complemented by industry activities to support social licence and educate consumers about SAF

Social licence activities will help dispel misinformation, avoid perceptions of greenwashing and showcase SAF's safety and sustainability attributes, highlighting the new economic opportunities they present.

6.3 Further consideration of mandates, targets or other demand-side measures

Some stakeholders have advocated for the Australian Government to encourage additional SAF supply into the market through improving domestic demand, such as blending mandates, targets or standards. These stakeholders argue such interventions could create a demand signal which contributes to catalysing a domestic SAF production industry, supporting a build-up of supply capacity that would put downward pressure on prices.

A SAF mandate would involve a requirement that a certain portion of aviation fuel use comes from LCLF. This may drive greater demand certainty than non-binding targets, and better support investment confidence in LCLF production. It can be designed to increase over time, providing industry with time to adapt operations to new requirements, and to allow increased supply into the market to meet new demand. A non-binding target would impose less regulatory costs on businesses than a mandate but may be less effective in providing investors with certainty.

Alternatively, a low-carbon fuel standard is more flexible than a mandate allowing fuel producers to choose how to lower the emissions intensity of their products. Producers could also purchase credits from fuel producers whose fuels are below the emissions intensity threshold set under the standard.

Internationally, governments have committed to or introduced demand signals for SAF. For example, the European Union has imposed a mandate under its ReFuelEU Aviation initiative on fuel suppliers to supply a minimum share of SAF at European Union airports (2% of overall fuel supplied by 2025 increasing to 70% by 2050). The United Kingdom is also committed to introducing a similar mandate in 2025 requiring suppliers to supply jet fuel which consists of at least 10% SAF by 2030.

While SAF mandates are a mechanism to drive demand and supply, their benefits need to be balanced with any potential risks

Mandates put in place where there is insufficient domestic production and refining capacity may result in supply limitations driving up the cost of SAF in the short term.

Any SAF mandate or demand-side measures will need to be carefully designed to ensure alignment with the Australian Government's Safeguard Mechanism reforms, which came into effect in July 2023. Under these reforms, legislated emissions limits (baselines) are set for Australia's largest emitters. In the aviation sector, this captures the Qantas Group and Virgin Australia plus, in any given year, one or 2 of the other smaller emitting airlines. Baselines will decline on a trajectory consistent with achieving Australia's emission reduction targets. The Safeguard Mechanism creates technology agnostic 'market pull' signals, allowing emitters to determine the most effective method for abatement, including through the most cost-effective options.

Mandates would need to be accompanied by robust certification arrangements to ensure the mandate will not drive uptake and supply of low-quality SAF which may work against emission reduction efforts.

The Australian Government is undertaking further assessment before deciding about mandates

The Australian Government is committed to ensuring any market interventions to encourage SAF uptake do not have adverse consequences for consumers or the aviation industry; do not introduce any anti-competitive distortions; and do not work against existing emissions reduction frameworks, including the Safeguard Mechanism.

The Australian Government is further considering the introduction of demand measures through the consultation paper and a regulatory impact analysis. The regulatory impact analysis will seek feedback on the impacts of the different options for demand measures, such as changes in demand (including domestically produced LCLF), ticket price impacts, emissions reductions, aviation competition and specific impacts a mandate could have on regional aviation operations and consumers. The regulatory impact analysis will also consider the option of creating a target or a standard, rather than a mandate.

6.4 Use of procurement levers

Australian Government SAF demand could also act as a signal to kickstart a domestic SAF market

Defence is the Commonwealth's largest direct consumer of aviation fuels, amounting to about 3% of total domestic aviation fuel use. As described in the Defence Future Energy Strategy, Defence is committed to transitioning to renewable, low carbon energy types, where this can be achieved without compromising



Australian Defence Force capability or operations. Defence has already used SAF blends in parts of both its fixed wing and rotary wing fleets. Defence views the establishment of a domestic renewable fuel industry as a key opportunity to improve fuel security.

6.5 Alternative low emissions technologies

While SAF is currently the most viable pathway to support decarbonisation of aviation, alternative low emissions technologies such as hydrogen and electrification will form part of the suite of measures that will support ongoing emissions reductions in the longer term.

As outlined in Chapter 7: Connecting regional Australia and Chapter 8: Regenerating General Aviation, alternative low emissions technologies present an opportunity to support the decarbonisation of regional and General Aviation.

While alternative low emission powered aircraft are unlikely to be deployed on long-haul routes until the 2050s, their applications on shorter haul routes are promising into the 2030s. Trials of retrofitted hydrogen powered aircraft and clean sheet aircraft are underway, including in Australia.

Australian company Stralis Aero is undertaking tests of a retrofitted 15-seat hydrogen electric aircraft in Australia and is expecting entry into service of these aircraft as early as 2026 with airline Skytrans. The company is also preparing to undertake tests of a new 50-seat aircraft in 2027 and is working towards the aircraft entering into service in 2030.

Dovetail Electric Aviation had partnered with Rex to trial aircraft fitted with a single hydrogen-electric engine aircraft in 2024 – although this arrangement may be affected by decisions about Rex's long term operating model. Dovetail Electric has also received \$3 million from the Australian Government to develop, test and certify conversion of turbine-powered planes into fully electric-powered aircraft. In February 2024, Dovetail Electric Aviation announced the successful completion of initial ground tests of small-scale Electric Propulsion System to spin a 3-blade propeller.

The Australian Government will undertake measures to support development and initial deployment of these technologies

Industry has emphasised that government support for research and development of new low emissions technologies will be critical to assisting the industry in bridging the gap between initial research and commercialisation of these technologies.

The Australian Government has been providing support through the Emerging Aviation Technology Program. The program supports research into and development of low or zero emissions technologies with potential applications in conventional aviation. This includes trials or deployment of low or zero emissions aircraft and supporting infrastructure, particularly those that use aviation propulsions other than jet fuel, such as batteries and hydrogen. The program will support Australian-led research and development of these emerging technologies, helping to accelerate their development.

In November 2023, Australian start-up AMSL Aero was awarded \$5.43 million under ARENA's Advancing Renewables Program, to support its development of a hydrogen powered electric Vertical Take-Off and Landing aircraft (eVTOL) named Vertiia. The \$5.43 million ARENA grant will support AMSL to undertake development and certification activities for the aircraft, culminating in successful demonstration with a test flight of the prototype. The Vertiia project is discussed further in Chapter 11: Enabling new aviation technologies.

The National Reconstruction Fund Corporation (NRFC) has been established to facilitate the NRF, providing finance for projects that diversify and transform Australia's industry and economy. The NRFC is an independent financier that operates commercially to deliver a positive rate of return. It is governed by a board which will make independent investment decisions guided by an investment mandate.¹³⁸ The NRFC will provide a range of finance options (including debt and equity) across government identified priority areas including renewables and low emission technologies, and transport.

As noted in Chapter 8: Regenerating General Aviation, regional and remote aviation can provide a test bed for emerging low emission aircraft technologies, and General Aviation (GA) operators may be able to adopt technologies not yet viable for longer-haul and higher volume aviation operations.

Recognising the opportunities GA presents in supporting the adoption of low emissions technologies, the Australian Government will undertake a targeted grant funding program to help flight schools to adopt emerging technologies like electric airplanes, helping build skills needed by GA, and the aviation sector more generally, to transition to net zero from the bottom up. Further detail on the General Aviation Renewal Program is discussed in Chapter 8: Regenerating General Aviation. Electric aircraft are already in use in a number of flying schools in Australia, and provide an early opportunity for these aircraft to be adopted in GA operations.

To support the accessibility and affordability of clean energy, the Australian Government has already committed \$20 billion to the Rewiring the Nation program. The program will invest in essential upgrades and new projects to ensure Australia has reliable renewable power supply, with new transmission lines delivering renewable energy to communities, supporting availability of reliable and affordable electricity to these areas. The Australian Government has also committed to a target of 82% renewable energy in our electricity grid by 2030.

Measures to support Australia's hydrogen industry, including the National Hydrogen Strategy and Hydrogen Headstart Program (see 6.1 Domestic sustainable aviation fuel production) will help support availability of hydrogen, helping to facilitate commercialisation of hydrogen powered aircraft.

In the longer term, new regulation and further policy responses will be necessary to ensure the safe deployment of these technologies

As deployment time frames and nature of these new technologies remain uncertain, the optimal types of longer term policy interventions are not yet clear.

The Australian Government will continue to work with industry through the Australian Jet Zero Council and CASA to understand the development of technologies and implement appropriate policy responses where appropriate. This could include reviewing regulatory frameworks to ensure they can accommodate new technologies and certification of emerging technology for commercial use.

6.6 Decarbonisation across the aviation industry

The aviation industry as a whole will have a role in decarbonising aviation

Industry activities to support decarbonisation will complement commitments from the Australian Government. We are already seeing design and operational improvements to drive increased fuel efficiency of aircraft, and measures such as decarbonisation of ground operations at airports. It is incumbent on industry to decarbonise its activities.

¹³⁸ National Reconstruction Fund Corporation (Investment Mandate) Direction 2023 (27 November 2023).

As part of its forward work program, the Australian Jet Zero Council will develop advice on emissions reduction measures that can be undertaken by airlines and airports to contribute to decarbonisation. This advice will draw on industry's existing efforts and analysis, and will consider implications of these developments for international, domestic and regional airlines and airports.

To support regional airports to address challenges presented by the transition to net zero operations, the Australian Government will extend eligibility of the Regional Airports Program (RAP) to enable funding to be provided to infrastructure projects that support aviation's transition to net zero.

The RAP will be provided an additional \$40 million over the next 3 years. The program could support the installation or upgrade of infrastructure to enable the deployment of new low and zero emission aviation technologies, such as electric charging infrastructure, battery swapping facilities and hydrogen fuels (see Chapter 7: Connecting regional Australia).

The Australian Jet Zero Council's work will identify better practices and showcase and promulgate those practices to encourage uptake across the industry.

A number of airports are already progressing decarbonisation measures. This includes Brisbane Airport, which is leading the Australian Jet Zero Council's workstream on emissions reduction measures by airports. Brisbane Airport has committed to reducing waste to landfill to zero and establishing protected biodiversity zones, solar systems and an electric bus fleet to support passenger operations.

Amending the matters to be considered in airport master plans and major development plans will encourage consideration of measures to decarbonise Australia's Leased Federal Airports. As outlined in Chapter 9: A balanced approach to airport planning and noise, the Airports Regulations 2024 will be amended to require airport master plans to include information on how the airport's long-term planning will address decarbonisation.

The Minister for Transport has written to operators of Leased Federal Airports setting out a range of matters that the Minister will have consideration to when making decisions about master plans and major development plans, including the suitability of the airport's sustainability and decarbonisation initiatives.

The Australian Government has already announced the development of the built environment sectoral plan to address direct emissions from the built environment, operational emissions from fuel and electricity use in operating buildings, and embodied emissions from construction materials. It will incorporate consideration of airport terminals.

6.7 International engagement

Australia will continue engagement to support decarbonisation of international aviation through ICAO

Australia strongly supports ICAO's goal of carbon neutral growth for the international aviation industry from a 2020 emissions baseline. Australia retains its commitment to its program of international aviation engagement, including efforts to support decarbonisation of aviation.

At ICAO's Third Conference on Aviation Alternative Fuels CAAF/3, held in November 2023, member States, including Australia, agreed a new global framework to facilitate the scaling up of SAF, LCAF and other cleaner energies. The framework includes 4 major building blocks covering policy and planning, the regulatory framework, implementation support and financing. Additionally, Australia agreed with member States to a collective global aspirational vision to reduce CO₂ emissions in international aviation by 5% by 2030 through the use of SAF, LCAF and other cleaner aviation energies.

The suite of activities being undertaken by the Australian Government and aviation industry to support uptake of SAF will be the basis for Australia's contribution to meeting this collective global aspirational vision. This includes measures being progressed based on advice of the Australian Jet Zero Council as well as industry led commitments to SAF use.

Including engagement on CORSIA

In 2016, Australia supported a landmark agreement by member States to adopt CORSIA – a global market-based measure scheme in the form of a carbon offsetting scheme to help address CO₂ emissions from international aviation. Australia continues to support CORSIA as the market-based mechanism to address emissions, along with the support of Australian international airlines. Australia's international airlines have been monitoring and reporting emissions under CORSIA since its commencement in 2019.

Australia continues to participate in the Assistance, Capacity-building and Training for CORSIA (ACT-CORSIA) initiative. ACT-CORSIA recognises the need for a coordinated global capacity building initiative under ICAO to ensure all States are able to implement CORSIA and its monitoring, reporting and verification requirements. Australia has participated in ICAO's CORSIA Buddy Partnerships program, partnering with Brunei Darussalam, Indonesia, Nauru, Papua New Guinea, Sri Lanka and Thailand to support these States to prepare for CORSIA implementation.

Under the ICAO's CORSIA Buddy Partnerships program, Australia has provided technical expertise and delivered workshops on CORSIA implementation with these nations. Australia will continue to support these States when required, including through the preparation and implementation of CORSIA monitoring, reporting and verification system (MRC) in these states.

Australia also participates in the Assistance, Capacity-building and Training for Sustainable Aviation Fuels (ICAO ACT-SAF) initiative, working closely with ICAO and other States to identify opportunities to provide support to SAF initiatives around the world.

And will work closely with our international partners

The Australian Government is also working with international partners to facilitate SAF uptake in the Asia-Pacific region. In November 2023, Australia joined its Asia-Pacific Economic Cooperation (APEC) partners in committing to spur the transition to and investment in low and zero emissions transportation in the Asia-Pacific region, including through pursuing efforts to accelerate transition towards SAF.¹³⁹

Additionally, in May 2023, the Australian and United States governments entered into the Australia – United States Climate, Critical Minerals, and Clean Energy Transformation Compact. Under the compact, Australia and the United States have committed to the sustainable development of high-integrity SAF production to support emissions reductions in the aviation sectors and intend to establish information-sharing exchanges on economy-wide emission accounting schemes for products like SAF and hydrogen.

¹³⁹ Asia-Pacific Economic Cooperation (APEC), *2023 Leaders' Declaration*, San Francisco (USA), APEC website, 17 November 2023.



Connecting regional Australia





Safe, affordable and reliable air services are vital for regional and remote Australia, connecting people to family, community, and the services they need to maintain and improve their standard of living. Australian aviation grew from the necessity of servicing remote and regional Australia by air, and this remains critical today.

Some remote and regional air services are thriving and leading innovation in the transition to net zero and increased automation. But consolidation in the sector has reduced services and regional airfares are high compared to those of other countries. Remote and regional aerodromes need to build their climate resilience and accelerate their journey to net zero.

In response to evidence of high airfares and infrequent services, the Australian Government will instruct the Productivity Commission to investigate the determinants of regional airfares. Australians need regional air services that provide a reliable service at an accessible price. We need nationally consistent data to form an evidence base for decision-making, for both state and federal governments, on the policies and regulation needed to counter high fares.

Remote communities depend on air services and, as our climate changes, functioning airstrips will become increasingly important for the delivery of goods and services. Consistent with its commitment to Closing the Gap, the Australian Government will increase funding for upgrades to remote airstrips. The Remote Airstrip Upgrade (RAU) Program is being extended with \$50 million over 3 years to support improving the safety and accessibility of remote airstrips across Australia.



The Australian Government is already funding climate resilience work at aerodromes through the Disaster Ready Fund. Recognising the scale of the challenge posed to the sector by the transition to net zero and the effects of climate change, the Australian Government is providing \$40 million over 3 years to extend the Regional Airports Program (RAP). The program will continue to provide grant funding to improve safety and connectivity of regional airports and will be expanded to also provide grant funding to regional aerodromes for investment in the infrastructure required to support differently fuelled aircraft.

Our commitment to establishing a domestic sustainable fuel industry, outlined in Chapter 6: Maximising aviation's contribution to net zero, puts regional Australia at the centre of Australian aviation's energy transition and our energy security. Our domestic sustainable fuel investment fund incentivises private sector investment to take advantage of our natural advantages in solar and wind electricity generation, as well as our engineering expertise and strong supply chain infrastructure. The sustainable aviation fuel industry will develop alongside local hydrogen and battery supply chains across Australia.



How we will deliver

The Australian Government's vision is for reliable and accessible aviation services to remote and regional communities. As part of its commitment that no one is held back and no one is left behind, consistent with the principles of the Regional Investment Framework, the Australian Government will:

- **Direct the Productivity Commission to undertake a review of the determinants of regional airfares** to identify opportunities to improve regional services, access to capital cities and reliability.
- **Extend the RAU Program with additional funding of \$50 million over 3 years (from 2024–25).** The Australian Government will continue to support the Remote Aviation Access Program (RAAP), which consists of the RAU and Remote Aerodrome Inspection (RAI) programs and the Remote Air Services Subsidy (RASS) scheme. These programs fund critical safety and accessibility upgrades for airstrips in remote communities and critical inspection services to ensure safety of remote airport operations; and subsidise regular air transport services to communities in remote and isolated areas of Australia.
- **Provide \$40 million to extend the RAP (over 3 years from 2024–25).** The RAP will continue to support regional airports to improve safety and connectivity and will also enable regional airports to make the investments they will need for the transition to net zero and to improve climate resilience. A financial management framework will be an essential element of high-value applications.
- **Update the program guidelines for all regional and remote aviation programs to report against how they contribute to Closing the Gap outcomes,** such as providing increased training, employment and procurement opportunities for First Nations businesses and communities. Grant decisions will also take account of membership of the Australian Government's Gender Equity Charter for Aviation.

The need for action

Australians living in regional and remote areas rely on air transport to access essential goods and services

When urgent travel is required, or when other modes of transport are cut off, air transport is the only way to provide remote areas with food, services and other essentials. Access to aviation is vital for the health, social and economic wellbeing of remote communities, particularly to support Closing the Gap targets related to improving education, health and employment outcomes. Aviation also provides access for millions of Australians and international visitors to explore and connect with regional communities and supports regional economic development and employment for over 100,000¹⁴⁰ regional tourism businesses. Regional aviation – aircraft and airports operating in Australia's regions – facilitates the deployment of hundreds of aircraft to fight fires and respond to emergencies and facilitates thousands of emergency evacuations, providing links to essential health services. Remote and many regional aerodromes will increasingly need to factor ensuring climate resilience into their forward planning and budgets.

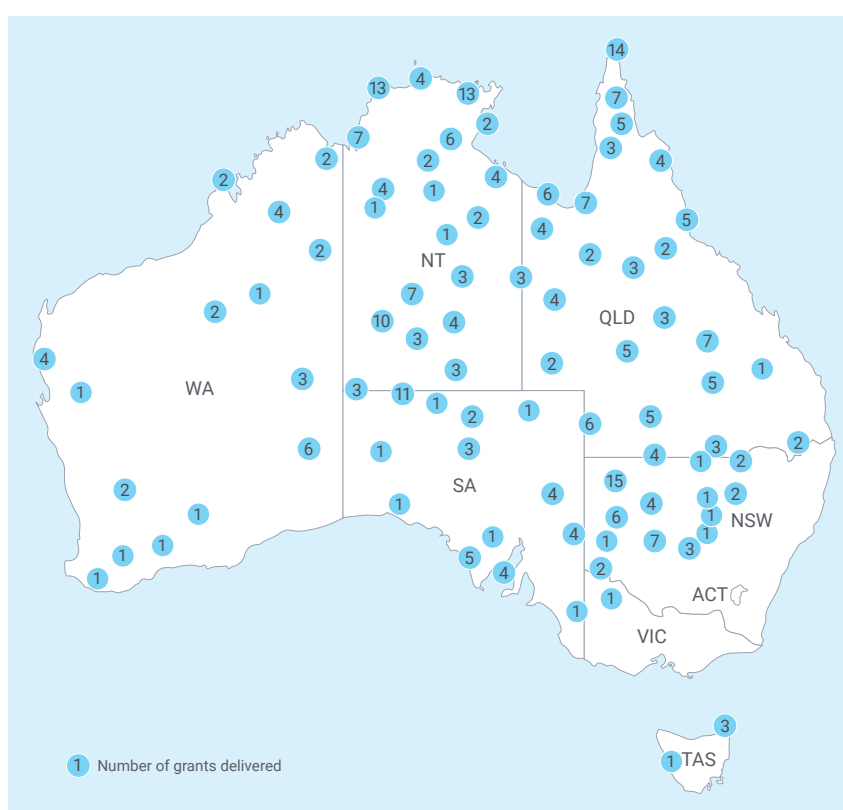
The Australian Government acknowledges the uncertainty that currently exists in the provision of air services to regional and remote communities with Rex's entry into voluntary administration. The Australian Government is acutely aware of the importance of reliable and affordable services to regional Australia and will work to support the continuation of regional services.

¹⁴⁰ Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), *State of Australia's Regions 2024*, DITRDCA, Australian Government, 2024.

Remote communities already face ongoing difficulties in finding the resources and finances to maintain air services and infrastructure

Low population densities across vast distances in remote Australia mean the per passenger costs to operate air services and aerodromes are higher and some costs, such as fuel and maintenance, can be more expensive in absolute terms. Many remote air services receive support from different levels of government – federal, state and territory and local – through regulation of routes and fare subsidies. Likewise, many remote airports are provided funding support to upgrade airport infrastructure. Without this support, it is likely that many remote airstrip operators would not be able to afford major works to maintain safety and access. Staff shortages across the aviation sector further increases the pressure on connectivity to remote communities.

Figure 16: Map of 2016 Remoteness Areas for Australia with RAU Round 1 to 8 participants



Regional air services can be significantly more expensive than non-regional routes

In September 2023, the average ticket price per kilometre was 52% higher for return flights to or from a non-capital city than return flights between 2 capital cities.¹⁴¹ Regional air services typically operate using smaller, older aircraft on routes with thin demand, increasing the price per ticket needed to recover the cost per flight. While governments intervene to regulate some routes, there is no national consistent picture of the causes of these prices which would enable better informed government action to intervene where it is in the public interest to do so.

¹⁴¹ Bureau of Infrastructure and Transport Research Economics (BITRE) data of airfares September 2023.

Regional and remote aviation can provide a test bed for emerging aviation technologies

Hydrogen fuel cell and battery electric aircraft are expected to have significantly lower operating costs but in the short to medium term may not have the capacity for operation on higher volume routes. Testing and commercialisation of these technologies are likely to be on aircraft carrying fewer than 19 passengers to begin with, making regional and remote routes prime candidates to be the first adopters of net zero aviation technologies. Supporting infrastructure will be needed in regional Australia to allow for the development and use of these aircraft, but, given the long distances involved on some routes, the availability of SAF will also be necessary.

The transition to net zero may create new economic opportunities in regional Australia

As the world decarbonises, a domestic SAF industry, combined with emerging industries such as battery manufacturing and hydrogen production, will contribute to supporting regions transition to the net zero economy. Feedstock production and collection will depend heavily on regional areas to construct and manage supporting infrastructure and supply chains for SAF – with the potential to create regional jobs and development. Local refining of the feedstocks will add to these opportunities. The Australian Government recognises the need for an orderly and positive economic transformation as the world decarbonises so that Australia realises and shares the benefits of the net zero economy. Further detail on the opportunities presented by a domestic SAF market are contained in Chapter 6: Maximising aviation's contribution to net zero.

Aviation is critical to support Australia's regional visitor economies

In a country the size of Australia, aviation services provide access for millions of Australians and international visitors to explore and connect with regional communities. In addition to connecting people for leisure and family purposes, aviation supports visitors travelling to regions for business and education. Likewise, aviation access for Australians in regional areas to travel to cities is important for personal and business purposes. The visitor economy is a key driver of regional economies. It provides services and infrastructure to communities and supports over 100,000 regional businesses, most of which are locally owned and operated. It also generates significant employment for the local community. Additionally, given the remoteness of many First Nations communities and potential First Nations tourism offerings, an increase of aviation services will allow First Nations people to have increased economic opportunities and job creation through opportunities to develop First Nations tourism offerings.

The role of the Australian Government

State and territory governments have primary responsibility for the economic regulation of intrastate regional and remote aviation, and for all aerodromes other than the Commonwealth airports.¹⁴²

Many state and territory governments regulate specific regional routes to ensure a minimum level of connectivity is maintained. For example:

- The Western Australian Government regulates and caps consumer prices on some air routes in the state to ensure that efficient, effective and regular air services occur on these routes and the needs of the community are met.

¹⁴² Canberra, Sydney Kingsford Smith, Western Sydney International (Nancy-Bird Walton), Bankstown, Camden, Brisbane, Gold Coast, Townsville, Archerfield, Mount Isa, Darwin, Alice Springs, Tennant Creek, Melbourne, Essendon, Moorabbin, Hobart, Launceston, Adelaide, Parafield, Perth and Jandakot airports.

- The Queensland Government funds the Local Fare Scheme, which provides airfare subsidies for routes to Cape York, Gulf of Carpentaria and Torres Strait.
- The Northern Territory Government funds the Patient Assistance Travel Scheme, which provides financial help for travel and accommodation expenses for people who need to travel a long distance to see an approved medical specialist.

As an example of their commitment to the aviation industry and the importance of international tourism to regional and remote communities, state governments, such as Queensland and Western Australia, moved early to apply investment attraction funding to re-establish international services post-COVID.

Many local governments are responsible for operating airports within their jurisdictions and make strategic decisions about investing in airport infrastructure to support economic activity. The Australian Government recognises state, territory and local governments are best positioned to make strategic decisions about the transport networks in regional Australia. However, feedback from governments during the Aviation White Paper consultations made clear that a national picture of the determinants of regional airfares would assist with their planning and interventions. The Australian Government will support that evidence base by directing the Productivity Commission to undertake an investigation into the determinants of regional airfares to improve regional services, access to capital cities and reliability.

The Australian Government has a key role in making sure regional and remote aviation meets international safety and security standards, recognising aviation's critical role in connecting Australia and servicing the needs of remote communities. The government recognises that these security requirements impose costs upon regional airports and will continue to work with industry to ensure that security settings are appropriate. Through the RAAP, the Australian Government already provides support for remote aviation where it is not commercially viable but is essential for the social and economic wellbeing of the communities it serves. By creating essential linkages to education and health services, and employment opportunities, support for remote aviation activities contributes to achieving Closing the Gap outcomes.

The Australian Government has set its priorities for regional investment through the Regional Investment Framework

The framework¹⁴³ supports the delivery of smart and responsible investments across all sectors and areas of the economy that support regions to adapt and thrive. The framework has 4 priority investment areas: industries and local economies, people, places and services. In addition, the framework has a priority focus on meeting the needs of, and providing opportunities for, First Nations people; supporting the transformation to a net zero economy and decarbonisation; and achieving gender equality. The Australian Government's regional and remote aviation programs will be aligned with the principles of the framework and support the priority areas. For example, the Regional Aviation Program will be specifically designed to support the transition to net zero (see 7.4 Transition to net zero).

7.1 Regional aviation

In Aviation White Paper consultations, stakeholders expressed the firm view that regional aviation is increasingly not adequately serving the community's needs, with high prices and limited services. Competition in regional aviation has been reducing since the deregulation of aviation in the 1990s. Despite growth in passenger movements and in overall capacity, there has been a decrease in the number of regional aerodromes served, down from 278 in 1984 to 142 in 2021. Between 1989 and 2021,

¹⁴³ Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), *Regional Investment Framework*, DITRDCA website, n.d.

the number of regional routes fell from 458 to 291 and the number of remote routes fell from 264 to 163.¹⁴⁴ Many routes are now serviced by a monopoly operator.

Consumers are concerned about a lack of transparency and allege that airlines are behaving anti-competitively

The 2019 Senate inquiry into the operation, regulation and funding of air route service delivery to rural, regional and remote communities found 'greater transparency in how airfare pricing is determined would be of great benefit to consumers and the general public'.¹⁴⁵ Greater transparency on the determinants of high airfares may address concerns raised by regional consumers and improve their understanding of why prices are high. Airline competition is monitored closely by the Australian Competition and Consumer Commission (ACCC), including competition on regional routes. ACCC airline monitoring found examples of competition placing downward pressure on busy intercity routes, but airfares are generally higher on lower volume, typically regional routes.¹⁴⁶ The 2019 inquiry also suggested the Productivity Commission would be best placed to undertake a review, as it has powers under the *Productivity Commission Act 1998* (Cth) to compel the provision of specified information when undertaking an inquiry.

The Productivity Commission will review the determinants of regional airfares

Through a detailed economic analysis, the review will investigate the determinants of regional airfares, including competition, pricing behaviour by airlines or airports and any excessive profits being made in the supply chains for regional services.

In undertaking the inquiry, the Productivity Commission should:

- analyse the determinants of regional airfares and service offerings, and the composition of factors that contribute to the relatively higher price of regional airfares, compared with airfares between major cities
- examine any barriers to entry or expansion for airlines to provide regional services
- identify policy and regulatory settings that may contribute to higher regional airfares, reduced service levels or reduced competition
- assess the role for government and the most efficient forms of government interventions in the market and other policies to improve access, pricing and service outcomes
- consider international comparisons and best practices.

In contrast to the ACCC's airline monitoring, the Productivity Commission will make specific recommendations to address issues identified. The Australian Government will also implement a number of broader reforms to increase competition for air services from, and to, regional areas, including:

- reforms to deliver a skilled and productive aviation workforce for the future, including improved training and licensing arrangements. Improved availability of skilled labour is identified in Chapter 5: A skilled, secure and productive aviation workforce as particularly impacting the support of air services to regional areas
- slot reforms at Sydney Airport, which will improve New South Wales regional access to Sydney

¹⁴⁴ Bureau of Infrastructure, Transport and Regional Economics (BITRE), *Air transport services in regional Australia: trends and access report*, BITRE website, 2008. For more information, see Department of Infrastructure, Transport, Regional Development and Local Government (DITRDG), *National aviation policy green paper: flight path to the future*, 2008.

¹⁴⁵ Senate Rural and Regional Affairs and Transport References Committee, *Operation, regulation and funding of air route service delivery to rural, regional and remote communities*, Parliament of Australia, 2019.

¹⁴⁶ Australian Competition and Consumer Commission (ACCC), *Airline competition in Australia – December 2022 report*, ACCC, Australian Government, 2022.

- ACCC airline monitoring – continued and ongoing. The Australian Government has directed the ACCC to monitor domestic airfares until the end of 2026. Monitoring includes regional routes and will enable greater public scrutiny of airfares and help identify instances of airlines misusing market power.

7.2 Closing the Gap

Regional aviation services support social, cultural, health and economic outcomes for their communities and support Closing the Gap

Access to aviation services can support delivery of Closing the Gap targets related to improving health (targets 1 and 2) education (targets 3, 5, 6 and 7) and economic participation (targets 7 and 8) outcomes. Aviation is critical to delivering health care to remote communities through services such as the Royal Flying Doctor Service, bringing doctors into remote communities and transporting people to healthcare services. Aviation also brings educational services into remote communities and allows people in remote communities to travel for education. The RAAP facilitates aviation's role as an enabler of these outcomes by funding air services, aerodrome upgrades and aerodrome inspections.

Australia's remote airstrips are vital for communities who would otherwise be cut off from receiving urgent medical care and supplies

State, territory and local governments and private airport owners have primary responsibility for ensuring regional and remote airports are maintained. The Australian Government supports regional aviation through the RAAP. The RAAP provides funding for remote airstrips to carry out much needed upgrades for safety and accessibility through the Remote Airstrip Upgrade (RAU) Program, which provided \$14.9 million in 2022 for 55 projects, and funds annual inspections for identified remote airstrips through the Remote Aerodrome Inspection (RAI) program.

The Australian Government also funds the RASS scheme, as part of the RAAP, which subsidises a regular weekly air transport service for the carriage of passengers and goods such as mail, educational materials, medicines, fresh foods and other urgent supplies to communities in remote and isolated areas of Australia. There are 10 geographic regions under the RASS scheme, with air operators contracted by the Australian Government to provide a regular air transport service. The RASS scheme subsidises flights to 269 remote communities throughout Queensland, Northern Territory, South Australia, Western Australia and Tasmania, including many Indigenous communities.

The Government is investing in safety and accessibility for remote airstrips

Recognising the critical nature of air services to delivering closing the gap targets in health and education, the Australian Government will provide \$50 million over 3 years to fund additional rounds of safety and accessibility upgrades for remote airstrips. Our existing remote aviation upgrade programs are significantly oversubscribed – there is a clear need for a strategic investment in this area. Ensuring remote aerodromes remain safe and operational is critical to provide essential goods and services. This is becoming an increasing challenge with the advent of severe weather events and as our climate changes. In Aviation White Paper consultations, First Nations people told us the availability of remote airstrips is highly valued – in particular, to support the role of the Royal Flying Doctor Service and other medical response services but also to provide access to education and employment opportunities.

RAU Program grant guidelines will be updated to include consideration of how applicants' activities support Closing the Gap targets, such as by providing improved access to health and education services or employment opportunities.



There is potential for future aviation technology to play a greater role enabling programs and services that support Closing the Gap

If the benefits of aviation, and particularly emerging aviation technologies, are shared across regional and remote Australia, aviation services are likely to become more reliable and accessible. For example, new drone technology is being developed to support the delivery of payloads of up to 50 kg across distances of up to 1,000 km. If successful, this could support cheaper and easier delivery of health and education. Guidelines for regional, remote and emerging aviation technology programs will consider impacts or benefits on delivering Closing the Gap outcomes, including providing First Nations employment and economic participation in communities and delivering essential goods and services, as part of the broader assessment of applications for regional and remote aviation programs. This focus will support regional and remote airports to fulfil their role supporting social connections for communities and as economic enablers.

7.3 Regional airports

For many regional communities, local airports provide crucial transport connections to the rest of Australia

The vast majority of regional airports are now owned by local councils, many of which struggle to finance their ongoing maintenance and development. Typically, smaller airports with fewer passengers per annum are less likely to be self-sufficient or profitable. Assistance for regional airports has traditionally been provided by state and territory governments, with many operating grants schemes to finance upgrade works.

Since 2019, the Australian Government has provided \$100 million in grant funding for regional airports to help address funding shortfalls for regional airports. This funding has delivered safer runways, taxiways and other safety upgrades such as fencing and lighting. This funding has helped to reduce cost pressures of airport ownership on local governments.

The Australian Government will extend and expand the RAP by providing \$40 million over 3 years

The RAP will continue to improve safety and connectivity for regional communities by providing funding undertake critical safety and accessibility upgrades. The RAP will have an expanded scope and will include upgrades to support the transition to net zero (refer to 7.4 Transition to net zero).

Implementation of a financial management framework will be an essential precondition for eligibility for the program. Many regional airports depend on government support in order to invest in infrastructure upgrades and do not have strategic plans in place to ensure the airport can meet community needs over the long term. This can reduce the efficiency of government support for regional airports by funding developments that may not suit the long-term needs of the airport. The Productivity Commission has called for state and territory governments to improve the capability of council-operated regional airports to enable operators to better manage airport assets.¹⁴⁷ In Western Australia, application of the Strategic Airport Assets and Financial Management Framework supports lifting capability in this area. Where the Australian Government is making a significant investment in regional airport infrastructure, implementation of a financial management framework will be required.

¹⁴⁷ Productivity Commission (PC), *Economic regulation of airports*, PC, Australian Government, 2019.

The Australian Government will ensure security standards are maintained at appropriate levels

The Government acknowledges that security requirements for aviation impose costs on regional airports. While maintaining appropriate aviation security is a cost of doing business for airports, the government will continue to engage with industry to ensure that settings remain at the appropriate level.

7.4 Transition to net zero

Aviation

The transition to net zero poses challenges to almost all sectors of our economy, but aviation is a particularly hard to abate transport mode. The Australian Government will support the development of a domestic low carbon liquid fuel industry, with a focus on SAF, to support emissions reductions in the aviation sector and establish a strong domestic transport biofuels industry. This reflects submissions received during the Aviation White Paper process as well as the work of the Australian Jet Zero Council. With limited alternatives to SAF available for medium to long haul travel, SAF is expected to play a critical role in the decarbonisation of regional aviation.

SAF production is likely to be beneficial for regional Australia, creating jobs throughout the SAF supply chain. Feedstock production and collection will depend heavily on regional areas constructing and managing supporting infrastructure and supply chains for biogenic SAF and synthetic fuels. Fuel production will also provide job creation opportunities that would be missed if feedstock was exported without domestic value added through local refining. Modelling in Australia's Bioenergy Roadmap estimates bioenergy could potentially contribute 26,200 new additional jobs by the 2030s and 35,300 jobs by the 2050s, with at least one in 4 additional jobs expected to be in regional areas.¹⁴⁸ Further detail is contained in Chapter 6: Maximising aviation's contribution to net zero.

Airports

Regional airports will, in many cases, need to invest in infrastructure to support the transition – increasing electrification, making SAF available, improving climate resilience and developing staff skills in servicing of new electric and hydrogen technologies. While emerging aviation technologies have the potential to increase connectivity in regional and remote Australia, reduce emissions and create new economic opportunities, airports may need to invest in new infrastructure and equipment and develop new procedures and training to accommodate these. This could include installing or upgrading airside infrastructure, such as electric charging infrastructure, battery swapping facilities, and infrastructure needed for new fuels such as hydrogen.

To support regional airports in the transition to net zero, the Australian Government will provide funding support through the RAP. The RAP guidelines will be amended to include supporting the uptake of net zero and emerging aviation technologies. The program will seek applications from regional airport owners to support the cost to install infrastructure, such as electric aircraft chargers, hydrogen refuelling or increasing capacity to the electricity grid.

Grant guidelines will consider the economic activity and social connections the airport enables in the surrounding region, the airport's contribution to emergency services and disaster preparedness, and strategic fit with state and territory government transport plans.

¹⁴⁸ ENEA Consulting and Deloitte, 'Australia's Bioenergy Roadmap', report to Australian Renewable Energy Agency (ARENA), Australian Government, ENEA Consulting and Deloitte, 2021.



Regenerating General Aviation





General Aviation (GA) is uniquely positioned to implement some of the innovative changes the aviation sector needs to modernise. By designing, testing and manufacturing new aviation technologies, GA will improve productivity, safety and connectivity, contributing to the decarbonisation of the aviation sector. This is in addition to GA's vital and ongoing roles of training important parts of the aviation workforce, supporting the agricultural and tourism sectors and supporting delivery of medical and emergency services.

The Australian Government will work with the GA industry to prioritise regulatory changes necessary to reduce the burden on GA operators and keep pace with the technological change; continue to support access for GA to our regulated secondary metropolitan airports; and strengthen airspace management for GA to remain safe in Australia's skies.

The Civil Aviation Safety Authority (CASA) is refreshing its GA Workplan in consultation with the sector to simplify regulatory arrangements, reduce the burden on industry and support development of new technologies.

The Minister for Transport has written to airport operators to make clear that, when deciding whether to approve future master plans, the Minister will have regard to whether appropriate access to the airport site has been provided and maintained for GA. By 2030, the Australian Government will conduct a comprehensive review of the *Airports Act 1996* (Cth) and the regulatory settings for planning and development of Leased Federal Airports (LFAs).



How we will deliver

To support the regeneration and growth of the GA sector, the Australian Government will:

- make it clear to airport operators that, when making decisions to approve future master plans or major development plans (MDPs), the government will have regard to the appropriateness of the airport's community consultation processes and whether **appropriate access to the airport site has been provided for GA, consistent with the regulations in the Airports Act 1996**.
- **require that CASA refresh its GA Workplan in consultation with the sector** to prioritise changes to the civil aviation safety framework that reduce regulatory burden and support development of new technologies, while keeping the community safe.

In addition, the following initiatives in this white paper will also support a stronger GA sector:

- **improving training pathways for aviation maintenance engineers and simplifying the visa process for pilots** and other highly skilled aviation workers to allow easier entry into the Australian labour market
- **reviewing the Airports Act 1996 and supporting regulations** to consider whether they can better protect the interests of airport users and the community, while encouraging investment by industry to meet Australia's long-term demand for aviation services
- **supporting the uptake of infrastructure at regional airports** for the net zero transition through a regional airports grant program
- **extending and expanding existing subsidies for the purchase of Automatic Dependent Surveillance Broadcast (ADS-B) equipment**
- **setting out the Australian Government's policy approach to national airspace management**
- **protecting Australian communities, infrastructure and businesses from security risks of drones and AAM** by introducing new legislation by 2030
- **keeping the skies safe by reducing collision risk** between drones and crewed aircraft by considering advice, by in late 2025, about a timetable for mandating ADS-B devices.



The need for action

A healthy GA sector will enable the broader aviation sector

GA plays a key role in addressing current challenges, such as shortages of pilots and engineers, as well as embracing longer-term opportunities, including the transition to net zero and uptake of new aviation technologies. GA is the training ground for many pilots and engineers and enables the future aviation workforce to develop the skills and experience needed to support a career in aviation. The variety of aircraft in use and services provided by GA makes it an ideal testing ground for the next generation of aircraft and aviation components. From battery electric flight training to automated spraying, the future of aviation will be realised by GA's application of new technologies in Australia's skies. Governments and industry will work together to provide the regulatory environment for GA to succeed.

GA is diverse

The opportunities, challenges, and actions needed for success differ for each sub-sector. Some sectors of GA, such as flight training schools, value being based at metropolitan airports, close to large labour markets and the convenience of the services offered by major cities. However, there is limited space at secondary metropolitan GA airports, airspace is expected to become increasingly congested, and noise impacts are greater around large metropolitan populations. Other parts of the GA sector, which operate in the regions, do not face the same constraints or costs but can struggle to attract workers. There will not be a 'one size fits all' approach to maximise the growth potential of all areas of GA. Rather, in designing policies to support aviation, the Australian Government will consider the needs of different sectors of GA and the needs of GA in different areas.

What is GA?

GA includes:

- **Emergency services:** Aviation which enables the provision of essential and potentially lifesaving services to the Australian public, requiring priority access to airspace and airport infrastructure – for example, aero-medical flights, emergency services, law enforcement and search and rescue.
- **Charter and freight:** Businesses or individuals that provide small scale transport services for freight or charter transport services for passengers.
- **Aerial work:** Businesses and individuals that provide services such as mustering, spraying, banner towing and surveying.
- **Flight instruction:** Businesses that provide commercial and non-commercial flight instruction.
- **Ground aviation services:** Businesses or individuals that operate on land on or off airports, which provide aviation services such as maintenance and navigation.
- **Recreational flying:** Businesses that provide recreational flight services to the public, and individuals who fly for pleasure, including sport and recreation associations.

A common challenge for all GA operators will be the transition to net zero

Some GA sectors will lead the way in testing new technologies before broader adoption. The ageing GA fleet, particularly aircraft reliant on Avgas rather than jet fuel, will have a different pathway to net zero compared to domestic airlines. New net zero technologies, such as electric aircraft, can support productivity in the industry by lowering ongoing fuel and maintenance costs, but the high upfront capital costs and lack of recharging infrastructure are barriers to adoption. Through the Regional Airports Program, outlined in Chapter 7: Connecting regional Australia, the Australian Government will invest a further \$40 million to support regional and remote airports to invest in infrastructure to improve safety and connectivity; and expand eligibility to infrastructure that supports the transition to net zero (for example, providing electric chargers and hydrogen refuelling infrastructure and improving connection to the grid).

Access to airports and airspace will support the sector to regenerate and grow

The master plan and MDP processes will continue to protect GA activity on airports in major cities. The master plans for the secondary metropolitan LFAs all forecast increasing aircraft movements, driven by activity at flight schools. Recent decisions on master plans at Moorabbin and Archerfield airports demonstrate the Australian Government's commitment to ensure adequate space is being planned for at these airports that are home to the GA sector. For example, planning for growth includes:

- the Moorabbin Airport Master Plan, which increases the number of aircraft movements to 375,000 by 2041. Flight training accounts for most movements at Moorabbin Airport
- the Archerfield Airport Master Plan, which anticipates strong growth in aircraft movements to 2042, rising from 125,000 in 2021–22 to almost 300,000 in a high-growth forecast, or 155,000 in a slow-growth forecast
- the Jandakot Airport Master Plan, which forecasts reaching the airport's theoretical maximum capacity of 460,000 fixed wing and 66,000 helicopter movements by 2041
- the Parafield 2017 Master Plan, which expects 336,000 movements by 2036, with an optimistic expectation of 432,000.

GA needs fit for purpose regulations

Improving regulatory efficiency, while maintaining safety standards, will be critical to reducing the regulatory burden on industry and ensuring regulations can keep pace with changing technology. CASA is refreshing the GA Workplan to consider new priorities to support GA, such as developing more plain English guides for regulations. This will support the growth of all GA sectors, including the growth of emerging technologies such as drones and advanced air mobility (AAM).

Better data is needed on the economic contribution of GA

The Australian Government is undertaking a study on the economic contribution of GA. This study is intended to address data gaps that currently prevent the government from quantifying the contribution of GA to Australia's economy. The results of this study will inform government policy on GA.



The role of the Australian Government

The Australian Government has a key role ensuring GA operations are safe and secure through fit-for-purpose regulation, protecting GA providers, the broader aviation sector and the public.

The Australian Government also has a role in ensuring GA has reasonable and competitive access to airspace and airports, especially at LFAs. In addition, the Australian Government shares a role with state, territory and local governments in helping GA limit negative externalities in relation to noise, environmental and safety impacts on those living close to airports or under flight paths.

8.1 Growth driven by new technologies

Growth in the GA sector out to 2050 will be driven by the uptake of safe and cost-effective new technologies

The variety of services provided to the community by GA makes the sector well placed to take up the opportunities brought by new aviation technologies. Lower operating costs and safer aircraft could improve the financial sustainability of GA businesses. Quieter net zero propulsion systems will reduce the impact of GA on the environment and local communities. However, the GA industry will need to invest in fleet renewal to make the most of these opportunities, and the Australian Government will support the industry through targeted financing and funding programs.

Australia's research and manufacturing capability places it at the forefront of advancing aviation technologies, and the Australian Government will support GA businesses who invest in new technologies. The National Reconstruction Fund Corporation (NRFC) can provide financing (including debt and equity) for eligible businesses to invest in domestic transport manufacturing (including aviation), as well as for renewables manufacturing and the deployment of low emission technologies across industry. Government has set target investment levels in the NRFC Investment Mandate, including \$1 billion to advanced manufacturing, \$1 billion for critical technologies and up to \$3 billion for renewable and low emissions technologies. Increased manufacturing of aviation parts in Australia has the potential to benefit GA businesses by lowering the time and cost of accessing spare parts. Outlined in further detail in Chapter 11: Enabling new aviation technologies, the Australian Government will improve information available to industry about funding and procurement opportunities.

8.2 General aviation's pathway to net zero

New technologies will reduce emissions and contribute to Australia meeting its net zero targets

Whilst GA represents a small portion of aviation's overall emissions (approximately 7%), the adoption of new technologies and fuels will enable GA to contribute to meeting these targets while unlocking new opportunities.

GA can drive the test bed for the future of aviation, developing new aviation technologies that may be commercially viable in the short to medium term. These technologies have the potential to support emissions reductions and may be more cost-effective to operate than current piston and turbine engines. GA operators use a variety of small to medium sized aircraft, depending on their business model and the airport infrastructure.

These businesses, along with smaller regional airlines, may be able to adopt technologies, such as hydrogen or battery electric propulsion systems that are not yet viable for longer haul, higher volume airlines. This may improve the sustainability of the GA sector as a whole and improve connectivity in regional areas.

Sustainable aviation fuel (SAF) is unlikely to be the answer for much of the GA sector

Most GA aircraft do not use turbine engines that are able to use SAF as a drop-in alternative to jet fuel. For those aircraft that can use SAF, they are likely to have higher costs than jet fuel, and GA will be likely to face strong competition from airlines for access to SAF. This means SAF is unlikely to be an economically viable option for most in the GA sector to abate emissions.

The GA sector is beginning to adopt net zero aviation technologies as they replace older retiring aircraft

One- to 5-seater electric GA aircraft are in operation now and are likely to become more available to GA businesses in the short to medium term as low and zero emissions technologies mature, provided they have capital available to invest. The Cloud Dancer pilot school operating out of Jandakot Airport has 3 2-seat electric aircraft for training purposes. The aircraft have 50 minutes of flight time and lower operating costs and are quieter than current training aircraft.

As electric, and possibly hydrogen, aircraft become part of the commercial air fleet in the short to medium term, they will be well suited to some sectors of GA with high utilisation, such as tourism, surveying and pilot training. With typically shorter flight lengths, lower weights than scheduled air services and flights beginning and ending at the same airport, electric aircraft are more viable for use in some parts of the GA sector in a shorter time frame than for applications requiring larger aircraft.

As battery technology continues to improve, their application could expand to other sectors of the GA industry which require longer haul and heavier aircraft movements. The high upfront cost of light aircraft, and particularly electric light aircraft, is likely to slow the rate of uptake while the technology matures.

The availability of supporting infrastructure will also be critical for the uptake of new technology. To remain competitive, GA airports will need to invest in new infrastructure such as battery charging to support these technologies, which may be a challenge for smaller airports with fewer landings and less non-aviation development.

The Australian Government will support the GA sector in regional areas to adopt net zero technology

As outlined in Chapter 7: Connecting regional Australia, grant funding will kickstart the deployment of infrastructure in regional areas needed for GA to invest in new aviation technologies. The Australian Government will provide a further \$40 million in funding for the Regional Airports Program and expand its eligibility to include infrastructure that prepares regional airports for future challenges presented by the transition to net zero. Program guidelines will be established to ensure funding is directed to regional airports most in need, with a financial management framework an essential element of high value applications.



8.3 Regulation of General Aviation

CASA is improving the regulatory framework for civil aviation, including for GA

CASA has developed a GA Workplan to reduce the regulatory burden on GA. The plan is intended to provide advice to stakeholders when regulatory changes impacting GA will likely occur and to make the Australian Government's strategic priorities for GA clear.

However, safety remains the number one priority for the Australian Government. Any changes in regulation will be made with regard to maintaining appropriate levels of aviation safety, including consideration of recent accident and incident trends.

CASA's primary and most important consideration is air safety, as specified in the *Civil Aviation Act 1988* (Cth) (CA Act). CASA takes relevant considerations, including cost, into account and adopts a risk-based approach to regulation and decision-making. However, some stakeholders consider the additional regulatory burden being placed on GA to be too high. In addition, some members of the GA sector consider the regulation to be overly complex (for example, not written in plain English) or question whether the safety risks are of such significance they require mitigating.

CASA has reaffirmed its commitment to ensure regulatory changes are justified on the basis of safety risk and do not impose unnecessary cost or unnecessarily hinder participation in aviation and potential for growth.¹⁴⁹ The Australian Government has also set an expectation that CASA will fully consider the impact of new regulations on GA and rural and remote regions.

The 2022 Senate inquiry into Australia's General Aviation industry made several recommendations to CASA about how it could improve the regulatory environment for GA. This included recommendations related to reviewing several parts of the Civil Aviation Safety Regulations, reviewing the cost recovery process, and improving mutual recognition of overseas qualifications and the process for industry complaints. The inquiry also made recommendations related to workforce issues and funding for regional airports. The Australian Government has considered the recommendations of the inquiry in the development of the Aviation White Paper and puts forward a range of initiatives and funding measures to address these important issues in this chapter and throughout the white paper, including:

- requiring that CASA update its GA Workplan
- improving training pathways for aviation maintenance engineers through modular licensing, aligning training requirements and recognising licences from authorities with similar standards
- making it easier for Australian businesses to recruit pilots and other highly skilled aviation workers to address skill shortages through a new Skills in Demand visa
- expanding requirements for ADS-B use, extending existing subsidies for the purchase of ADS-B OUT equipment and expanding them to include ADS-B IN.

¹⁴⁹ Civil Aviation Safety Authority (CASA), *Development and application of risk-based and cost-effective aviation safety regulations*, CASA, Australian Government, 2023.

Over the past 7 years, CASA has also worked to address these concerns from stakeholders to enhance the regulation of GA. Initiatives such as the establishment of the GA Workplan, changes to the CA Act, the creation of the Aviation Safety Advisory Panel and internal changes in CASA have sought to address these concerns. The impact of these changes to how CASA consults with and regulates the GA sector are still maturing, but stakeholders report they see the improvements.

CASA is engaging with industry about the GA Workplan on an ongoing basis, including through technical working groups. CASA has taken an expansive and flexible approach to considering the definition of 'GA', noting many of the measures will have broader benefits across the wider aviation sector.

Proportionate maintenance rules to be adopted for GA

The government plans to deliver less complex maintenance rules that will reduce costs for GA. The core of the new framework is an initiative which allows independent licenced aircraft maintenance engineers (LAMEs) to provide most maintenance services on private and aerial work aircraft without the overhead of requiring an Approved Maintenance Organisation.

This framework will continue to prioritise safety while also simplifying compliance, providing business opportunities, allowing greater choice and reducing red tape for private and aerial work operators.

The role of CASA as the civil aviation safety regulator is considered further in Chapter 10: World-leading safety, security and airspace regulation, which recommends CASA continue its current approach to consulting with and regulating the sector.

Much of recreational aviation operates under a self-administered model in Australia

There are 5 Recreational Aviation Self Administration Organisations authorised to self-administer sport and recreational flying for the benefit of their members and affiliates.

It is a CASA requirement that aircraft registered with self-administering associations only be used for non-commercial activities (excluding a small number of specific activities, including flight training, warbird and adventure flights). This system reduces the burden for CASA to regulate many activities and gives more regulatory control to groups interested in the long-term viability of their activity. The Australian Government will continue to monitor the efficacy of this model as GA grows and airspace management evolves.

8.4 Airport access

The primary role of airports is to enable civil aviation activities, including GA

Airports maintain a balance of commercial development to promote the sound development of civil aviation and to promote the efficient and economic development and operation of airports.

Since the Australian Government privatised Australia's airports, non-aviation developments have become an important revenue stream to help fund maintenance and improvement of airports. These developments diversify revenue sources for airport operators, ensuring they are able to remain viable, including during disruptions to the aviation sector such as the COVID-19 pandemic.



On average, LFAs generated greater revenue and greater operating profit from non-aeronautical activities. Privatisation of airports has seen GA tenants offered leasing arrangements which reflect commercial costs and arrangements, instead of relatively low-cost, long-term leases that were previously offered by the Australian Government. As a result, some aviation businesses with lower revenues or private individuals no longer have the same access to airport infrastructure.

While existing planning regulations protect aviation activity at LFAs, privatisation of LFAs has placed pressure on smaller GA operations, especially in outer metropolitan airports.

One of the objects of the Airports Act is to promote the sound development of civil aviation in Australia and to establish a system for the regulation of airports that has due regard to the interests of airport users and the general community.

LFAs must have final master plans approved by the Australian Government. A purpose of master plans is to 'establish the strategic direction for efficient and economic development at the airport over the planning period' – in particular, the intended land use across various airport precincts. When the airport lessee company gives the Minister a draft master plan, in deciding whether to approve the plan the Minister must have regard to the extent to which carrying out the plan would meet present and future requirements of civil aviation users of the airport.

Some in the GA community are concerned that, if they are not adequately protected by government, they will be unable to compete with larger GA businesses for existing aviation facilities, and airports will preference non-aeronautical developments over aeronautical developments in plans for future expansion, leaving them unable to access airport facilities. Many metropolitan airports are predicting growth in the number of flight movements in the coming decades, and existing regulations are designed to safeguard this activity to promote the growth of GA.

The Australian Government will continue to protect General Aviation at LFAs through regulations that require lessees to operate LFAs as airports

GA activity at secondary LFAs, such as Moorabbin and Jandakot, is protected through airport planning, development and land use oversight by the Australian Government. Airport lessees must also account for growth in aviation by continuing to develop the airports as demand grows. Master plans and MDPs ensure LFAs meet their requirements to provide for general ('civil' in the Airports Act) aviation activity and provide clarity for other issues, such as where mixed-use zoning can and cannot be used.

The Minister for Transport has written to the operators of LFAs, making it clear that, when making decisions about master plans and MDPs, the Minister will have regard to whether appropriate access to the airport site is provided for GA. The Minister will also have regard for the continued investment in GA activities and precincts on airport sites. The Australian Government will continue to pay close attention to the implementation of these protections for GA operators, as has been recently demonstrated in the consideration of Moorabbin and Archerfield Airports' master plans.

By 2030, the Australian Government will conduct a comprehensive review of the Airports Act and the regulatory settings for planning and development of LFAs. The Australian Government will also seek to include examination of GA market dynamics in relation to airport access in the next Productivity Commission inquiry into the economic regulation of airports. This will include looking at federally leased secondary metropolitan airports for the first time.

8.5 Access to airspace

More sophisticated airspace management will ensure GA has equitable access to airspace

GA stakeholders raised access to airspace as critical to ensure GA can operate at current levels of activity and grow in the future. The GA operations may be limited in certain areas around Australia by airspace restrictions, including through airspace exclusively claimed by Defence, and the impact of new developments around airports in metropolitan areas.

Growth of airspace users including drones and AAM will add to the congestion of the available airspace. New systems, such as Uncrewed Aircraft System Traffic Management (UTM), which is discussed in Chapter 11: Enabling new aviation technologies, have the potential to support higher utilisation of airspace.

Technology such as ADS-B can help keep GA safe, while enabling GA flying under VFR to continue to access airspace. Drones and AAM are expected to become particularly prevalent in low-level metropolitan airspace and in some regional areas in the medium term. In this airspace, conventional aircraft typically operate under VFR using a 'see and avoid' method of avoiding collision with other aircraft, as little to no air traffic control management is provided. Over time, this will no longer be a feasible solution to ensure the safety of aircraft, particularly GA, unless all aircraft can see and avoid each other. The use of ADS-B OUT by GA aircraft will protect GA aircraft by ensuring there is a consistent and reliable industry standard for drones to detect GA aircraft. Drones will be able to detect ADS-B OUT signals from approaching aircraft and avoid their path.

To improve safety and efficiency, the government will consider options for a universal ADS-B mandate for GA aircraft. Widespread use of ADS-B technology will be essential to ensure the safe and efficient operation of Australia's airspace in future. The government is establishing a cross-agency working group to advise on the expansion of the current ADS-B mandate to cover all airspace classes. Given the long lead-times of aviation investment, this will provide GA with certainty about the future of airspace management, and the future investments they will need to make to continue to operate safely in uncontrolled airspace.

Alongside that work, the government is extending and expanding the subsidy for ADS-B for GA aircraft. Existing funding to subsidise the purchase of ADS-B equipment will be extended to 2027 and expanded to include ADS-B IN capabilities in some circumstances to support GA.



A balanced approach to airport planning and noise





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Aviation is critical to Australia's economy and way of life. However, aviation activity imposes noise and other impacts on people living near airports. While some level of aircraft noise is unavoidable, the Australian Government is committed to minimising impacts where possible and taking the views of communities affected by flight path decisions into account.

Clearer, more timely information will be available about where aircraft noise occurs, across more parts of Australia. The Australian Government will work with states and territories to improve land use planning near airports to avoid further incompatible development.

Our national air navigation service provider, Airservices Australia, will establish a new executive position responsible for noise and other environmental concerns. An independent Aircraft Noise Ombuds Scheme will be established to oversee how Airservices Australia responds to complaints about aircraft noise.

The Australian Government is committed to the efficient development and utilisation of Australia's airports to underpin the sustainable, accessible and affordable growth in aviation.



How we will deliver

To better manage the impacts of aircraft noise and promote efficient development and utilisation of Australia's airport assets, the Australian Government will:

- **Create an independent Aircraft Noise Ombuds Scheme** as part of the Aviation Industry Ombuds Scheme. The Australian Government will establish the Aircraft Noise Ombuds Scheme independently of Airservices Australia, as part of the new Aviation Industry Ombuds Scheme. The Aviation Industry Ombuds Scheme will have the power to conduct independent investigations into aircraft noise complaints handling, publish reports and make recommendations to government about the handling of noise complaints, community consultation processes and the presentation of noise-related information.
- **Improve transparency about aircraft noise impacts.** Airservices Australia will examine its Noise and Flight Path Monitoring System (NFPMS) and include additional information in the NFPMS on aircraft movements and noise impacts. Airservices Australia will also publish a quarterly report on noncompliance with noise abatement procedures.
- **Produce new guidance for 'Flying Considerately'.** The Australian Government will develop guidance to pilots on 'Flying Considerately' to minimise noise impacts in residential areas, when operating under visual flight rules or outside of controlled airspace. This guidance will be incorporated in the Aeronautical Information Package (AIP), which is distributed to pilots by Airservices Australia.
- **Appoint an Airservices Australia executive for noise and environment** to lead the agency's work on noise minimisation, including engagement with affected communities, and ensure this work is integrated with the operational decisions of air traffic controllers.
- **Improve land use planning outcomes near airports** to seek to avoid further development that is inappropriate for the noise level and protect airport operations from potential safety risks, through:
 - working with National Airports Safeguarding Advisory Group (NASAG) to update National Airports Safeguarding Framework (NASF) 'Guideline A', by 2027 to describe best-practice approaches for **including aircraft noise exposure notifications on property titles for new developments**
 - supporting implementation of the recommendation from the 2021 review of the NASF to **improve education on the NASF for local planning officials**
 - updating the Australian Standard on building siting and construction in relation to aircraft noise intrusion. The Australian Government has applied to Standards Australia to review AS 2021:2015 and consider incorporating the guidance handbook on producing information on aircraft noise (SA HB 149:2016) into the standard.
- **Improve engagement with communities affected by changes to airspace and flight paths.** The Australian Government has set expectations for Airservices Australia to apply best-practice consultation when designing airspace and flight path changes, consistent with the Community Engagement Standard for Flight Path and Airspace Change Proposals finalised in 2023.
- **Update guidelines for Community Aviation Consultation Groups (CACGs)** to set out ministerial expectations for greater community input into the CACG work programs, greater community involvement in CACG meetings and more widespread dissemination of CACG information to community members.
- **Require additional information in airport master plans and major development plans (MDPs)** about how development of the airport will address climate change resilience, decarbonisation and disability access. The Australian Government will amend the Airports Regulations 2024 to include this requirement. The Minister for Transport has also written to airport operators to advise that, when making decisions to approve future master plans or MDPs, the Minister



will have regard to how the airport has addressed these additional requirements, as well as the appropriateness of the airport's community consultation processes, and whether appropriate access to the airport site has been provided for General Aviation. For master plans or MDPs that involve new or changed runways, the Minister will also have regard to the suitability of the airport's plans for noise mitigation, including the appropriateness of noise sharing arrangements.

- **Review the *Airports Act 1996*** by 2030 to support any decision on airport lease renewals. The Australian Government will conduct a comprehensive review of the legislative and regulatory arrangements for the ownership, planning, development and environmental management of the 22 Leased Federal Airports. This will provide regulatory certainty for airport lessee companies, ahead of applying to exercise their right to extend the initial 49-year airport lease period for a further 50 years.

The Australian Government reaffirms its commitment not to impose any additional operating constraints on airports, such as curfews or movement caps, where they currently do not exist.

These initiatives will complement the following reforms, which are already underway:

- Improving the government's Airport Building Controller function at federally leased airports and ensure sustainability of service provision into the future: the department has established a team to progress this work, and updated fees and charges will be progressed subject to legislative and regulatory amendments.
- Reviewing the Airports (Environment Protection) Regulations 1997, which are due to sunset in April 2025: the government will also make a decision about cost recovery options for Airport Environment Officer functions before 2026.

The need for action

A strong aviation sector is a key enabler of a productive and growing Australian economy. Australia's population is geographically dispersed across a large island continent, with air travel the best transport mode for many essential journeys. Aviation in Australia is here to stay. Key economic sectors – including tourism, mining, construction, manufacturing and higher education – are all heavily reliant on aviation. In 2022, Deloitte Access Economics estimated that Australia's airports contributed \$105 billion to the national economy and supported 690,000 jobs.¹⁵⁰

But aviation activity has noise and environmental impacts. As well as the climate impacts described in Chapter 6: Maximising aviation's contribution to net zero, aviation can have a range of impacts on people living near airports, including from noise, road traffic, reduced air quality and potential contamination by per and poly-fluoroalkyl substances (PFAS), which were historically used at airports in firefighting foams. We already have a network of environmental regulators monitoring pollution at airport sites.

As aviation grows, these impacts will increase. Aviation activity in Australia is forecast to more than double by 2050, with over 237 million domestic passengers and 94 million international passengers expected to be carried each year.¹⁵¹ Across Australia's major cities, airport capacity is expanding to meet the increased demand.¹⁵² Additional airport capacity will deliver significant social and economic benefits but must be developed in a way that respects the interests of communities living near airports or under flight paths.

¹⁵⁰ Deloitte Access Economics, *Taking flight: the economic and social contribution of Australia's airports*, report to the Australian Airports Association (AAA), Deloitte Access Economics, 2023.

¹⁵¹ Bureau of Infrastructure and Transport Research Economics (BITRE) report, forthcoming.

¹⁵² L.E.K. Consulting, *Aviation White Paper: Scenario Analysis of the Future of Australian Aviation*, report to the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), L.E.K. Consulting, 2023.

A holistic approach is needed to manage aircraft noise impacts

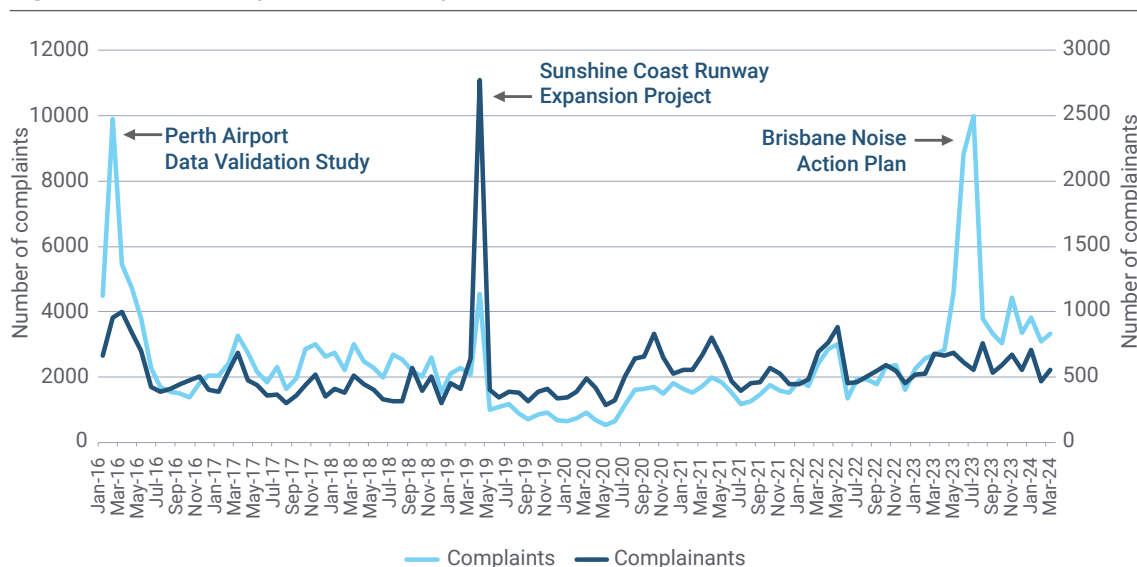
The Australian Government recognises that some level of aircraft noise is an unavoidable by-product of aviation. The level of noise heard from an aircraft during take-off, landing and flight varies, based on factors such as the weather, the height of the aircraft, the type of aircraft and the topography of the land below. Individuals can also have different levels of sensitivity to noise impacts. These and other factors can make it difficult to quantitatively represent the aircraft noise exposure that people will experience.

Current aircraft noise planning tools can be highly technical, and they can be confusing to non-experts. Aviation White Paper submissions called for simpler and clearer information about aircraft noise impacts in a form that people can readily understand. Submissions also called for more comprehensive and up-to-date information about noise impacts and public reporting about when aircraft operators have not followed noise abatement procedures.

Some types of land use and development are not appropriate in areas subject to high levels of aircraft noise. Australian Standards exist for the types of building that are considered appropriate in different Australian Noise Exposure Forecast (ANEF) contours. Submissions to the Aviation White Paper suggest that the standards may permit residential and other noise-sensitive development in areas with noise levels that are out of step with modern community expectations.

While controls restricting new development can play an important role in minimising any increase in the number of residents impacted by aircraft noise, much of the recent concern about aircraft noise in Australia's cities has arisen from new and changed flight paths, and other aviation activity, over already built-up areas. Figure 17 shows the number of aircraft noise complaints and complainants, which have spiked following changes in flight paths.

Figure 17: Noise complaints and complainants – Australia wide¹⁵³



153 Data sourced from the Noise Complaints and Information Service, Airservices Australia.

Efficient development and utilisation of Australia's airport assets is important for national prosperity and security

Airports are scarce resources, and development of new airport sites is rare and difficult. With the exception of Western Sydney International (Nancy-Bird Walton) Airport (Western Sydney Airport), which is currently under construction, there have been no new major airports built in any Australian capital city since 1970. The Australian Government expects that the airport sites in use or under development today will need to continue to meet Australia's aviation needs out to 2050. This requires efficient use of airport infrastructure to successfully facilitate the expected growth in passengers and airfreight.

The role of the Australian Government

The costs of noise and other environmental impacts from aviation are not borne by the aviation industry – they are what is sometimes referred to as 'externalities' and are borne by other members of society. Because the aviation industry does not bear the full cost of its activities, there is a risk that it will generate excessive levels of noise and other impacts – a form of market failure. The Australian Government has a longstanding role in addressing such market failures in the interests of Australian society as a whole.

While some level of aircraft noise is an unavoidable by-product of aviation activity, the Australian Government will use its policy and regulatory levers to help mitigate aircraft noise as much as practicable, without imposing economically harmful restrictions on aviation activity, and will hold the sector accountable for minimising noise impacts where it is safe to do so.

The Australian Government regulates planning and development at Leased Federal Airports so that these critical assets are developed in a way that serves Australia's long-term interest, while minimising impacts on the environment and nearby communities. However, there are limits to what the Australian Government can achieve on its own. While Australia's major airports come under Commonwealth planning control, state and local governments are primarily responsible for ensuring complementary development outcomes on land in the vicinity of airports and under busy flight paths.

The Australian Government will take a leadership role, working proactively with the aviation industry and other levels of government, to mitigate the impact of aircraft noise. The Australian Government will work with:

- airports to encourage early, proactive and open engagement with nearby communities, as well as communities further away from the airport site which may not expect to be impacted by aircraft noise, to explain likely noise impacts
- state and local governments to make appropriate long term land use planning decisions around airports to minimise development that is inappropriate given noise levels now and into the future
- communities to provide easily understandable flight path and noise information.

It is also a central role of the Australian Government to foster the growth and development of the economy. Aviation is a key enabler of economic growth, and excessive constraints on aviation activity may harm our national prosperity.

There is significant national benefit in maintaining a national network of airports free of curfews and movement caps. This enables the more efficient movement of passengers and freight, not just at individual airports but across the whole network. The Australian Government reaffirms its commitment not to impose any additional curfews or movement caps at Australian airports. A clear policy stance on this issue is important to provide certainty for capital investment in airport assets.

The Australian Government has also revised arrangements for the provision of Airport Building Controller (ABC) and Airport Environment Officer (AEO) services at major airports to expand capacity so that under-resourcing does not act as a brake to development.

9.1 Improved land use planning near airports

Inappropriate development near airports can result in risks to aviation safety, unnecessary constraints on airport operations and impacts on community amenity. In the interests of all parties involved, development in the vicinity of airports should occur in a way that is compatible with airport operations, both at present and in light of what we know will be future growth. The most effective way to safeguard communities and airports from inappropriate developments is through effective land use planning (see Box 3: Case study – City of Cockburn planning approach in aircraft noise affected areas).

Box 3: Case Study – City of Cockburn planning approach in aircraft noise affected areas

The City of Cockburn is located approximately 24 km south of Perth. It is home to over 125,000 people and 9,000 business across 24 suburbs, and includes Jandakot Airport. In 2006, the Western Australian Government introduced a State Planning Policy for the Jandakot Airport Vicinity. The objectives of the policy are to:

- protect Jandakot Airport from encroachment by incompatible land use and development so as to provide for its ongoing, safe and efficient operation
- minimise the impact of airport operations on existing and future communities, with reference to aircraft noise.

The policy sets out requirements for zoning within certain areas and within the Australian Noise Exposure Forecast (ANEF) contours. It also contains a requirement for noise attenuation and notifications on property titles – advising of the potential for noise nuisance – as a condition of any subdivision or new planning approval. The City of Cockburn has adopted the state planning policy and included the requirements in local planning policies and local development plans.

Since 2016, 3 major developments have taken place within the Jandakot Airport 'Frame Area'. As part of the conditions of approval of these developments, notices of existing and future noise impacts have been placed on titles, increased noise attenuation has been required in homes, and developers have been required to draw prospective buyers' attention to the local development plans.

The steps taken help to protect Jandakot Airport, inform new residents of aircraft noise impacts and reduce the impact of noise on communities.

Strengthening the National Airports Safeguarding Framework

The NASF is a national land use planning framework that aims to deliver effective land use planning in areas surrounding airports across all states and territories. The NASAG – comprising Commonwealth, state and territory government planning and transport officials, the Australian Government Department of Defence, the Civil Aviation Safety Authority (CASA), Airservices Australia and the Australian Local Government Association (ALGA) – oversees implementation of the NASF.

NASF includes a series of guidelines for land use planning in areas surrounding airports to manage issues including aircraft noise impacts, windshear and turbulence at airports, wildlife strikes by aircraft, intrusions into protected airspace, distraction to pilots from lighting installations, impacts on terrestrial aeronautical equipment and encroachment of helicopter landing sites.

While all state and territory governments have agreed to NASF, Aviation White Paper submissions suggested that it is inconsistently applied across Australia and that local planners working in areas near airports do not always understand and apply the NASF guidelines.



In August 2019, the NASAG undertook a review of the implementation of the NASF. The review was delayed due to the COVID-19 pandemic, but, in September 2021, NASAG finalised its work on the review and provided a report with recommendations for further action (Box 4: National Airports Safeguarding Framework implementation recommendations).¹⁵⁴

Recommendation 8 of the 2019 NASF review is that Australian, state and territory governments, peak aviation industry bodies and peak planning bodies contribute to the development of NASF educational materials for use by planning practitioners, local government, tertiary institutions and the building/development industry. The Australian Government will support the development of educational materials to implement this recommendation.

Recommendation 4 is that the Australian Government include provisions relating to consideration of the NASF in legislation for the 22 Leased Federal Airports. As discussed below, the Australian Government will amend the Airports Regulations 2024 to require master plans and MDPs for Leased Federal Airports to set out how development of the airport will be consistent with the NASF. Australian Government-appointed Airport Building Controllers already have regard to requirements similar to those in the NASF when issuing on-airport building approvals.

By 2027, the Australian Government will also work with NASAG to update NASF Guideline A to describe best-practice approaches for including aircraft noise exposure notifications on property titles for new developments or subdivision of lands. This will provide a basis for state and territory governments to adopt aircraft noise exposure notifications into relevant planning schemes so that future purchasers of newly developed properties affected by aircraft noise can make fully informed decisions.

Box 4: National Airports Safeguarding Framework implementation recommendations

1. Commonwealth/state/territory ministers endorse an intergovernmental agreement to standardise a national approach to airport safeguarding.
2. National Airports Safeguarding Advisory Group (NASAG) continue to oversee implementation of the National Airports Safeguarding Framework (NASF).
3. NASAG to implement a schedule for ongoing review of all NASF guidelines – to ensure the currency and functionality of the framework.
4. Australian Government to include provisions relating to consideration of the NASF in legislation for the 22 Leased Federal Airports (by 2027).
5. State/territory governments to implement the Principles and Guidelines of NASF in their planning regimes (by 2027).
6. State/territory governments to develop and disseminate clear policy/guidance on the status of the NASF (for that individual jurisdiction) and how it should be applied to large and small airports.
7. Airports to initiate a process for regular consultation/engagement with local government on NASF issues.
8. Australian/state/territory governments, peak aviation industry bodies, peak planning bodies to contribute to the development of NASF educational materials for use by planning practitioners, local government, tertiary institutions and the building/development industry.

¹⁵⁴ Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), *Review – National Airports Safeguarding Framework implementation*, DITRDCA website, Australian Government, 2021.

Improving the standards for land use planning near airports

The primary Australian Standard to support land use planning near airports is AS2021:2015 *Acoustics – Aircraft noise intrusion – Building siting and construction*, supported by Handbook SA HB 149:2016 *Acoustics – Guidance on producing information on aircraft noise*. AS2021:2015 is referenced in the Airports Act 1996 and requires the production of ANEFs to support master plans and MDPs that have flight path or airspace impacts. The Standard also sets out the acceptability of different types of building within different ANEF contours.

Submissions from airports and community groups argue that ANEFs are not sufficient for communicating aircraft noise impacts to affected residents. They argue that, while ANEFs indicate where the greatest noise impacts are expected to occur, they do not provide information about the frequency or intensity of noise impacts that people living in the area are likely to experience. AS2021:2105 also recognises that the 20 ANEF and 25 ANEF zones do not capture all high noise affected areas around an airport, and the ANEF contours are not necessarily an indicator of the full spread of noise impacts, particularly for residents newly exposed to aircraft noise.

AS2021 was last updated in 2015 and is now 9 years old. In the intervening period there has been a shift in community expectations in relation to noise and the ways in which the aviation industry needs to respond to maintain its social licence. AS2021 is also the primary means under the NASF for managing the impacts of aircraft noise through land use planning by limiting or preventing construction of noise-sensitive developments under known current or future flight paths.

The Australian Government has applied to Standards Australia to review AS 2021:2015 in 2025 and consider incorporating the guidance handbook on producing information on aircraft noise (SA HB 149:2016) into the standard.

Box 5: Case Study – Western Sydney International (Nancy-Bird Walton)

Airport noise metrics

Noise metrics for the draft environmental impact statement (EIS) for Western Sydney International (Nancy-Bird Walton) Airport (Western Sydney Airport) flight paths have been developed in accordance with guidelines supplied by the Minister for the Environment's delegate. The EIS Guidelines stipulate the metrics that should be used to measure the impact of noise on the community within the study area (45 nm or approximately 83 km from Western Sydney Airport). The noise metrics defined by the EIS Guidelines were the Australian Noise Exposure Concept (ANEC), the Number Above 'N' measure (N60/N70), which describe the number of noise events above 60 or 70 decibels and the maximum noise level single event metric (referred to an 'L_{Amax}' metric).

These metrics have informed the impact assessment of key environmental issues identified by the EIS Guidelines, including aircraft noise, air quality, land use, social changes and human health. To support the release of the draft EIS for the preliminary flight paths for Western Sydney Airport, the Australian Government has also developed an Aircraft Overflight Noise Tool to allow individuals to look at the proposed new flight paths and learn about expected noise impacts. The Aircraft Overflight Noise Tool shows the aircraft arrival and departure flight paths and allows individuals to search an address to see the indicative altitudes of proposed flight paths, forecast number of flights and see digital representations of N60 and N70, ANEC and L_{Amax} contours. The Aircraft Overflight Noise Tool also includes a 3-dimensional visualisation and dynamic noise map of aircraft on each of the flight paths.



9.2 Enhancing engagement and consultation on flight paths

Effective engagement and consultation with all communities that are potentially affected by changes in airspace or flight paths is central to providing clear and transparent information about potential impacts and ensuring community interests are reflected in the decision-making processes.

To provide the long-term policy certainty necessary to support ongoing private sector investment in aviation, it is important that governments, airports and airlines jointly commit to minimising the impact of aircraft operations on communities and undertake effective community engagement and consultation around the development and implementation of significant changes to air navigation.

In September 2023, Airservices Australia published its *Community Engagement Standard for Flight Path and Airspace Change Proposals*, which seeks to codify best-practice community engagement processes. The Australian Government will set expectations for Airservices Australia to apply the framework to all flight path changes. More significant change proposals will directly involve the community in the development of viable design options, which will then be shortlisted and refined into a preferred option. The standard aims to achieve transparent decision-making and to provide adequate time for community and stakeholder inputs to these decisions.

The Airservices Australia community engagement standard is considered better practice and should be the benchmark for all proponents of permanent airspace and flight path changes. Regardless of the proponent, the Australian Government expects that community consultation is undertaken for all permanent airspace and flight path changes, appropriate to the size of the change.

Engagement with First Nations people

First Nations people have a unique connection to the land, sea, waters and sky and have unique cultural interests regarding any impacts that developments to airports and changes to flight paths may have. First Nations people have the right to be fully engaged in any processes, projects and activities which directly or indirectly affect their lives. There is a need to improve engagement with First Nations people about airport development and the impacts of aviation operations on, above and through Country.

Major airport developments and flight path changes often require referral and approval under the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* (EPBC Act). In October 2020, the final report of the independent review of the EPBC Act was released.¹⁵⁵ One of the key messages was that the EPBC Act had failed to fulfil its objectives as they relate to the role of First Nations people and communities. The Australian Government response to the review was released in December 2022 and committed the Department of Climate Change, Energy, the Environment and Water (DCCEEW) to develop a number of National Environmental Standards (NES), one of which covers First Nations engagement and participation in decision-making.

¹⁵⁵ G. Samuel, *Independent Review of the EPBC Act – final report*, Department of Agriculture, Water and the Environment (DAWE), Australian Government, October 2020.

The NES for First Nations engagement and participation in decision-making is being developed through a co-design process as part of a broader regulatory reform program responding to the findings of the review. In the interim, DCCEEW has issued guidance for engaging with First Nations People and Communities on Assessments and Approvals under the EPBC Act.¹⁵⁶ The interim guidance provides some high-level principles that respectful and effective engagement includes but may not be limited to:

- ensuring cultural safety
- building and maintaining trust
- engaging early and often
- negotiating suitable time frames
- negotiating suitable submission formats.

The Airservices Australia *Community Engagement Standard for Flight Path and Airspace Change Proposals* also identifies the importance of meaningful engagement with First Nations people.

The Australian Government expects that proponents of airport developments or changes to flight paths actively engage with First Nations people and communities as part of the design, assessment and approval process.

Community Aviation Consultation Groups

The 2009 Aviation White Paper recommended the establishment of community-focused groups to inform Leased Federal Airports of community views. The recommendation led to the introduction of CACGs, which are intended to improve the exchange of information, complement consultation requirements for master plans and MDPs, and allow discussion between the airport and communities affected by its operations and plans.

CACGs are not a legislative requirement; however, successive governments have reiterated their expectation that these groups be established and operate. To support the effectiveness of CACGs, guidelines were issued by the Australian Government in February 2011 and revised in November 2016.

A large number of submissions to the Aviation White Paper were critical of aspects of CACGs. In particular, community members have reported difficulty accessing CACG meeting papers and information about meeting outcomes; and had concerns that CACGs do not always agree to consider issues of priority to the community.

The Australian Government will update the CACG guidelines by June 2025 and provide the updated guidelines to Leased Federal Airports. The updated guidelines will set out the Australian Government's expectations around community input into the CACG agendas and work programs, community involvement in CACG meetings, and dissemination of CACG information to interested community members.

¹⁵⁶ Department of Climate Change, Energy, the Environment and Water (DCCEEW), *The interim engaging with First Nations people and communities on assessments and approvals under the Environment Protection and Biodiversity Conservation Act 1999*, DCCEEW, Australian Government, 2023.

9.3 Enhancing and expanding aircraft noise and flight path monitoring and information

Airservices Australia currently provides the NFPMS, which collects noise and flight path data at Adelaide, Brisbane, Cairns, Canberra, Gold Coast, Hobart, Melbourne (including Essendon), Perth, Sydney and Sunshine Coast airports.

The long-term noise monitoring at these locations is not undertaken to determine compliance with aircraft noise regulations. While regulations specify noise standards for aircraft, there are no Australian regulations which specify a maximum level of aircraft noise within the community. Rather, the noise monitoring is undertaken to provide:

- objective information to the community about aviation noise impacts
- data to determine potential noise impacts from existing and proposed new flight paths and noise abatement trials
- data to validate aircraft noise modelling results produced using software
- a framework to identify the acoustic impacts of current and historic aviation activity and to guide decisions on proposed future changes to aircraft operations.

The NFPMS identifies flights that may have had a noise impact on a community and also the extent of that noise impact through the ground noise monitoring stations. The tool allows affected communities to 'self-serve' information, which can reduce complaints or help in reducing the time to respond to a complaint (because the complainant is able to provide clear information about the source of the noise).

Enhancing noise and flight path monitoring information

Submissions to the Aviation White Paper from community groups raised concerns about the usefulness of information provided in the NFPMS. Concerns include a lack of detail about the source of the noise data, including whether it is measured data, modelled data, modelled data based on measured data or modelled data based on predicted data. Greater clarity about the source of the noise information has recently been made available in NFPMS (available at webtrak.emsbk.com) to increase transparency and confidence in the information provided and to seek to address these concerns.

Additional noise information has recently been included in NFPMS at Brisbane Airport, and will be rolled out at all NFPMS locations by 2026. This will include data on:

- tactical interventions to aircraft operations
- aircraft delays caused by Noise Abatement Procedures (NAPs)
- current and historical wind speed and direction
- historical aircraft track data
- historical raw noise measurement data.

These enhancements to the NFPMS are aimed at delivering better outcomes for the community. The improved data will enable people to evaluate noise information in an open and transparent manner.

Public reporting on noncompliance with noise abatement procedures

In May 1999, the Australian Government issued a direction to Airservices Australia requiring it to develop and implement effective aircraft noise abatement procedures and report on compliance with those procedures. Every major airport in Australia has noise abatement procedures; however, stakeholders have provided feedback that it is not always clear when noise abatement procedures are in operation and whether they are being complied with.

To enhance transparency around which party has acted to create an avoidable noise impact, the Australian Government has directed Airservices Australia to publish a quarterly report on noncompliance with noise abatement procedures at all civil airports where the NFPMS is in place. The first quarterly report will be produced by the end of 2024.

9.4 An independent Aircraft Noise Ombuds Scheme

The Australian Government will establish an independent Aircraft Noise Ombuds Scheme to investigate and report on Airservices Australia's handling of complaints about aircraft noise. It will have powers to undertake investigations, publish independent reports and make recommendations to the Australian Government for policy or regulatory change.

The ombuds scheme currently exists as an office within Airservices Australia and reports to the Board of Airservices Australia. This reporting arrangement creates the potential for conflicts in the scheme's role and can undermine public confidence in its findings and recommendations. Aviation White Paper submissions from community groups, airlines and airports raised concerns about the ombuds scheme's perceived independence.

As well as its role in investigating noise complaints handling by Airservices Australia, the ombuds scheme also currently investigates the Department of Defence's handlings of complaints about noise from military aircraft. The independent ombuds scheme will continue to perform this function.

The Australian Government will consult on legislating to establish the independent Aircraft Noise Ombuds Scheme in 2025–26, including arrangements for the costs of the scheme to be recovered from the aviation industry. As discussed in Chapter 3: A better passenger experience, the Australian Government is separately establishing an Aviation Industry Ombuds Scheme, and the 2 ombuds schemes will be co-located.

9.5 A stronger approach to flying considerably

A number of Australian airports have 'Fly Neighbourly' agreements in place. Such agreements are non-binding undertakings by pilots operating from those airports to operate their aircraft in specific ways, such as operating above a certain altitude over residential areas or only undertaking particular operations at certain times. These agreements are typically a joint initiative between the airports and surrounding local councils. Fly Neighbourly agreements are generally limited to operations in the immediate vicinity of airports and do not consider all visual flight rules (VFR) operations or operations outside of controlled airspace.

Building on the success of Fly Neighbourly agreements, the Australian Government will develop national guidance on 'Flying Considerately' for aircraft operating under visual flight rules or outside of controlled airspace. Once finalised, this guidance will be incorporated in AIP Australia, which is distributed to pilots by Airservices Australia.



The 'Flying Considerately' guidance will be non-binding, and pilots will continue to prioritise safety above all other considerations, including minimising noise and nuisance for communities. However, the 'Flying Considerately' guidance will provide a basis for communicating the Australian Government's expectations to pilots and may be considered by the aircraft noise ombudsperson when investigating and making policy recommendations in response to aircraft noise complaints.

9.6 A national response to PFAS contamination

Per and poly-fluoroalkyl substances (PFAS) are manufactured chemicals that have been used since the 1950s to make products that resist heat, oil, stains and water. Due to their effectiveness in fighting liquid fuel fires, firefighting foams containing PFAS were once used extensively worldwide and within Australia, including at civilian airports.

PFAS have also been used in Australia and around the world in many common household products and specialty applications. As a result, most people living in developed nations have a detectable level of PFAS in their blood. The release of PFAS into the environment is a concern, because these chemicals are highly persistent, have been shown to be toxic to some animals and can accumulate in the bodies of animals and people who come into contact with them. However, currently there is limited evidence that exposure to PFAS causes adverse human health effects.

Our understanding of where PFAS contamination exists and the severity of it at leased Commonwealth airports is incomplete. To support airport operating companies meet their obligations under environmental regulation, the Australian Government established the \$130.5 million PFAS Airports Investigation Program in 2021-22. Any civilian airports where the Commonwealth historically provided firefighting services which used PFAS-containing foams are eligible to participate. The program aims to determine the nature and extent of PFAS contamination at airports through independently audited whole-of-site testing and to support airport operators to develop robust management plans to address any identified risks. This in turn provides certainty to investors seeking to develop and operate privatised airports.

Airport participation in the program is voluntary. So far Adelaide, Archerfield, Bankstown, Brisbane, Camden, Canberra, Coolangatta/Gold Coast, Hobart, Jandakot, Launceston, Melbourne, Moorabbin, Mount Isa, Parafield and Townsville airports have applied and been accepted into the program. It is now Australia's largest contaminated land investigation program and is run by the Department of Infrastructure, Transport, Regional Development, Communications and the Arts. Investigations are expected to be completed by 30 June 2027, and applications remain open to eligible airports.

PFAS contamination at (and around) Commonwealth owned sites – or sites where the Commonwealth historically used PFAS – is a complex issue, and a whole-of-government approach is required for handling to maintain consistency between Commonwealth agencies in responding to PFAS contamination.

The Australian Government works closely with the state and territory governments to implement nationally consistent responses to PFAS contamination, as set out in:

- an Intergovernmental Agreement on a National Framework for Responding to PFAS – which outlines principles and protocols for well-coordinated and timely responses from all responsible agencies
- the National PFAS Position Statement – which articulates the shared objective of all Australian governments to reduce further releases of PFAS to the environment
- the PFAS National Environmental Management Plan – which provides detailed guidance for investigating and managing PFAS-contaminated materials to prevent further contamination spread.

9.7 An improved approach to airport planning and development

The Australian Government regulates planning and development at 22 Leased Federal Airports. The Australian Government is committed to maintaining regulatory arrangements that are fit for purpose, protect the interests of airports users and the community and encourage investment by industry.

Additional expectations for airport planning

As discussed in Chapters 3, 6 and 7 of the Aviation White Paper, a number of changes will be made to the Airports Regulations 2024 to require master plans and MDPs to include information on how the airport's planning will address:

- climate resilience
- decarbonisation
- disability access
- requirements of the NASF.

In addition to these new information requirements, the Minister for Transport has written to the operators of Leased Federal Airports advising that the Minister will have regard to additional factors when making decisions about airport master plans and MDPs. The factors will include:

- the appropriateness of the airport's community consultation processes, including consultation with First Nations people and, where developments involve changes in flight paths, consistency with the Airservices Australia 2023 Community Engagement Standard
- how the airport will maintain resilience to climate impacts
- the suitability of the airport's sustainability and decarbonisation initiatives
- whether the airport's disability access arrangements comply with the *Disability Discrimination Act 1992* and relevant disability standards
- whether appropriate access to the airport site has been provided for General Aviation, consistent with the *Airports Act 1996* requirement that the Minister must have regard to 'the extent to which carrying out the plan would meet present and future requirements of civil aviation users of the airport ... for services and facilities relating to the airport concerned'.

For master plans or MDPs that involve new or changed runways, the Minister will also have regard to the suitability of the airport's plans for noise mitigation.

Review of the Airports Act by 2030

The 22 airports subject to the *Airports Act 1996* were privatised by the Australian Government under long-term lease arrangements between 1997 and 2003 (except for Western Sydney Airport, which remains owned by the Australian Government).

The leases grant the airport lessee companies the right to operate the airports as businesses for 99 years, subject to a range of conditions. The leases are for an initial period of 49 years, with airport lessee companies having the right to extend the leases for a further 50 years. The first airports to be privatised will reach their 49-year lease renewal date in 2046.



Ahead of considering applications for the renewal of airport leases, the Australian Government will conduct a comprehensive review of the *Airports Act 1996* and supporting regulations by 2030. The review will consider regulatory arrangements for a wide range of matters, including ownership requirements, planning, development and environmental management of the airport sites.

The review will consider whether the legislation can be improved to better achieve the Australian Government's aims of protecting the interests of airport users and the community, while encouraging investment by industry to meet Australia's long-term demand for aviation services.

Conducting the review of the *Airports Act* by 2030, and subsequently amending the Act and Regulations where appropriate, will provide airport lessee companies with regulatory certainty, ahead of applying to exercise their right to extend the lease period.

Better integration between airfreight facilities and off-airport freight networks

In 2022, Australia's airports facilitated the movement of 914,000 tonnes of international airfreight at a value of \$138 billion.¹⁵⁷ Of this airfreight, 383,000 tonnes, with a value of \$51 billion, was for export and, by weight, these exports were predominately high-value perishable agriculture goods sent to markets in Asia.¹⁵⁸ By value, gemstones and precious metals accounted for 54%.¹⁵⁹

Airports provide an important role in freight distribution, including freight handling, storage and processing – as well as freight transport. While airfreight only equates to 0.01% of the tonnage of Australia's exports, it makes up 13% of the value, highlighting the importance of having strong integration between airfreight facilities and off-airport freight networks in an economy where international trade constitutes 45% of gross domestic product.¹⁶⁰

The Australian Border Force is working with airports and the air cargo industry on potential changes to improve cargo screening. This will include the use of automated technology throughout the freight supply chain to improve processes for detecting dangerous or illegal goods and to reduce delays in the delivery of legitimate airfreight.

The Australian Government will implement the recommendations from the 2023 review of the National Freight and Supply Chain Strategy. The refreshed Strategy will include goals and actions to improve the efficiency, productivity and coordination of freight movements, including as they relate to airfreight, and further development of the National Freight Data Hub may offer opportunities to improve airfreight data.

157 Deloitte Access Economics, *Taking flight: the economic and social contribution of Australia's airports*, report to the Australian Airports Association (AAA), Deloitte Access Economics, 2023.

158 Deloitte Access Economics, *Taking flight: the economic and social contribution of Australia's airports*, report to the AAA, Deloitte Access Economics, 2023.

159 Deloitte Access Economics, *Taking flight: the economic and social contribution of Australia's airports*, report to the AAA, Deloitte Access Economics, 2023.

160 Department of Foreign Affairs and Trade (DFAT), *Trade and investment at a glance 2020*, DFAT, Australian Government, 2020.



World-leading safety, security and airspace regulation





World leading safety, security and airspace regulation



The Australian Government's vision is to maintain Australia's safe and secure aviation sector, with effective oversight and regulation that meets the needs of the industry and the community.

In the period to 2050, aviation will be transformed by the transition to net zero and by the adoption of drones and other new technologies. The Australian Government will proactively update safety and security regulation to adapt to this new operating environment.

Australia's airspace will become busier. Airline traffic is expected to more than double by 2050, and the use of drones and other new types of aircraft will also increase. The Australian Government will reform Australia's airspace regulations by 2030 so that agencies have the powers they need to keep all airspace users safe.

To reduce the risk of collisions as airspace becomes busier, the Australian Government will extend a rebate for aircraft owners to install devices that broadcast the aircraft's location electronically, ahead of mandating the use of this technology in all Australian airspace.



How we will deliver

To maintain Australia's world leading standards of aviation safety and security, the Australian Government will:

- **Update Australia's Aviation State Safety Programme, National Aviation Safety Plan and National Air Navigation Plan.** As a member of the International Civil Aviation Organization (ICAO), Australia produces a series of planning documents showing how we will achieve aviation safety outcomes, consistent with our international obligations. The Australian Government will update these planning documents in 2024 to make clear our aviation safety goals, identified risks and priority areas for improvement.
- **Reform the administration and management of Australia's airspace** by 2030, through a 4-stage process. The Australian Government will incrementally put in place airspace arrangements that allow for the increased use of drones and other new aviation technologies, without compromising air safety:
 - **Stage 1** is to release a whole-of-government plan for air traffic management of commercial drones and other uncrewed aircraft in 2024. The **Uncrewed Aircraft System Traffic Management (UTM) Action Plan** will outline steps the Australian Government will take to enable new types of air traffic management systems in Australia.
 - **Stage 2** is to provide guidance to the Civil Aviation Safety Authority (CASA) in 2024 on the Australian Government's expectations for airspace administration. The Australian Government will produce a new **Australian Airspace Policy Statement** to replace the policy statement that came into effect in 2021. The new policy statement will give clear direction to CASA on the Australian Government's priorities for airspace management, including in relation to drones and other new technologies.
 - **Stage 3** is for CASA to prepare a new framework for Australian airspace in 2026. The **Australian Future Airspace Framework** will describe how classes of airspace will be implemented and administered across Australia.
 - **Stage 4** is to **update relevant airspace legislation** by 2030. These changes will give government agencies the powers they need to regulate airspace use safely as new types of aviation technology increasingly share the same airspace as conventional aircraft.
- **Expand requirements for aircraft to broadcast their location electronically.** Widespread use of Automatic Dependent Surveillance Broadcast (ADS-B) devices will increase aviation safety and efficiency and reduce collision risk. By late 2025, the Australian Government will consider advice about a timetable for mandating ADS-B devices, while also extending subsidies for the purchase of ADS-B equipment until 2027.

These measures complement recent policy and regulatory changes adopted by the Australian Government to improve safety, security and airspace management, including:

- investment in Australia's new joint civil/military air traffic management system 'OneSKY'
- a \$5 million investment in designing procedures for the use of satellite technology to enable more precise and reliable approaches to airports and helicopter landing positions.¹⁶¹

¹⁶¹ This investment will make use of 'SouthPAN', which is an Australian and New Zealand government partnership to provide a Satellite-Based Augmentation System (SBAS) capability – the first in the southern hemisphere.

The need for action

Australia has one of the strongest aviation safety and security records in the world. This has arisen partly due to the proactive approach of successive governments in reforming the aviation regulatory environment as new risks and opportunities are identified:

- In 1995, the Australian Government split the former Civil Aviation Authority, establishing CASA as the aviation safety regulator, separate from Airservices Australia's commercial role as the air navigation service provider.
- Following terror attacks in the early 2000s, the Australian Government passed the *Aviation Transport Security Act 2004* (Cth), fundamentally reshaping Australia's passenger and cargo screening arrangements.
- In 2007, the Australian Government adopted the *Airspace Act 2007* (Cth), transferring some remaining airspace regulatory functions from Airservices Australia to CASA to avoid the potential for conflicts between the commercial activities of Airservices Australia and the regulation of airspace.
- In 2009, the Australian Government established the Australian Transport Safety Bureau (ATSB) as an independent agency, providing clear separation between the conduct of independent air accident investigations and government policy making.

As described in Chapter 2: Australia's aviation sector to 2050, Australian aviation will fundamentally change over the next quarter of a century. The Australian Government will continue to update Australia's aviation safety and security arrangements as appropriate during this period to manage the risks and take advantage of the opportunities presented.

Australia will need to change how airspace is managed in the period to 2050

As the number of aircraft flights increase in coming years, maintaining the safety and efficiency of airspace management will be a key priority. Airline traffic is forecast to more than double by 2050, and new runways and other infrastructure are planned at several major airports, which will add complexity to airspace above our cities. Increased use of satellite-based navigation technology, and the integration of civil and military air traffic management through 'OneSKY', are important long-term reforms that will enable more efficient air traffic management.

As described in Chapter 11: Enabling new aviation technologies, drones are already in use and will increasingly be used in a wide range of applications. Advanced air mobility (AAM) aircraft, which will operate very differently to conventional aircraft, are expected to begin operations in parts of Australia in the next decade. New aviation technologies will see a significant increase in the total number of aircraft operating at any time, including in areas where conventional aircraft currently do not fly. Traditional approaches to air traffic management – with human operators instructing pilots on how to maintain safe distances from other aircraft – will not be appropriate for managing fleets of drones, which use automated navigation systems. Australia's airspace systems provide a solid foundation to handle these changes but will need to be complemented with new technology.

The role of the Australian Government

The Australian Government is responsible for aviation safety and security policy and regulation. The Australian Government's legislative framework implements our obligations under the Convention of International Civil Aviation 1944 (the Chicago Convention) to facilitate the safe and secure operation of the aviation sector and to enable the economic and social benefits of aviation.

10.1 World-leading aviation safety regulation

Safety remains the Australian Government's top aviation policy priority

The Australian Government is committed to maintaining Australia's world-leading record on aviation safety. As well as keeping the travelling public safe, a strong safety system is essential to ensuring the aviation sector's social licence and maintaining an efficient and competitive aviation industry.

ICAO audited Australia's aviation safety systems in 2023

In September 2023, ICAO conducted an audit of Australia's State Safety Programme Implementation.¹⁶² ICAO assessed Australia as having a mature aviation safety system overall that proactively identifies, manages and mitigates safety risks. The audit also identified some areas where Australia can enhance its air safety arrangements, including by strengthening some regulations and processes for oversight of the industry.

The Australian Government welcomes this assessment and will take up ICAO recommendations to maintain Australia's internationally respected high safety standards. The Australian Government will continue to seek closer alignment with ICAO Standards and Recommended Practices.

The Australian Government is updating Australia's aviation safety planning documents

As part of our ongoing commitment to aviation safety, the Australian Government will publish an updated State Safety Programme, National Aviation Safety Plan and National Air Navigation Plan in 2024, which will set out how Australia will achieve aviation safety outcomes, consistent with our international obligations. These documents will complement and add to policy directions articulated in the Aviation White Paper.

All ICAO member states publish a State Safety Program. Australia's program is the primary document describing how Australia's aviation agencies ensure the effectiveness of our aviation safety system. It summarises all Australian aviation safety related legislation; and risk management and assurance processes. The current National Air Navigation Plan and the National Aviation Safety Plan demonstrate implementation of the integrated Australian safety system as underpinned by the State Safety Programme.

10.2 Managing Australia's airspace

The Australian Government will adopt a 4-stage approach to reforming the management of Australia's airspace in the period to 2030. These reforms will facilitate the continued safe, efficient and equitable use of Australian airspace as air traffic increases and as new aircraft technology enters operation.

¹⁶² International Civil Aviation Organisation (ICAO), *Safety Audit Results*, ICAO website, 2023.

The Australian Government will set Australia's long-term airspace arrangements

Stage 1 of the Australian Government's airspace reforms will be the release of the **UTM Action Plan** in 2024. The UTM Action Plan will outline the Australian Government's plans for implementation of UTM in Australia, including priorities for the initial deployment of data and services. The action plan will include details about the initial capabilities of a new Flight Information Management System (FIMS), which will be implemented from 2025 to enable air traffic management to communicate electronically with drones and other uncrewed aircraft entering controlled airspace. For further detail about this action plan and FIMS, see Chapter 11: Enabling new aviation technologies.

Stage 2 of the airspace reforms will be development of the next **Australian Airspace Policy Statement**. The policy statement will include guidance from the Minister for Transport to CASA on the Australian Government's expectations for the administration of Australian airspace. The policy statement will provide clarity to industry on how the Australian Government expects airspace use to be managed equitably.

The department will consult on the proposed policy statement before the end of 2024, with publication of the final document expected by mid-2025. It will replace the current policy statement issued in 2021.

Stage 3 of the airspace reforms will be the development of an **Australian Future Airspace Framework** by CASA in 2026. The airspace framework will detail how CASA will implement the Australian Government's expectations, as set out in the Australian Airspace Policy Statement.

The airspace framework will set out how classes of airspace will be implemented and administered across Australia. It will be Australia's primary reference source for airspace strategic principles, future operations and strategic change planning. The framework will support the implementation of new air traffic management technologies, including for uncrewed aircraft.

Stage 4 of the airspace reforms will include **legislative change** by 2030. This is likely to involve changes to the Airspace Act, as well as the *Civil Aviation Act 1988* (Cth). Subsequent regulatory changes may also be appropriate. Legislative change is expected to be necessary for Australia's airspace arrangements to remain fit for purpose and to give government agencies the powers they need to regulate airspace use, consistent with the Australian Airspace Policy Statement and Australian Future Airspace Framework.

OneSKY is on the way

OneSKY is a joint partnership program between the Department of Defence and Airservices Australia to replace Australia's separate and ageing air traffic management systems with a single national system, known as the Civil Military Air Traffic Management System.

Australian authorities are responsible for managing 11% of the world's airspace:

- Airservices Australia manages the majority of Australian airspace and provides air traffic control for civil aviation services, including tower services at 29 airports.
- The Australian Defence Force manages military airspace. Defence provides air traffic services at 12 Australian aerodromes, including for civil operations at Darwin, Townsville and Newcastle airports. Defence also manages military-designated restricted airspace to separate hazardous military activity – for example, live firing or combat flying – from non-compatible airspace users.¹⁶³

¹⁶³ Airservices Australia, *Special Use Airspace*, Airservices Australia website, n.d.

OneSKY will combine these separate operations under a single system. It is expected to deliver more than \$1.2 billion in economic benefits to airspace users over 20 years through route optimisation, trajectory-based operations, shared use of airspace, business continuity benefits and productivity improvements.¹⁶⁴ Other benefits include:

- supporting growth in air traffic
- facilitating advances in aviation technology
- reducing the complexity of Australian airspace
- supporting national security by providing a secure operating area to deliver Defence's required approach services at the joint civil–military airports in Darwin and Townsville
- increasing flexibility for air traffic controllers to move between roles and locations, enabling better workforce utilisation.

Flexible use of airspace will improve efficiency

Defence and Airservices Australia are also collaborating on 'flexible use of airspace'. A joint National Airspace Management Office will be established to coordinate the implementation of airspace that is not designated as purely civil or military but is managed flexibly so that different user requirements can be accommodated.

As there is currently no Australian framework to guide the flexible use of airspace, particularly at the strategic level, in the short term Defence and Airservices Australia are developing a joint airspace management agreement. In the longer term, the Australian Future Airspace Framework will provide further guidance for flexible use of airspace.

The Southern Positioning Augmentation Network (SouthPAN) will improve airspace navigation

The Australian Government is delivering a next-generation Satellite-Based Augmentation System (SBAS), which is a navigational positioning system that complements existing systems to provide more accurate and reliable navigation services. SBAS will be delivered via SouthPAN, which is a partnership between the Australian and New Zealand governments.

Australia's major airports have ground-based instrument landing systems, which enable aircraft to fly accurate flight paths and allow for safe approaches during adverse weather when visibility is reduced. Instrument landing systems are expensive to install and maintain. SBAS will enable aircraft to fly more precise flight paths at other Australian airports that do not have instrument landing systems. This will improve efficiency and mean fewer flight diversions and delays during adverse weather conditions.

Australia's SBAS capability is scheduled to be certified for aviation use by 2028. SouthPAN is also capable of supporting systems to improve the safety and efficiency of emerging aviation technologies such as drones and AAM aircraft.

The Australian Government will invest \$1.4 billion in SouthPAN over the next 20 years. SouthPAN is estimated to provide \$6 billion in economic benefits over the next 30 years.¹⁶⁵ In future, SouthPAN will complement other 'Approach to Landing Procedures with Vertical Guidance' technologies in regional areas,¹⁶⁶ which will reduce the risk of accidents involving 'Controlled Flight Into Terrain' – that is, where an aircraft is unintentionally flown into the ground, the water or an obstacle.

¹⁶⁴ Airservices Australia, *Enabling the benefits*, OneSKY Australia program, Airservices Australia website, n.d.

¹⁶⁵ Ernst & Young, *SBAS Test-bed Demonstrator Trial June 2019, Economic Benefits Report*, Frontier SI website, n.d.

¹⁶⁶ International Civil Aviation Organization (ICAO), *Resolution A37-11: Performance-based navigation global goals*, ICAO, n.d.

The Australian Government has committed \$5 million for the design of SBAS Landing Procedures with Vertical Guidance for aerodromes and helicopter landing positions in Australia, ready for the rollout of SouthPAN in 2028. A cross-agency working group is advising on which aerodromes and landing positions will be part of this program, with decisions to be taken by the end of 2024.

In future, the use of ADS-B technology will be necessary for all conventional aircraft

Widespread use of ADS-B technology will be necessary to ensure the safe and efficient operation of Australia's future airspace (see Box 6). ADS-B provides a range of benefits as outlined in Figure 18.

Figure 18: Key benefits expected once ADS-B use is universal in Australian aviation

Safety



Reduced risk of mid-air collisions

Pilots have an additional way of locating other aircraft, reducing the risk of mid-air collisions.



Faster search and rescue

Emergency responders are able to locate aircraft accident sites and respond sooner, using fewer resources, reducing risk to search and rescue personnel and improving accident survivability. By using ADS-B to plan and monitor the movements of search and rescue aircraft, they are also able to search areas more efficiently and effectively.



More informed accident investigations

ADS-B data can help investigators to understand why an accident occurred and prevent future occurrences.

Efficiency



Uncrewed aircraft integration

Together with the use of other systems, ADS-B will enable uncrewed aircraft to locate other aircraft and maintain appropriate separation distances.



Reduced air traffic control workload

Air traffic control is able to more accurately track aircraft with less resourcing, potentially reducing manual tracking of aircraft.



Lower emissions

The greater accuracy of air traffic control can enable the use of more efficient flight paths, resulting in reduced emissions.



Box 6: ADS-B technology

ADS-B is an aviation surveillance system in which electronic equipment determines the aircraft's position via a digital data link. ADS-B consists of 2 distinct devices and corresponding modes:

- ADS-B OUT fitted aircraft regularly broadcast information about themselves, such as identification, current location, altitude and velocity, through an onboard transmitter. The data can be used by other aircraft, and potentially air traffic control, to display the aircraft's position and altitude without the need for radar.
- ADS-B IN fitted aircraft receive the ADS-B broadcasts from other aircraft and use the information to accurately locate those aircraft.

When 2 aircraft are fitted with ADS-B IN and ADS-B OUT capability, the technology provides early warning of a potential collision, in time for avoidance action to be taken.

The Australian Government will consider implementation arrangements for a universal ADS-B mandate

ADS-B technology is already mandated in some Australian airspace.¹⁶⁷ The Australian Government has established a cross-agency working group, involving participants from the department, CASA and Airservices Australia, to advise on implementing a universal ADS-B mandate across all Australian airspace for both visual and instrument flight operations. The working group will report to government by late-2025.

The working group will consider the technical details and timetable for a universal ADS-B mandate, including:

- whether the mandate should include ADS-B IN as well as ADS-B OUT
- requirements for certification of ADS-B devices
- whether requirements should differ in classes of airspace or geographic regions
- appropriate time frames for expanding the mandate across airspace classes
- any exclusions that should apply.

The working group will also consider requirements for ground or space-based receiving infrastructure, regulatory changes to give effect to a mandate, and opportunities to promote innovation in ADS-B devices.

The working group will conduct targeted consultation with the aviation sector, building on the consultation already conducted through the Aviation White Paper process, to inform its advice to the Australian Government.

In some places, it may be necessary to mandate ADS-B use ahead of the timetable for a universal mandate. For example, Sydney Basin airspace will become more complex and congested following the opening of Western Sydney International (Nancy-Bird Walton) Airport. Work is currently underway by the department on proposed changes to airspace classification in the Sydney Basin, which may involve ADS-B requirements. The airspace changes will require the introduction of new instrument flight rules procedures for Bankstown Airport and Camden Airport, as well as Westmead Hospital. New visual flight rules routes will also be introduced. As with all airspace changes, any such requirement will be introduced with advance notice and consultation.

¹⁶⁷ ADS-B OUT fitment is mandatory for aircraft operating under instrument flight rules and those operating above 29,000 feet.

In the near term, the Australian Government will continue to support increased voluntary uptake of ADS-B devices

The Australian Government encourages all airspace users to fit and use ADS-B technologies, noting the benefits these devices provide.

To support continued uptake, the Australian Government will extend the existing ADS-B Rebate Program¹⁶⁸ to 2027. The program subsidises Australian-registered aircraft operating under visual flight rules to install ADS-B devices.

The ADS-B Rebate Program will also be expanded to include subsidies for ADS-B IN devices for both visual and instrument flight rules aircraft.

10.3 Targeted and proportionate aviation security regulation

Aviation security is essential to ensure the sector can operate

A positive security culture is an integral feature of a successful aviation sector. All parts of the aviation industry, and the air cargo supply chain, have a role in protecting air travellers and the general public from security risks and upholding Australia's world-leading air safety and security record.

The Department of Home Affairs (Home Affairs) is responsible for the security regulation of Australia's aviation sector. Key roles for Home Affairs include administering transport and critical infrastructure security legislation, assessing regulatory submissions and making regulatory decisions under transport security and critical infrastructure legislation, and developing and implementing effective monitoring and enforcement strategies to promote compliance with obligations under the *Aviation Transport Security Act 2004* (Cth) (ATSA), *Aviation Transport Security Regulations 2005* (ATSR) and *Security of Critical Infrastructure Act 2018* (Cth).

The ATSA and ATSR set minimum security requirements, consistent with Australia's international obligations under the Chicago Convention. This includes setting the requirements for civil aviation in Australia, including airport security screening, airlines, air cargo examination, equipment and processes.

The Australian Government is continually improving the aviation security framework in response to the changing threat environment and is committed to improving security outcomes to address current and emerging threats facing the sector. Given the increasingly complex threat environment, it is appropriate to consider an 'all-hazards' approach to aviation security, having regard to espionage and foreign interference threats and the consequences of climate change. Similarly, the Australian Government has prioritised Australia's cybersecurity capability through the *Security of Critical Infrastructure Act 2018* (Cth), which outlines cybersecurity requirements for critical infrastructure as well as regulating a specific group of aviation industry participants.¹⁶⁹

Through Home Affairs, the Australian Government is consulting the aviation sector on changes to strengthen and modernise Australia's aviation security framework to support government and industry to respond to current and emerging threats in a flexible, risk-based and scalable way.

¹⁶⁸ Australian Government, *Automatic Dependent Surveillance (ADS-B) Broadcast Rebate Program*, Business.gov.au website, n.d.

¹⁶⁹ The list of industry participants regulated by the Act is confidential.

A risk-based approach to aviation security regulation will always lead to debate about the appropriate balance between protection and cost. Some Aviation White Paper submissions argued that security screening requirements for regional airports are disproportionate. Some submissions called for government funding support – by extending the Department of Infrastructure, Transport, Regional Development, Communication and the Arts Regional Airports Screening Infrastructure (RASI) program¹⁷⁰ – while others called for a cost-sharing arrangement across the air transport network to address the disproportionate impact that screening costs can have on regional airfares.¹⁷¹

- The Australian Government acknowledges concerns about the cost of regional security screening and acknowledges that these are typically passed onto airlines and passengers. The government will continue to take these costs into account when setting regulatory requirements.

10.4 Preparing aviation safety agencies for the future

The aviation sector is changing – aviation safety agencies must change with it

Through the Aviation White Paper consultation process, several organisations noted that Australian Government safety agencies will need to evolve their practices to respond to new challenges, new policy priorities and changes in the industry. Submissions highlighted that safety agencies will need to prepare for emerging trends in aviation, such as the introduction of new technologies, increased automation, increases in cyber threats and the transition to net zero emissions.

In 2023, the Australian Government commissioned an independent Australian Transport Safety and Investigation Bodies Financial Sustainability Review, led by Professor John Skerritt, to consider future funding arrangements for CASA, the ATSB and Australian Maritime Safety Authority. The government is currently considering the recommendations from the review.



¹⁷⁰ Australian Local Government Association (ALGA), *Submission in response to the Aviation Green Paper*, ALGA, 2023. Queensland Airports Limited (QAL), *Submission in response to the Aviation Green Paper*, QAL, 2023. Whyalla Airport, *Submission in response to the Aviation Green Paper*, Whyalla Airport, 2023.

¹⁷¹ ALGA, *Submission in response to the Aviation Green Paper*, ALGA, 2023. General Aviation Advisory Network (GAAN), *Submission in response to the Aviation Green Paper*, GAAN, 2003.

Enabling new aviation technologies





Emerging aviation technologies, such as drones and advanced air mobility (AAM) aircraft, will transform the use of airspace out to 2050. We can already see widespread deployment of drones across Australia – they are used in commercial settings as well as by government and community services. That deployment is expected to continue to expand. AAM aircraft deployment is less certain or established but holds the potential to transform connectivity over short distances as well as to support continued access to air transport as we transition to net zero.

In the case of drones, unchecked deployment will lead to community concern around noise, safety and security – particularly given deployment at lower altitudes than traditional aircraft. While we welcome and encourage the productivity and connectivity benefits greater drone deployment can bring, the government has a role to play in managing the risks uncoordinated or unchecked deployment of drones on a large scale could bring.

From the perspective of managing the interaction between drones and conventional aircraft, the government’s plans for airspace and safety management are well advanced through the work of the Civil Aviation Safety Authority (CASA) and Airservices Australia. There is further work to do, however, on ensuring coordination between jurisdictions across Australia as well as managing the security, noise and privacy challenges drones present. The government will consider options to introduce legislation by 2030 to protect Australian communities, infrastructure and businesses from security risks of drones and AAM.



With the usage and deployment rates of AAM aircraft being less certain, ensuring a supportive regulatory environment which allows innovation to take place is the government's initial priority. After almost 2 years of consultation and analysis through the Aviation White Paper process, it is clear that it remains to be seen how and when these aircraft will disrupt the traditional aviation sector. Australian Government agencies will continue to work with state and territory governments as well as manufacturers and operators to ensure the appropriate regulatory response as use cases are proven and enter into commercial operation.

For drones, AAM and the development of alternative aircraft propulsion technology, the government stands ready to support and encourage the development and commercialisation of these technologies, as well as their manufacture in Australia. These technologies can play a role in a Future Made in Australia. The National Reconstruction Fund Corporation will provide finance (including debt and equity) to drive Australian-based investments in priority areas of the Australia economy, including transport, renewables and low emission technologies.



How we will deliver

To take advantage of the opportunities from new aviation technologies, grow the aviation technology and manufacturing sector and protect Australians from drone misuse, the Australian Government will:

- **Improve information available to industry about funding and procurement opportunities.**
The Australian Government has expanded the drones.gov.au website to provide a single point of reference for the emerging aviation technologies sector to access a wide range of government funding and procurement opportunities.
- Release an **AAM Strategy** in 2024 that provides long-term policy settings to encourage investment in the nascent sector.
- Require that **CASA update its Strategic Regulatory Roadmap for drones and AAM** in 2024, outlining the safety regulator's strategic approach to working with industry to oversee the safe rollout of these new technologies.
- Continue working with state, territory and local governments to encourage **increased national consistency and collaboration in regulatory arrangements for drones**, including through the drone rule digitisation project.
- Implement a new system to **enable air traffic management to communicate electronically with drones and other uncrewed aircraft**. Initial capabilities of the Flight Information Management System (FIMS) will roll out in 2025 to support the safe integration of drones into controlled airspace, with additional features to be added over time.
- Continue to work with industry on the **introduction of Remote ID requirements for drones** to improve safety and enable responsible and accountable drone use. It is expected that legislation will be introduced and a mandate in place by 2030, subject to a regulatory impact analysis process.
- Introduce new legislation by 2030 to **protect Australian communities, infrastructure and businesses from security risks of drones and AAM**.
- Consult on **regulatory amendments to manage noise impacts from AAM aircraft** on communities.
- Work with stakeholders to develop **AAM infrastructure planning guidance** to support the introduction of AAM.

These initiatives will complement the government's support to the sector through the \$30 million Emerging Aviation Technology Partnerships (EATP) program and financing (including debt and equity) available for investment through the \$15 billion National Reconstruction Fund (NRF), which may include investment in aviation technology commercialisation.



The need for action

New and emerging aviation technologies will become increasingly common in the period to 2050. Drones are already in use by businesses today, right around Australia. Drones are increasingly being used to collect data more cost-effectively, including for infrastructure inspections, agriculture and natural resource management. Drones are also providing new options to deliver time-critical goods and to reduce the need for people to perform high-risk activities, such as power line inspections. New applications and new types of technology are continually in development.

As of 2024, Australia has more licenced drone pilots than pilots of conventional aircraft, with licenced drone pilot numbers increasing by 50% since 2019.¹⁷²

While new and emerging aviation technologies will deliver benefits – including improved connectivity, reduced emissions, cost savings and productivity – these technologies also have the potential to pose risks to safety, security, privacy and public amenity. As the industry evolves, the Australian Government will proactively adapt our regulatory approaches to manage the risks and protect Australians.

New aviation technology will operate differently to conventional aviation

The operations of drones and AAM aircraft will differ from conventional aviation in several important ways, requiring new regulatory approaches from governments. Some of the key differences are:

- drones will operate more closely together than conventional aircraft, requiring new approaches to air traffic management
- drones and AAM aircraft will operate closer to the ground, bringing these aircraft into greater risk of conflict with people, buildings and infrastructure
- the ground-based infrastructure to enable new aviation technology, such as vertiports, drone delivery sites, and charging systems, will impose different demands on land use planning systems and energy networks
- the community will have more points of interaction with drones and AAM, such as when drones make deliveries to residential areas, requiring proactive work from the sector to build social licence
- drones and AAM will have different noise profiles than conventional aviation due to different propulsion systems. While drones and AAM tend to be quieter than conventional aircraft, noise will occur in different locations and circumstances, and the impacts will need to be carefully managed
- the small size and manoeuvrability of drones, their remote operation and ability to carry payloads create new types of security risks that require an appropriate regulatory response.

Drones will create new economic and social opportunities

The drone sector has potential to create new jobs, industries and markets. In Australia, strong uptake of drones can already be seen in agriculture, environmental management, public services and mining. Still considered to be in the early stages of commercialisation, the drone sector is expected to continue to grow rapidly in the future as more applications mature, including (see Box 7):

- emergency management and disaster recovery
- e-commerce and deliverables
- government and community services
- agriculture

¹⁷² Civil Aviation Safety Authority (CASA), *RPAS in Australian Skies speech*, CASA website, March 2024.

- mining and resources
- defence
- infrastructure inspections.

Deloitte Access Economics estimates the drone sector will deliver a \$14.5 billion benefit to Australia's gross domestic product and create and sustain 5,500 jobs annually over the next 20 years.¹⁷³ Potential cost savings from both drone and AAM use could be up to \$9.3 billion, with almost \$3 billion in savings in the agriculture forestry and fisheries sector, \$2.4 billion in mining and \$1.3 billion in construction.¹⁷⁴

Consistent with those projections, recent analysis commissioned by Airservices Australia predicts that the number of drone flights will increase from approximately 1.5 million in 2023 to 60 million by 2043.¹⁷⁵ The report forecast the biggest driver of this growth will be in transport and logistics, with the sector expected to account for 50 million drone flights in 2043.

Box 7: Use cases of drones and AAM

Community and government services

The New South Wales Government is using drones for a variety of purposes, including emergency services, asset management, research, public safety and security. For example, the NSW Transport Management Centre is using drones to feed real-time images of road crashes and traffic choke points; and inspect difficult to access transport infrastructure – reducing disruptions to road traffic.¹⁷⁶

Agriculture

Field Master Systems was granted funding in round 1 of the Australian Government's Emerging Aviation Technologies Partnerships (EATP) program to trial thermal imaging using drones to accurately and quickly detect feral pests. This technology has the potential to enable farmers to protect their crops and livestock, while also aiding conservation efforts to protect native species.

Air ambulance

In 2023, AMSL Aero's Vertiiia completed its first test flight. The hydrogen-powered aircraft can carry a pilot and 4 passengers a distance of 1,000 km at 300 km an hour. It is expected to be commercially available following test flights for safety certification by CASA and has secured firm orders from an Australian aero-medical provider.

Delivery of essential medical supplies

Through round 1 of the EATP program, the Australian Government funded Charles Darwin University's trial for a regular drone service to deliver health-related items between health centres, remote First Nations communities, and very remote outstations located in the Northern Territory. The project is testing and validating the effectiveness, efficiency, community acceptance and costs of integrating drones into healthcare supply chains to First Nations communities in northern Australia.

173 Deloitte Economics, *Economic Benefit Analysis of Drones in Australia*, report to the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), Deloitte Economics, 2020.

174 Deloitte Economics, *Economic Benefit Analysis of Drones in Australia*, report to DITRDCA, Deloitte Economics, 2020.

175 Airservices Australia, *Airservices Australia charts course for 60 million drone flights By 2043*, Airservices Australia website, n.d.

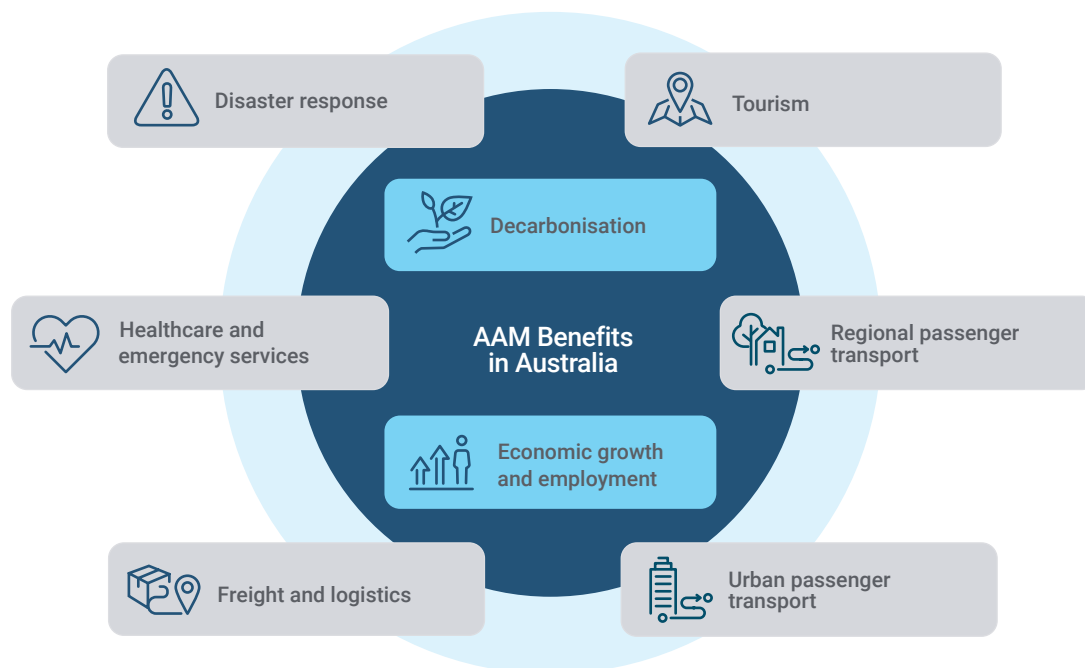
176 Transport for NSW, *Drones case study*, Transport for NSW website, n.d.

AAM is expected to provide fast, sustainable connections

The AAM industry is developing rapidly, both in Australia and overseas. It has the potential to contribute to the decarbonisation of aviation through the use of electric and hydrogen propulsion, providing new connectivity options for both people and goods.

AAM uses identified in Aviation White Paper consultation include faster passenger transport in sparsely populated areas, air ambulances and firefighting, particularly in support of regional and remote Australia (Figure 19). AAM is expected to create thousands of jobs and business opportunities.¹⁷⁷ Aviation White Paper submissions highlighted the potential for AAM aircraft to initially operate in regional areas – improving regional connectivity, reducing emissions and improving safety in the General Aviation (GA) sector.

Figure 19: Benefits of AAM



AAM aircraft currently in development will be suitable for varying applications, from city air taxi operations through to longer range regional connections. However, there are challenges that governments and industry will have to navigate in order to implement a successful and commercially viable AAM market in Australia, including:

- noise, privacy, security and amenity impacts and the need to build social licence
- technological readiness and the ability to scale production of AAM aircraft
- infrastructure arrangements, including charging infrastructure
- land use planning changes needed to co-locate vertiports with other transport modes to facilitate convenient intermodal transfers
- changes to air traffic management systems
- workforce skills shortages
- capital investment required to transition fleets of helicopters and regional aircraft to AAM.

¹⁷⁷ Deloitte Economics, *Economic Benefit Analysis of Drones in Australia*, report to the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), Deloitte Economics, 2020.

Other new technologies are also expected to reshape Australian aviation

As well as drones and AAM, other new and emerging aviation technologies are expected to change the Australian aviation sector in the period to 2050. Technologies include conventional aircraft powered by hydrogen and electric propulsion, small autonomous conventional aircraft, blended wing body aircraft, supersonic aircraft, space-based navigation and surveillance systems (which are expected to improve airspace management and reduce safety risks), and advancements in conventional aircraft design and manufacturing (which are expected to reduce noise and improve fuel efficiency).

Artificial intelligence has the potential to affect all aspects of aviation

Increased use of artificial intelligence (AI) – in aircraft and systems related to aviation – has the potential to increase efficiency, safety and benefits for consumers, if managed responsibly. As AI technology develops, its relevance to aviation will grow, requiring greater attention from industry and government.

The Australian Government has identified AI as a critical technology in Australia's interests. The government is committed to fostering a thriving AI industry in Australia and supporting broad adoption of AI across the economy, including:¹⁷⁸

- measures in the 2024–25 budget
- establishing the National Artificial Intelligence Centre¹⁷⁹
- training AI specialists through the CSIRO Next Generation Graduate Program¹⁸⁰
- consulting on appropriate governance and regulation
- developing a national AI ethics framework¹⁸¹

In line with the Australian Government's Interim Response on Safe and Responsible AI in Australia, government is also taking action to ensure the Australian economy and community secure the benefits of AI, through:

- delivering regulatory clarity and certainty
- supporting and promoting best practice for safety
- supporting AI capability
- ensuring government is an exemplar in the use of AI
- engaging internationally on how to govern AI.

The role of the Australian Government

The Australian Government's approach to new aviation technology will be based on 3 principles: (1) embracing technology; (2) protecting safety and security; and (3) maintaining community licence.

The government has a national leadership and coordination role in stewarding the emerging aviation technology sector to promote safe, secure and socially responsible operations while enabling a commercially sustainable sector so that all Australians can benefit from the diverse applications of these technologies.

178 Department of Industry, Science and Resources (DISR), *List of critical technologies in the national interest*, DISR website, Australian Government, n.d.

179 Commonwealth Scientific and Industrial Research Organisation (CSIRO), *National Artificial Intelligence Centre*, CSIRO website, Australian Government, n.d.

180 CSIRO) *Next Generation Graduates Program*, CSIRO website, Australian Government, n.d.

181 DISR, *Australia's Artificial Intelligence Ethics Framework*, DISR, Australian Government, 2019.

CASA will continue to proactively regulate the safety aspects of new aviation technologies, with a particular focus on commercial drones, and will play a critical role in enabling the sector to commercialise in a safe manner.

As technologies continue to develop and mature, there will also be a role for the Australian Government to use new aviation technologies for the benefit of Australians, including in disaster response, search and rescue, accident investigation and delivery of public services.

The Australian Government is also supporting new jobs and manufacturing opportunities in emerging aviation technologies as part of the transition to the clean energy economy, enabled by initiatives such as the NRF, Australian Renewable Energy Agency, Net-Zero Authority and the EATP program.

11.1 Embracing technology

The Australian Government will continue to enable the emerging aviation technology sector through measured policy, regulation and funding opportunities.

Australia's economy is well positioned to benefit from new aviation technology

Australia has several advantages that position us to take a leading role in aspects of the manufacture and uptake of emerging aviation technologies:

- a respected and mature aviation regulatory environment, continually undergoing improvement
- existing sovereign capability in high-value aircraft design and manufacturing, along with local supply chain producers of high-quality aircraft components and aviation services with particular strengths in research, innovation and industry collaboration.¹⁸²
- complementary investment in renewables and manufacturing supply chains
- a well-established air traffic management system and operating environment, with government agencies already working closely with industry to prepare for the integration of drones and AAM into Australian airspace
- a population concentrated in relatively few major centres, separated by vast distances, which provides opportunities for:
 - safer testing of emerging aviation technologies, with lower ground safety risks than many other countries, and fewer concerns about noise and privacy
 - the ability to integrate drones and AAM into road, air, rail and sea modes of transport
 - new connectivity options between remote areas and regional hubs and/or conventional airports¹⁸³
 - local Australian conditions where aviation technologies could offer national benefit – for example, bushfires in remote areas could potentially be fought more safely and at a lower cost by firefighting drones.

¹⁸² KPMG, *Australia's Aerospace Industry Capability*, report to the Department of Industry, Innovation and Science (DIIS), KPMG, 2019.

¹⁸³ L.E.K. Consulting, *Aviation White Paper: Scenario Analysis of the Future of Australian Aviation*, report to the Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), LEK Consulting, 2023.

The Australian Government is investing and partnering with the emerging aviation technology sector

The Australian Government is investing \$30.5 million in the EATP program to fund trials of new pre-commercial technologies and support the development of new policies and regulations to proactively mitigate risks prior to widespread deployment.

Government investment is also encouraging additional private investment in new innovations and local manufacturing opportunities. Submissions to the Aviation White Paper noted early investment can help demonstrate capability, build confidence in the market and attract private capital.¹⁸⁴ The Commonwealth Scientific and Industrial Research Organisation (CSIRO) calculates that every \$1 invested in research and development creates an average return of \$3.50 to the economy.¹⁸⁵

Projects delivered under the first round of the EATP program have created jobs; built sovereign capability; improved supply chain and market efficiency; and improved connections with regional, remote and First Nations communities.

The National Reconstruction Fund is providing new avenues for financing

The Australian Government has established the \$15 billion NRF to help transform and diversify Australian industry and boost sovereign capability. The NRF will provide finance, including debt and equity in 7 government identified priority areas:

- renewables and low emissions technologies
- medical science
- transport
- value-add in the agriculture, forestry and fisheries sectors
- value-add in resources
- defence capability
- enabling capabilities.

Relevant to the emerging aviation technology sector, government has set target investment levels for the NRF, including \$1 billion for advanced manufacturing, up to \$3 billion for renewable and low emission technologies, and \$1 billion for critical technologies. Autonomous systems such as drones, and aerospace propulsion systems among others, are included in the Australian Government's *List of Critical Technologies in the National Interest*.¹⁸⁶

The NRF is administered by an independent board and guided by an investment mandate. Interested proponents seeking investment can keep up to date with NRF developments by visiting www.nrf.gov.au.

184 Australian Airports Association (AAA), *Submission in response to the Aviation Green Paper*, AAA, 2023. Australian Association for Uncrewed Systems (AAUS), *Submission in response to the Aviation Green Paper*, AAUS, 2023.

185 Commonwealth Scientific and Industrial Research Organisation (CSIRO), *Every dollar invested in research and development creates \$3.50 in benefits for Australia, says new CSIRO analysis*, CSIRO website, Australian Government, November 2021.

186 Department of Industry, Science and Resources (DISR), *List of critical technologies in the national interest*, DISR website, Australian Government, May 2023.

The Australian Government is making it easier to access information about funding and procurement opportunities

Aviation White Paper submissions from the emerging aviation technology sector highlighted the opportunity for government investment to help establish the drone and AAM sectors in Australia. However, engagement with the sector revealed that, in many cases, businesses were not aware of the substantial funding and procurement opportunities already available for emerging technologies across Australia.

To assist stakeholders to access existing programs, the Australian Government has expanded the drones.gov.au website to provide a consolidated information point for funding, programs and procurement activities relating to emerging aviation technologies across government. These include:

- financing through the NRF¹⁸⁷
- financing through the Australian Renewable Energy Agency¹⁸⁸ and Clean Finance Corporation¹⁸⁹
- advice and matched grant funding for small and medium enterprises and start-ups through the Industry Growth Program¹⁹⁰
- funding to undertake research and development on new-to-market technologies for small to medium enterprises and start-ups through the Business Research and Innovation Initiative¹⁹¹
- the ability to offset some of the costs of eligible research and development through the Research and Development Tax Incentive¹⁹²
- funding for emerging and disruptive technologies and opportunities to rapidly turn them into operational capabilities through Defence's Advanced Strategic Capabilities Accelerator¹⁹³
- participation in a Defence Cooperative Research Centre to develop next-generation defence and national security technologies.¹⁹⁴

Further information about these and other programs and initiatives can be found at drones.gov.au. The website will be maintained and updated by the department as new programs and initiatives are introduced.

The Future Made in Australia framework will foster further investment

The Government's Future Made in Australia framework, announced in the 2024–25 budget, will foster and encourage private sector investment into priority industries such as renewable hydrogen. This has the potential to nurture the development of zero and low carbon aviation technologies.

Long-term policy certainty will support investor confidence

A recurring theme of Aviation White Paper submissions was that long-term policy certainty is critical to attract and retain investment in Australian emerging aviation technology businesses.¹⁹⁵ To that end, the Australian Government will release an AAM Strategy in 2024, outlining our approach to realising the benefits of AAM for Australia, including zero emission transport and improved connectivity options for people and goods in regional areas.

187 National Reconstruction Fund Corporation (NRFC), *National Reconstruction Fund Corporation*, NRFC website, n.d.

188 Australian Renewable Energy Agency (ARENA), *Funding*, ARENA website, Australian Government, n.d.

189 Clean Energy Finance Corporation (CEFC), *Where we invest*, CEFC website, n.d.

190 Australian Government, *Industry growth program*, Business.gov.au website, n.d.

191 Department of Industry, Science and Resources (DISR), *Business Research and Innovation Initiative*, DISR website, Australian Government, n.d.

192 Australian Government, *Research and Development Tax Incentive*, Business.gov.au website, n.d.

193 *Advanced Strategic Capabilities Accelerator*, Advanced Strategic Capabilities Accelerator website, Australian Government, n.d.

194 Australian Government, *Business.gov.au*, Business.gov.au website, n.d.

195 Kite Magnetics, *Submission in response to the Aviation Green Paper*, Kite Magnetics, 2023. Stralis, *Submission in response to the Aviation Green Paper*, Stralis, 2023. Australian Association for Uncrewed Systems (AAUS), *Submission in response to the Aviation Green Paper*, AAUS, 2023.

The National Robotics Strategy promotes the responsible production and adoption of robotics and automation technologies to modernise and digitise Australian industries, including Australian-made drones, to build a Future Made in Australia.

Regulatory certainty is also a critical enabler

CASA has provided initial regulatory guidance for the implementation of the drone and AAM activity in the areas of aircraft and aircraft systems, airspace and traffic management, operations, infrastructure, people, and safety. This work is supported by the Remotely Piloted Aircraft System (RPAS) and AAM Strategic Regulatory Roadmap,¹⁹⁶ which outlines CASA's approach for drone and AAM regulation over the next 10 to 15 years. CASA will update the roadmap before the end of 2024.

CASA will set a high bar for safety standards and apply an outcomes- and risk-based approach to the extent possible, challenging industry to innovate.

As discussed in Chapter 10: World-leading safety, security and airspace regulation, the growth of drones and AAM is expected to put resourcing pressures on CASA. The government is currently considering changes to CASA's funding and operational model in line with recommendations from the independent Australian Transport Safety and Investigation Bodies Financial Sustainability Review.

CASA is pursuing mutual recognition and international alignment opportunities

As Australia's safety regulator, CASA works with International Civil Aviation Organization (ICAO) and aviation regulatory authorities overseas to promote aviation safety and airworthiness of aviation products. Australia is a signatory to several bilateral and multilateral agreements that support a commitment to harmonise aviation standards, rules, procedures, and processes where this is in Australia's interests. Australia's aviation regulations need to be consistent with our international obligations. International compatibility will also support collaboration and sharing of technology with trusted partners, in-line with our Quad and AUKUS commitments.

What is mutual recognition and international alignment?

Mutual recognition refers to the acceptance of foreign regulatory approvals (such as for licensing, skills, aircraft, medical requirements, training and equipment). With mutual recognition, 2 regulators agree to accept each other's approvals. This can be automatic, where an approval from one regulator is automatically accepted by the other; or manual, where there is a short validation or approval replication process first before other regulator accepts the approval.

International alignment is the act of harmonising, or aligning with, other countries' regulations in local legislation. This does not require the agreement of the other country and does not guarantee recognition of approvals by the other country.

¹⁹⁶ Civil Aviation Safety Authority (CASA), *The RPAS and AAM Strategic Regulatory Roadmap*, CASA, June 2022.

CASA currently has 8 international bilateral agreements, which include elements of manual mutual recognition and international alignment, but CASA does not recognise all approvals by these authorities.¹⁹⁷ CASA is working to progress other bilateral agreements, as outlined in its International Engagement Strategy 2023–2025.¹⁹⁸ These engagements could potentially also present economic opportunities beyond safety regulation for the Australian aviation market, such as creating export opportunities for Australian manufacturing and facilitating foreign investment by new market entrants.

The Commonwealth is leading cross-government coordination and cooperation

State, territory and local governments are responsible for some rules and regulations that affect emerging aviation technology businesses. For example, state-based privacy laws can affect where drones are allowed to operate, and land use planning frameworks can impose restrictions and requirements for landing and take-off sites. The rules can often differ between states and territories, and between local government areas, making it difficult for emerging aviation technology businesses to operate nationally.

Many of the relevant rules and regulations were created prior to widespread drone use, and the Commonwealth, state, territory and local governments will need to continually update regulatory settings as the technology matures and new risks emerge. In the absence of a nationally consistent approach, there is a risk of unclear, incomplete, contradictory, or overly complex regulation. Cooperation and coordination between Commonwealth agencies and different levels of government is essential to support growth in the sector and to effectively manage the potential negative impacts of these technologies.

The Australian Government-led Drone Rule Digitisation Project involves working with state, territory and local governments to digitise non-safety drone rules geospatially,¹⁹⁹ such as environment and security related rules and policies that limit overflight of national parks and correctional facilities. The project aims to improve awareness of and compliance with non-safety rules among drone users.

Aviation White Paper submissions called for greater cooperation between jurisdictions on policy and regulation for drones and AAM, noting the benefits for both the industry and the public.²⁰⁰ The Australian Government will develop initial AAM Infrastructure Planning Guidance and will continue to work with and encourage state, territory and local governments to adopt consistent, efficient and effective policy and regulation for emerging aviation technologies.

Emerging aviation technologies will require new skills and training

Industry Skills Australia is the Jobs and Skills Council responsible for addressing skills and workforce challenges in the aviation sector, and its 2023 Aviation Industry Initial Workforce Plan noted that new technologies and emerging industries are transforming the needs of the sector and the required skills.²⁰¹ Industry Skills Australia will collaborate with government agencies and key stakeholders to further examine the specific education opportunities, skills and roles required in the aviation sector in further publications.

197 Agreements are with the Agência Nacional de Aviação Civil, Brazil (ANAC), Civil Aviation Administration of China (CAAC), Civil Aviation Authority of New Zealand (CAA), Civil Aviation Authority of Singapore (CAA), European Union Aviation Safety Agency (EASA), Federal Aviation Administration, United States (FAA), Hong Kong Civil Aviation Department (HKCAD), Office of Civil Aviation, the Ministry of Land, Transport and Maritime Affairs, Korea (MLTM).

198 Civil Aviation Safety Authority (CASA), *International Engagement Strategy 2023 to 2025*, CASA website, n.d.

199 Department of Infrastructure, Transport, Regional Development, Communication and the Arts (DITRDCA), *Drone Rule Digitisation*, DITRDCA website, Australian Government, n.d.

200 For example: Wisk Aero argued that increased national regulatory coordination would de-risk investment by Australian companies. The Inner West Council noted that smaller drones can disrupt ecosystems by being incorrectly identified as predators by animals and called for greater consultation with local councils and communities on the rollout of AAM.

201 Industry Skills Australia (ISA), *Aviation Industry 2023 Initial Workforce Plan*, ISA website, 2023.

The Australian Government is committed to a safe, open, competitive and commercial market for uncrewed air traffic management

Uncrewed Aircraft System Traffic Management (UTM) refers collectively to the policies, rules, regulations, systems, information, standards and other elements involved in managing and coordinating drone operations. UTM is not a single system or software platform.

UTM will need to be implemented across Australian airspace, to allow drones and other new aviation technology to operate safely, including to manage the risk of collisions with conventional aircraft. UTM will also provide other benefits, including improved coordination of flight plan approvals, real-time monitoring, and better data collection for safety investigations.

ICAO provides high-level guidance for UTM through its *Unmanned aircraft systems traffic management – a common framework with core principles for global harmonisation*. While governments around the world have the same goal of enabling drone use while maintaining safety standards, countries have taken different approaches to issues such as:²⁰²

- whether UTM services are controlled by a single service provider (centralised), offered by many different service providers (distributed), or a hybrid of both
- whether UTM architecture is publicly or privately owned and operated
- how airspace access is allocated to drones and other uncrewed aircraft
- the types of communication infrastructure used for UTM.

The Australian Government will support an open market for UTM, with private providers delivering services directly to drone operators, which is expected to drive innovation in the way services are tailored and delivered to customers. This differs from Australia's approach to conventional air traffic management, where Airservices Australia is the monopoly service provider for civil aviation.

UTM ecosystem development will initially focus on services for drones, with future planning to follow for the development of UTM services for AAM to coincide with the expected launch of AAM operations from 2027 onwards.

Australia's UTM ecosystem will balance the needs of industry, government safety agencies, and the wider community

The Australian Government's policy approach to UTM is aimed at balancing the needs of drone operators, the broader aviation industry, government safety agencies, and the Australian community. As discussed in Chapter 10: World-leading safety, security and airspace regulation, the government will release a UTM Action Plan in 2024, with greater detail about plans for implementation of UTM in Australia.

UTM must be safe, risk- and outcomes-based, secure and socially responsible. Implementation of UTM will be guided by the objectives of efficiency, accessibility, reliability and fair and transparent processes (See Figure 20). UTM services will only be mandated where they are necessary to ensure safe, efficient and equitable airspace management.

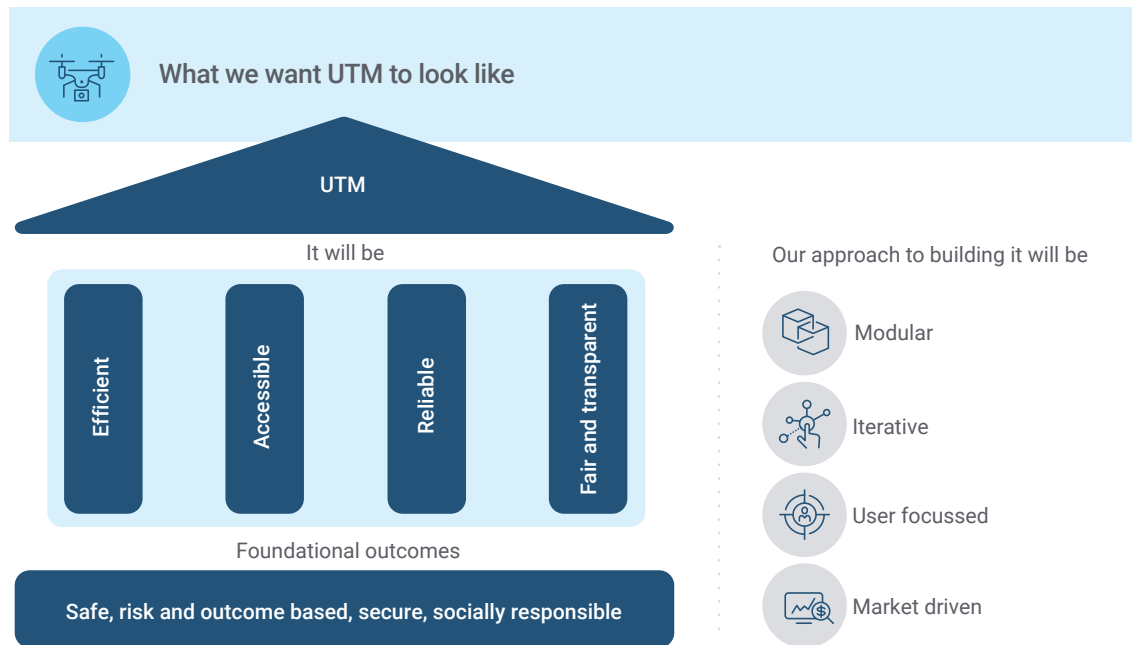
Australia's UTM ecosystem will evolve as technology improves, and as government and industry form a better understanding of how drones and other new aviation technology are being used. The government will take an iterative and modular approach to UTM rollout to learn lessons early without overinvesting in solutions that may not remain appropriate in the long term.

²⁰² C. Decker and P. Chiambaretto, 'Economic policy choices and trade-offs for Unmanned aircraft systems Traffic Management (UTM): Insights from Europe and the United States', *Transportation Research Part A: Policy and Practice*, Volume 157, March 2022.

Australia's approach of enabling an open UTM market is expected to eventually see multiple private UTM Service Providers (USS) operating in the same areas. USS will communicate with Airservices Australia's air traffic control systems where necessary, through the new FIMS, to be rolled out from 2025.

Conventional aircraft and AAM, while crewed, will benefit from an effective UTM ecosystem. A key function of UTM is to facilitate the safe interaction between emerging aviation technologies and conventional aircraft.

Figure 20: What the Australian Government wants UTM to look like



FIMS will support the safe integration of uncrewed aircraft into controlled airspace

Airservices Australia is developing and deploying FIMS to communicate between UTM and conventional air traffic management. Initial capabilities of FIMS will come online in late 2025, including:

- automated airspace authorisations at civil-controlled aerodromes (this capability will be rolled out iteratively from mid-2024)
- an interface with Airservices Australia's air traffic management systems
- safety-related airspace constraints management
- initial discovery services (a capability that allows USS and the FIMS to identify operations, or other time sensitive items, within a specific geographic region that need to be accounted for in flight planning).

11.2 Protecting safety and security

Drones present a range of risks

Drones operate differently to conventional aircraft and present new risks.

Drone use has low barriers to entry. The technology is readily accessible and low cost, and the skills required for basic operations can be learnt quickly without formal training. The small size and manoeuvrability of many drones can make them difficult to detect and intercept. For example, there is potential for the technology to be used by 'bad actors' to smuggle contraband, capture private or sensitive information, interfere with critical infrastructure or pose a cyber or conventional security risk.

Government-commissioned open source analysis showed a 68% increase in global drone misuse incidents in 2022. The analysis also found that there have already been many drone incidents in Australia (see Box 8 for examples).

Box 8: Notable drone safety and security incidents from 2020 to 2023

- Numerous unapproved and illegal drone operations have been detected within the 5.5 km 'no drone zone' at all major Australian airports.
- A 2023 air show saw a drone fly dangerously close to an F-35A Lightning II fighter jet during a demonstration, endangering public safety.
- There have been multiple instances of drones being used to circumnavigate correction facility perimeters and assist in the delivery of contraband, including smuggling mobile phones and illegal narcotics.
- In 2023, a firefighting helicopter was delayed 55 minutes due to a drone being flown in close proximity.

Remote ID will be necessary to manage some drone risks

The Australian Government has begun consultation on options for mandating Remote ID for drones (see Box 9) to improve safety and enable responsible and accountable drone use.²⁰³ If adopted, Remote ID, alongside other systems such as UTM, has the potential to:

- increase situational awareness to prevent mid-air collisions with conventional aircraft and other aircraft
- help track illegal or noncompliant drone use and report potentially suspicious drone activity to relevant authorities for further action
- help educate the community around local laws and regulations relating to drone use
- gather data to form an evidence base to support future regulatory and policy development
- facilitate faster, more efficient, and/or automated approvals to operate in airspace where permission is required
- support management of, and response to, other drone related issues such as noise, privacy and environmental concerns.

²⁰³ Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA), *Remote identification*, DITRDCA website, Australian Government, n.d.

Box 9: Remote ID

Remote ID refers to a system that communicates flight and identifying information about a drone to other parties. Details may include:

- a unique identifier (such as a registration, serial number, or a government issued registration label)
- flight characteristics (location, altitude, speed, direction and timestamp)
- ground control station information (location and elevation)
- the type of drone and its status
- details of the owner or operator of the drone.

The Australian Government will consult on a policy impact analysis by the end of 2025 to consider if and how a Remote ID system could be deployed and how data can be accessed and used. Subject to the outcome of that process, legislation will be introduced and a mandate in place by 2030.

Fit-for-purpose legislation will be needed to manage emerging drone security risks

Australia's current federal and state legislative frameworks do not yet adequately address the long-term security risks of drones. Commonwealth aviation safety legislation provides some authority to monitor and address unlawful drone use; however, it is not sufficient to protect against all kinds of security risk (including criminal, dangerous or otherwise unlawful activities).

In some cases, legal provisions designed to protect conventional aircraft could be breached through counter-drone activities – for example, law enforcement agencies' use of drone-disabling technologies. Current legislative barriers to the use of drone detection and response capabilities may limit the ability of law enforcement, regulators and other agencies to manage drone risks effectively.

Fit-for-purpose legislation will be needed to adequately protect Australian communities, infrastructure and businesses from security risks of drones and AAM.²⁰⁴ The Australian Government will consider options to introduce such legislation before 2030.

New legislation would need to ensure law enforcement and other authorities have access to appropriate technologies to effectively monitor and collect information about drone use. It would also enable sharing of data between agencies, as well as ensuring appropriate protections to guard against the inappropriate access and use of sensitive data about drone operations.

Other regulatory provisions may be required to appropriately protect critical infrastructure and Defence fixed assets from unauthorised drone flyovers, authorise timely responses to drone threats and improve processes that currently require CASA and Australian Communications and Media Authority approval to conduct drone surveillance or drone countermeasures.

Governance and oversight arrangements for counter-drone operations by law enforcement agencies would need to be addressed, with appropriate privacy protections for the access and use of data collected by counter-drone technologies.

²⁰⁴ White Paper submissions called for stronger drone security regulation, including from [Aviation/Aerospace Australia](#) and [Business Council of Australia](#).

As the technology begins being rolled out in Australia, the government will also need to consider the unique security risk profile of AAM. While there will be similarities to risks posed by GA aircraft and helicopters, the expected future scale of AAM operations and the proliferation of landing/take-off sites may present new challenges and risks in the longer term that require a tailored regulatory response. Careful consideration will be taken to ensure any security measures are proportionate to the risk and do not unduly stymie the commercial viability of the nascent AAM sector as it matures.

11.3 Maintaining community licence

Building public awareness and acceptance will be key

Submissions to the Aviation White Paper noted that the Australian public has expressed concern over the noise, safety and environmental risks associated with drones and AAM.²⁰⁵ Building public awareness and acceptance will be critical for the sector to expand to scale.

Potential negative impacts must be properly managed to ensure community needs are respected and the industry is able to grow in a sustainable and considerate manner.

The government has a role in supporting beneficial aviation technology use and protecting communities from noise and nuisance

The Australian Government will use its funding and financing, policy and regulatory levers to support beneficial drone use and protect Australian communities.

Projects funded under the EATP program are demonstrating the benefits that new aviation technology can bring to Australians' lives, including faster delivery of medical supplies, trials of air ambulance technology and delivery of essential supplies to regional communities.

The government is working in partnership with First Nations people, through the First Nations Technology Policy Design project, to:

- support drone use as a vehicle of empowerment towards Closing the Gap targets
- identify drone use cases by First Nations communities across Australia, including for land management, economic and training opportunities, data collection, remote health, cultural endeavours and the arts, and connection to Country
- progress drone policy partnerships in line with the Closing the Gap priority reforms, undertaking shared decision-making, building a community-controlled sector, transforming government and providing shared access to data at a regional level
- elevate First Nations lived experience in policy design, resourcing and decision-making reflecting community priorities and addressing known concerns around protocols for use on Country, data sovereignty, and cultural safety in training or regulation.

Since 1 July 2022, the Australian Government has regulated drone noise under amendments to the Air Navigation (Aircraft Noise) Regulations 2018.²⁰⁶ The department has issued 274 noise approvals under the regulations and has put in place systems for managing noise complaints from the community.

²⁰⁵ NSW Government, *Submission in response to the Aviation Green Paper*, NSW Government, 2023 Wing Aviation, *Submission in response to the Aviation Green Paper*, Wing, 2023.

²⁰⁶ With some exclusions for recreational drone operators, low-weight drones and drones used for specified purposes.



Connecting Australia to the world





As an island continent, far from our key trading partners and visitor markets, Australia depends more on international aviation than almost any other country.

The Australian Government's vision is for a sustainable, competitive, safe and secure international aviation sector that serves Australia's interests. The Australian Government will work with the aviation industry to provide further opportunities for our airlines, ensure businesses can rely on the connections it needs to grow our markets, grow the visitor economy, enhance international airfreight and trade, increase opportunities for Australians to travel abroad and maintain secure and well-paid jobs for Australian workers in the sector.

The Australian Government will pursue increased capacity on international routes, including consideration of further 'open skies' agreements, consistent with our other interests – safety, security, decarbonisation and opportunities for Australian carriers to access foreign markets, among others.

A review of the New and Redeveloping International Ports Framework will ensure border agencies can apply appropriate resourcing to maintain Australia's commitment to strong border and biosecurity standards and that responsibilities for these arrangements rests with the responsible agencies, working closely with industry.

Abroad, the Australian Government will increase regional engagement in aviation, particularly in the Pacific, through additional aviation capacity and capability-building programs, to support economic development of the region.



How we will deliver

To facilitate a sustainable, competitive, safe and secure international aviation market to 2050, the Australian Government will:

- **Pursue additional capacity²⁰⁷ ahead of demand in bilateral international air service agreements and negotiate for 'open skies' style agreements where to do so is in Australia's interests.** The department will continue to consult with government agencies, including the Australian Competition and Consumer Commission (ACCC), Department of Foreign Affairs and Trade (DFAT) and industry stakeholders when providing advice to the Minister for Transport on proposed bilateral air services negotiations.
- **Update the Framework for New and Redeveloping International Ports.** The Australian Government will review the process for designating new, and major changes to, international airports and seaports to ensure critical border security and biosecurity standards continue to be met. The revised framework will be designed to ensure appropriate planning, establishment and resourcing requirements can be put in place by border agencies when a new international port is designated, while providing a transparent process to be followed by airport and seaport operators.
- **Develop new approaches to cargo screening** for border control purposes at Australia's high-volume air and sea ports, aiming to improve the scalability, adaptability and security of screening arrangements.
- **Deepen Asia-Pacific regional aviation capability-building** through DFAT funded development transport assistance programs across the Asia-Pacific region, particularly in the Pacific.²⁰⁸

The need for action

The aviation industry is highly cyclical, with aviation activity broadly tracking expansions and contractions in the economy. The sector is also vulnerable to external shocks and has previously been impacted by events such as war and terrorist incidents, financial crises and global pandemics. However, nothing has impacted the aviation industry as significantly as the COVID-19 pandemic in 2020 (see Figure 21).

Despite the ongoing impacts of the COVID-19 pandemic, as described in Chapter 2: Australia's aviation sector to 2050, international aviation is expected to grow steadily over the period to 2050. The International Air Transport Association forecasts strong global passenger growth going forward, with demand for air travel growing at annual average rate of 3.4% to 2040.²⁰⁹ While demand is forecast to grow, international aviation faces a significant challenge in meeting that demand while delivering on the obligation to decarbonise. Without effective decarbonisation plans, the industry's growth may well be constrained.

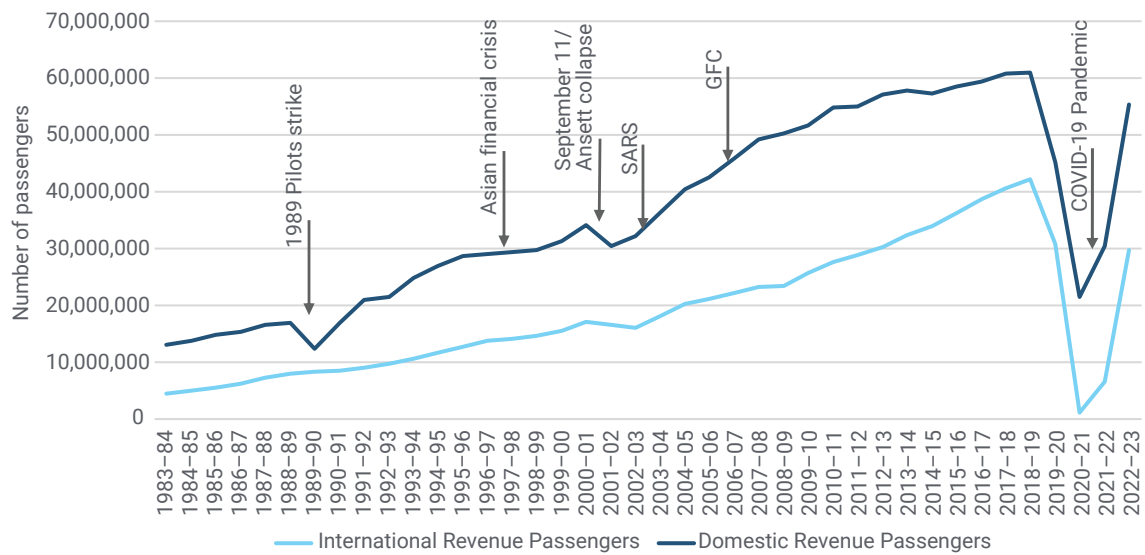
Growth in our region is expected to be faster than the global average. Analysis by the Australian Government body, Tourism Research Australia, predicts that 181 million Southeast Asians will travel overseas each year by 2040, up from 40.69 million outbound travellers in 2022,²¹⁰ which will create growth opportunities for Australia's visitor economy.

207 Capacity entitlements usually take the form of determining the frequency of flights, number of passenger seats, routes and freight capacity that can be operated.

208 Department of Foreign Affairs and Trade (DFAT), *Australia's assistance for infrastructure*, DFAT website, Australian Government, n.d.

209 International Air Transport Association (IATA), *Global outlook for air transport: highly resilient, less robust*, IATA, June 2023.

210 DFAT, *Invested: Australia's Southeast Asia Economic Strategy to 2040*, September 2023.

Figure 21: Annual number of revenue passengers in Australia

Australia's international aviation market saw strong demand in the lead-up to the COVID-19 pandemic. Total international passenger numbers grew from 24.4 million in 2009 to 42.5 million in 2019 – an increase of 74%.²¹¹ After falling as low as 1.1 million passengers over a 12-month period during 2020–21, total international passengers in the 12 months to April 2024 have rebounded to almost 38.5 million.²¹²

The Australian Government's Bureau of Infrastructure and Transport Research Economics forecasts Australia's total international revenue passenger kilometres to grow from 306 billion in 2019 to 690 billion in 2050, with an annual growth rate of 2.7%. It also predicts international visitor arrivals to grow by almost 200% in the same period, with over 19.7 million visitors arriving to Australia in the year ending 30 June 2050.²¹³ Again, this projected growth is dependent on the sector's ability to decarbonise. This projected growth also highlights the importance of ongoing protections for communities living near airports.

With a recovering international aviation sector, and strong growth forecast in the period to 2050, it is appropriate for the Australian Government to pursue bilateral air services negotiations that seek additional capacity ahead of demand and the negotiation of 'open skies' style agreements. These agreements effectively allow airlines from 2 countries to operate without capacity constraints, where it is in Australia's interests, can be agreed with our bilateral partners and does not come at the expense of the sustainability of Australian carriers.

Australia needs an updated approach to determining the provision of border facilities and services at international airports

The increase in international passenger numbers has also seen an increase in the growth of Australian designated international airports, growing from 9 in 2009 to 20 in 2023.

The increased number of international airports has placed significant pressure on our border security and biosecurity agencies. These pressures are particularly acute where there are only occasional or intermittent scheduled international services which make the establishment of any permanent border agency presence difficult to justify and deliver.

211 Bureau of Infrastructure and Transport Research Economics (BITRE), *International Airline Activity – Time Series*, BITRE website, Australian Government, 2024.

212 BITRE, *International Airline Activity – Time Series*, BITRE website, Australian Government, 2024.

213 BITRE, *Australian aviation forecasts – 2024 to 2050*, BITRE website, Australian Government, 2024.

The Australian Government will review the process for designating new and major changes to international airports that will impact border and biosecurity operations. The review will look to ensure critical border security and biosecurity standards continue to be met and that appropriate planning, establishment and resourcing requirements can be put in place by our border agencies, while providing a transparent process that can be followed by airport operators.

The role of the Australian Government

International civil aviation is a sector that has always been closely stewarded by governments. The underpinning bilateral framework for international aviation – under which access for foreign aircraft is granted through a series of bilateral treaties and agreements between countries – was set out in the Convention of International Civil Aviation 1944 (the Chicago Convention). Today, international aviation continues to operate under the terms of the Chicago Convention. Under this agreement, scheduled air services cannot operate over or into the territory of a state, without the permission of that state. This means that international aviation cannot occur unless governments act to open the markets and sign treaty-level agreements providing access.

The Australian Government is responsible for negotiating air services agreements with other countries, in accordance with Australia's interests as determined by the Minister for Transport. The Australian Government approves the operations of international airline services into Australia, which operate in accordance with international safety and security standards. In line with international partners, the Australian Government maintains Australian ownership and control requirements for designated international airlines (including Qantas and Virgin Australia), while capacity available to Australian designated airlines under our bilateral agreements, is allocated by the independent International Air Services Commission (IASC).

The department leads Australia's international aviation engagement, including coordinating aviation capability-building initiatives, particularly in the Asia-Pacific region. DFAT is also increasing its international engagement, particularly in the Pacific. The development of strong aviation regional partnerships increases global interconnectedness, results in better safety outcomes for Australians and improves people-to-people links across the region and with Australia. A stable, peaceful and resilient Asia-Pacific region is central to Australia's interests and national security.

As set out in this chapter, the Australian Government will also continue to play a central role in:

- considering border facilities and services at international airports, including approval of new, or major changes to, international airports that will impact on border and biosecurity operations
- actively participating in International Civil Aviation Organization (ICAO) in the development of global aviation safety, air navigation, security and facilitation, economic development and environmental standards, and recommended practices including supporting policies and guidance material
- delivering aviation capability building in the Asia-Pacific, including through targeted aviation programs that support vital economic development and social connectivity.



12.1 Seeking international aviation capacity ahead of demand

International aviation is an integral part of the Australian economy. A strong, competitive international aviation market keeps Australia connected with the rest of the world and enables international visitation and trade.

Australia has bilateral air services arrangements with over 100 countries and has open access type agreements with no limit on the number of flights – in some cases known as ‘open skies’ agreements – with a number of countries, including 7 of our biggest source countries for international visitor arrivals to Australia in July 2023 (New Zealand, China, the United States, the United Kingdom, Japan, India and Singapore). Flights from these 7 countries represent just over half of all international visitor arrivals coming into Australia.

Some of Australia’s bilateral air services agreements include limits on capacity that airlines can operate to each country’s major airports. In Australia our 5 major airports are Sydney Kingsford Smith Airport; Western Sydney International (Nancy-Bird Walton) Airport, opening in 2026; Melbourne (Tullamarine); Brisbane; and Perth. Australia’s agreements also provide for unrestricted capacity access to our other designated international airports such as Cairns, the Gold Coast, Canberra, Darwin and Adelaide.

However, even in those agreements with limitations, there can be a significant amount of available capacity for the airlines of both countries that is not currently being used. In all cases, international airlines make commercial decisions as to whether to operate services to Australia, based on their assessment of commercial viability of the particular routes available. The more long-term certainty there is that airlines will be able to grow their operations, the more likely international operators will choose to allocate resources to their Australian operations.

Similarly, through international negotiations Australia has not always secured the level of access we have desired for our international airlines into foreign markets. We will continue to pursue increased opportunities for Australian carriers, in accordance with our national interest.

Policy and regulatory approaches need to serve Australia’s interests

Flights between countries rely on mutual agreement between respective national governments to provide access to their countries.

The policy of successive governments has been to negotiate bilateral agreements that provide ‘capacity ahead of demand’ where this is considered by the Minister for Transport to be in Australia’s interests, and this has been delivered in practice. This approach has meant that airlines are able to plan to access future routes subject to their own commercial considerations and subject to meeting the safety and security requirements of both countries.

As a consequence of this policy approach, there are only a very limited number of bilateral agreements where all available capacity is being used, or where Australia and our bilateral partners have so far been unable to reach agreement to update air services agreements to allow more services by airlines of either country.

The Australian Government considers that the current approach to bilateral air services negotiations continues to serve Australia’s interests, including providing opportunities for our aviation, tourism and trade industries and providing connectivity benefits for passengers.

We will pursue additional capacity ahead of demand in bilateral service agreements and negotiation of ‘open skies’ style agreements where it is in Australia’s interests and can be agreed bilaterally. Aviation White Paper consultation revealed strong support for these types of agreements, particularly from organisations involved in the visitor economy.²¹⁴ The Australian Government will also, with the agreement of our bilateral partners, seek to remove limits in our bilateral air services agreements on the number of flights to specific airports.

The Australian Government will continue to conduct future air services negotiations

New and updated bilateral air services arrangements are treaty level agreements negotiated between governments.

Requests for new or updated air services arrangements are put forward by the government aviation authority of one country to another on a regular basis. These arrangements set out the overarching legal framework between countries including provisions such as designation of airlines, application of national laws, safety and security standards, routes that can be operated, capacity entitlements, traffic, and code sharing rights for airlines of both countries.

These are typically reciprocal agreements, where governments seek improved access for their designated international carriers at the same time as granting access to foreign carriers. Australia may be seeking access for a number of locations at any given time and is not always successful.

All decisions on the priority and nature of negotiations are determined in the national interest, as decided by the Minister in consultation with relevant ministerial counterparts. In making decisions, the Minister considers a range of factors, including:

- current and forecast international capacity in each market
- reciprocal market opportunities for Australian carriers
- expanding access for Australian travellers to new locations including diaspora communities
- economic benefits for Australian tourism, trade and education sectors
- safety and security for the travelling public
- job opportunities and job security for Australians
- the sustainability of the Australian aviation sector
- international bilateral relations.

The department consults with government agencies, including DFAT, Home Affairs and the ACCC, and industry stakeholders when providing advice to the Minister on bilateral air services negotiations that are in the national interest.

Since the resumption of negotiations post-COVID, the Australian Government has updated bilateral agreements with Tonga, Samoa, Türkiye, Vietnam and Sri Lanka.

The Australian Government also supports the continuing role of the IASC, an independent statutory authority, which allocates available capacity entitlements to existing and prospective Australian international carriers for the operation of scheduled international air services. The IASC’s role is set out in the *International Air Services Commission Act 1992* (IASC Act).

²¹⁴ Australian Travel Industry Association (ATIA), *Submission in response to the Aviation Green Paper*, ATIA, 2023.

In considering applications for capacity, the IASC will continue to assess the benefit to the public of allocations of capacity using the public benefit criteria set out in the current policy statement.²¹⁵

These criteria include the applicant's reasonable capability to obtain the necessary regulatory approvals and licences to operate the route; their ability to implement the proposed services; and relevant additional criteria related to competition, consumer benefit, promotion of tourism and trade.

The department will publish updates on its website of the capacity available for Australian and foreign airlines, after the completion of air services talks where changes are made to the air services arrangements.

Majority Australian ownership will remain a requirement for Australian designated international airlines

While there is no limit to foreign ownership for Australian domestic airlines, the Australian Government will continue to require Australian control and ownership requirements of our designated international airlines. This ensures that the benefits from Australia's treaty agreements with other countries flow to Australian businesses and recognises the unique role that aviation plays in connecting our nation to the world.

Australia has an interest in maintaining strong, Australian-controlled international airlines to ensure continued access to foreign nations and maintaining an Australian long-haul capability that can be relied upon in times of emergency. This capability has been demonstrated throughout the last year, including Qantas operating into Tel Aviv following the 7 October attacks, and Virgin Australia increasing flights to Vanuatu following the entry of Air Vanuatu into administration. This requirement is also consistent with commitments made in Australia's bilateral air service agreements – it balances Australia's sovereign interests with the need to attract investment.

Likeminded nations such as Canada and those in the European Union take a similar approach.

The Australian Government considers cabotage requests on a case-by-case basis

Cabotage is the practice of providing foreign airlines (airlines domiciled in countries other than Australia) the right to provide Australian domestic aviation services. 'Investment cabotage' is the practice of allowing a foreign airline to establish a wholly-owned subsidiary in Australia to fly domestic routes.

Some stakeholders consulted for the Aviation White Paper noted the benefits that cabotage arrangements could potentially provide, by enabling improved connectivity and freight transport in parts of Australia with limited aviation connectivity.

However, cabotage is not generally endorsed in bilateral agreements by other countries. Allowing foreign airlines, with foreign crews, to fly Australian domestic routes would result in some aircraft operating within Australia in accordance with foreign safety, security and industrial relations regulations, which may differ from Australian requirements.

Submissions to the Aviation White Paper suggest there is little interest from international carriers to operate domestic flights within Australia.²¹⁶ The practicalities, logistics, operating costs associated with taking off and landing at multiple airports, transit arrangements and handling a potential mix of domestic and international passengers are likely to make the cabotage proposition less attractive to international airlines.

²¹⁵ International Air Services Commission Policy Statement 2018 (legislation.gov.au).

²¹⁶ The submission from the Board of Airline Representatives of Australia, which represents foreign airlines in negotiations with Australian airports and service providers, stated that 'international airlines represented by BARA have not expressed interest in operating Australian domestic routes and BARA does not perceive cabotage as an effective solution for increasing domestic aviation competition'.

The Australian Government will continue to consider cabotage requests on a case-by-case basis. Where demonstrable benefits can be gained through the granting of cabotage rights, and provided safety and other concerns are satisfied, the government will consider trading cabotage rights strategically – for example to help achieve a comprehensive open skies agreement with a major trading partner, or to gain reciprocal rights in a significant market. The government may also consider unilateral cabotage, either where there is a demand that no Australian operator is able to satisfy or where there is a proposed route not currently served by an Australian operator.

To provide industry with further clarity in relation to short-term cabotage dispensation policy and decision-making procedures, the department has set out information on its website on the approval process and criteria taken into account in considering applications, which can be accessed at www.infrastructure.gov.au/infrastructure-transport-vehicles/aviation/international-aviation/guidelines-international-airlines-cabotage-requests.

12.2 Protecting Australia's border

Investment in border security and facilitation will be an ongoing requirement

Security of the Australian border is a national asset that enables economic prosperity. A well-managed border provides efficient connections between Australia and the world. Investment in border security, and the facilitation of passenger and cargo processing, is a continued priority and is important for ensuring Australia remains competitive within the global economy.

The Australian Border Force (ABF) has worked with industry to develop a vision for a contactless, digitalised and secure border that efficiently facilitates legitimate travel and trade, while effectively disrupting those who would do Australia harm and ensuring we have the necessary defensive layers to safeguard against future global shocks.

To achieve that vision, there will be an ongoing need for investment in border processing facilities and capabilities, including through technologies, digitisation and innovation. Investment in new facilities will help to facilitate the forecast growth in aviation to 2050 and enable better utilisation of the limited space available to border agencies at Australian airports.

Submissions to the Aviation White Paper from industry bodies proposed that border agencies use more technologies to assess and manage risks, including biosecurity risks.²¹⁷

The ABF and industry are progressing a range of initiatives to move towards the stated vision:

- collaborating on trials to prove 'future traveller concepts'
- testing the business process of next generation SmartGates that employ contactless processing whereby passengers will be able to clear the border without the need to present their physical passport. This technology will improve processing times at the border and enable greater throughput of passengers
- working together on a new approach to capturing incoming passenger card information digitally
- working together through the Trans-Tasman Seamless Traveller Group to identify and test initiatives to support streamlined trans-Tasman travel for Australian and New Zealand travellers

²¹⁷ Chamber of Commerce and Industry and Tourism and Transport Forum submissions to the Aviation Green Paper.

- co-developing a roadmap of border modernisation measures in order to meet the challenges over the next decade and ensure the Australian border is prepared for the surge in travel as we approach the 2032 Brisbane Olympics.

Greater variation in the types and volumes of goods crossing the border, changing markets and rapidly emerging and evolving threats challenge the effectiveness of border agencies in detecting border threats. The number of air cargo consignments has increased 62% over the last 5 years, from 53 million in 2018–19 to 86 million in 2022–23.²¹⁸ Continued steady growth in cargo volumes and a highly interconnected and globalised world increasingly makes risk and threat management more complex.

Under the Simplified Trade System reforms, the ABF, in consultation with the Department of Agriculture, Fisheries and Forestry (DAFF), is considering options to re-engineer its cargo intervention model to improve the scalability, adaptability and security of intervention activities at Australia's high-volume airports. Improved border agency business processes, embedded in the supply chain, along with new advanced detection technologies and automation, will enable the ABF and DAFF to inspect cargo at speed and scale, reducing delays for industry while maintaining the integrity of the border.

Continued close relationships between border agencies, airports and the airfreight industry, and ongoing investment will be vital to meet future challenges. Early consideration, thorough planning and co-design will be important to minimise impacts on airfreight operations and maximise the effectiveness and efficiency of border agency intervention activity.

The Australian Government will review the New and Redeveloping International Ports Framework to manage future demand

Growth in the number of designated Australian international airports (from 9 in 2009 to 20 in 2023), has placed additional and ongoing resourcing pressures on border agencies to facilitate international services in multiple locations, including where scheduled services occur only on a seasonal or intermittent basis. These pressures were temporarily relieved by the significant reduction of international arrivals and use of fewer international airports in Australia during COVID-19.

Airport operators seeking to introduce international services at an airport where no border services are currently provided, or where there is a significant change proposed to an existing international terminal that impacts border agencies, currently apply to the department. The department coordinates advice to the Australian Government for consideration on whether these proposals should be supported, in consultation with Home Affairs, DAFF, ABF and other agencies.

Australian Government support provides border agencies with the policy authority to undertake airport planning and cost recovery arrangements with airport operators. Border agencies also use the framework approval as the basis for seeking resources from government for additional personnel requirements that arise out of changes to current international terminal arrangements.

The existing international airport framework process has been in place since 2018, but it is timely, in the light of enhanced international border security and biosecurity requirements and a return of increased international passenger demand, to examine the appropriateness of the current arrangements and the future demands they will place on our border agencies and industry.

²¹⁸ Department of Home Affairs (DFAT) *Annual report 2018–19*, DFAT, Australian Government; Department of Home Affairs (DHA), *Annual report 2022–23*, DHA, Australian Government.

Accordingly, the department, in consultation with border agencies and industry, will review the New and Redeveloping International Ports Framework. The framework covers both air and sea ports, so this review will benefit both the aviation and maritime sectors. The review will support government consideration of:

- whether the framework remains fit for purpose and provides suitable coverage for the breadth and complexity of contemporary port redevelopment projects
- whether the assessment criteria continue to support decision-making by government that reflects Australia's interests
- the benefits and costs of border services arrangements at international airports and seaports
- the roles of government agencies and industry
- designating a clearly identified (and, where appropriate, single) point of contact within the Australian Government to discuss issues and challenges as they arise
- how framework processes, including funding arrangements and timing, can be strengthened to better support border agencies' engagement with port operators to deliver approved projects
- mitigating risks to Australia's border and biosecurity protection arrangements during the establishment or major upgrades to international airport and seaport terminal facilities.

The review is expected to be completed in the first half of 2025.

12.3 Promoting safe, secure and sustainable aviation outcomes internationally

Since ICAO's establishment in 1947, Australia has been a strong supporter of the organisation's role in the development of international standards and recommended practices, guidance and advisory material.

As aviation is a global industry, international aviation operators around the world, including our own, continue to advocate for internationally consistent approaches to support their international operations. This approach leads to more harmonised global operations promoting better safety, security, efficiency, productivity and environmental outcomes.

Australia has demonstrated strong commitment and leadership in the international civil aviation sector, including through our role on many ICAO panels, task forces and working groups, working collaboratively with countries around the world, in our region and with industry associations.

While Asia is expected to recover from COVID-19 to the point of becoming the region with the highest level of international air traffic, Pacific island countries continue to struggle to recover. Pacific island countries have a high dependence on air transport; however, they face ongoing challenges due to their small size, dispersed populations and high costs of operations. Australia is committed to working with the nations of the Pacific to support a safer, more resilient and sustainable aviation sector, which underpins the region's prosperity and economic development. Australia will continue to maintain our active participation and leadership not only in ICAO fora but through increased engagement with the Asia-Pacific region, particularly the Pacific.

Australia has established well-regarded and enduring aviation (and maritime) collaborative relationships with our regional partners through which we deliver important, high-quality and valued capability building programs. The Australian Government is enhancing its longer term aviation support in the Pacific, seeking to improve regional safety, connectivity and sustainability outcomes.



Australia will continue to be an active participant in ICAO, including in decarbonisation discussions

Australia maintains a Permanent Mission in ICAO's Montreal headquarters in Canada and was successfully re-elected to Part I of the ICAO Council at the 41st Assembly in Montreal in October 2022 as one of 11 States of chief importance in air transport on the 36-member council. Australia's active engagement with ICAO continues to be critical in the development of global policies, appropriate international standards and recommended practices, and guidance and advisory material that are consistent with our national and regional aviation objectives. This role also extends to promoting the interests of our Pacific partners, through our membership of the ICAO Council.

Australia will continue to engage in ICAO to promote international commitments to meet key emerging challenges in areas such as aviation environment, including the long-term aspirational goal for international aviation of net zero carbon emissions by 2050, the Carbon Offsetting Reduction Scheme for International Aviation and ICAO Facilitation Programs²¹⁹ in response to issues raised during the COVID-19 pandemic.

Also, through our membership of the ICAO Council and participation in ICAO panels, taskforces and working groups, Australia will work collaboratively with countries around the world, in our region and with industry associations to progress work on the other ICAO strategic objectives related to aviation safety, air navigation, aviation security and economic development of air transport.

Australia will continue to actively participate in ICAO's Asia-Pacific regional forums, such as the annual conference of Directors General of Civil Aviation, recognising that in the region air travel is increasingly at the heart of future economic development and social connectivity.

Australia will continue to build aviation capability in the Asia-Pacific region

Australia's longstanding major bilateral aviation capability building programs in the Asia-Pacific are continuing to support Indonesia, under the Indonesia Transport Safety Assistance Package, and Papua New Guinea, under the Transport Sector Support Program, and in accordance with our bilateral Memoranda of Understanding on cooperation in the transport sector.

These holistic transport sector programs, funded by DFAT, involve Australian Government aviation (and maritime) agencies working closely with their Indonesian and Papua New Guinean counterparts across areas including policy development, strategic planning, regulations and standards setting, emerging and transformative technologies, technical training and information sharing.

Australia will also continue to enable secure aviation travel and trade in South-East Asia and South Asia through our Transport Security International Capacity Building (TSICB) program. The TSICB program helps deter in-bound security risks to Australian airports and improves security standards for passengers travelling in the region, through targeted activities to uplift the security skills, governance and processes of aviation transport security regulators and operators in partner countries.

²¹⁹ International Civil Aviation Organization (ICAO), *Facilitation programmes*, ICAO website, n.d.

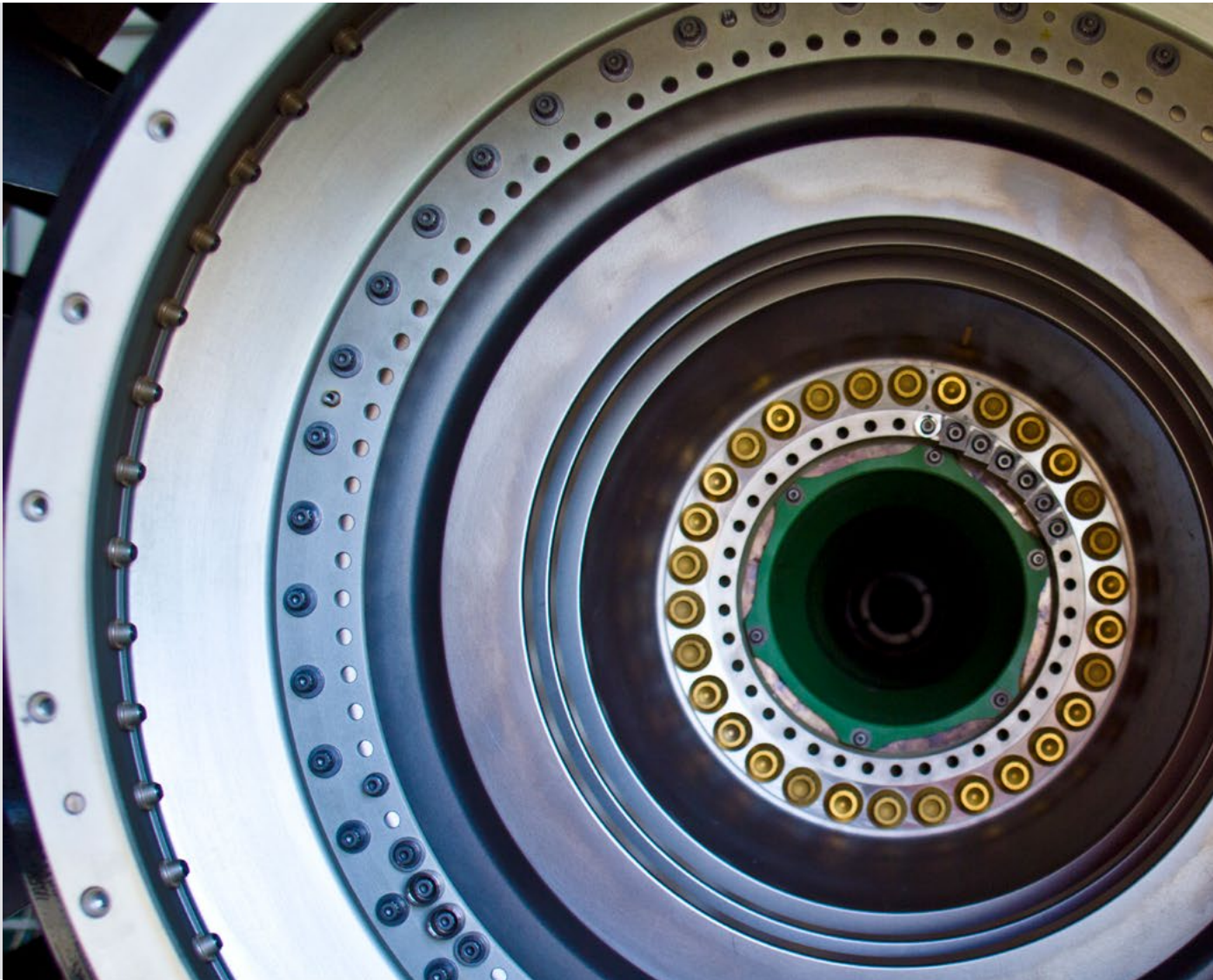
Through the Partnerships for Infrastructure program, Australia provides technical and capacity building assistance to support the region's critical infrastructure and transport needs, including in aviation. For example, this program is facilitating upgrades to Presidente Nicolau Lobato International Airport in Dili, Timor-Leste. The upgrades include a new cargo terminal building, an animal and plant quarantine facility, upgrades to surrounding access roads and footpaths and the renewal of the terminal carpark and drop-off zones. The airport upgrades will facilitate expanded passenger capacity and experience and compliance with critical international safety and security standards.²²⁰

In addition to these established programs, the Australian Government is enhancing its longer term aviation support in the Pacific. Through the \$100 million Australia – Pacific Partnerships for Aviation Program, the Australian Government will work with Pacific governments, Australian industry, regional organisations and like-minded partners to support a safer, more sustainable and resilient Pacific aviation sector, which is important for the Pacific region's prosperity and economic development. For example, Australia and the Government of Palau are now working together on a pilot initiative that seeks to maximise opportunities arising from our work in aviation connectivity, supporting more sustainable tourism and wider economic outcomes.

The development of a strong aviation industry is vital for Pacific economies and livelihoods – increasing interconnectedness and people-to-people links across the region and with Australia. A stable, peaceful and resilient Pacific region is central to Australia's interests and national security.

²²⁰ Australian Infrastructure Financing Facility for the Pacific (AIFFP), *Redeveloping Timor-Leste's international airport*, AIFFP website, Australian Government, n.d.

Appendix A – Glossary of terms and Australian Government agencies





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Advanced Air Mobility (AAM)	In this document, the term AAM is used to describe a new concept in air transportation most often connected to the use of electric vertical take-off and landing (eVTOL) aircraft. AAM is not a single technology, but rather a collection of new and emerging technologies being applied to the aviation ecosystem, particularly in new aircraft types and equipment. AAM aircraft have larger payloads than drones (c.50kg plus) and are able to take on a broader set of use cases, including passenger and heavy freight transport.
Assistance, Capacity-building and Training for CORSIA (ACT-CORSIA)	ACT-CORSIA is an ICAO program established to support the swift implementation of CORSIA through training and capacity-building activities.
ICAO Assistance, Capacity-building and Training for Sustainable Aviation Fuels (ACT-SAF)	ACT-SAF initiative supports global efforts to decarbonise aviation by facilitating the development, deployment, and use of SAF through tailored support and knowledge sharing.
Aeronautical Information Package (AIP)	The AIP is a comprehensive set of documents issued by Airservices Australia, detailing regulations, procedures, and other essential information for air navigation within Australia, following the standard set by ICAO.
Aeronautical Pricing Principles (APP)	The APP is an Australian Government framework established to guide commercial negotiations between airlines and airports for aeronautical charges, such as movement charges and terminal usages fees.
Air Traffic Management (ATM)	ATM is the combination of the airborne functions and ground-based functions (air traffic services, airspace management and air traffic flow management) required to ensure the safe and efficient movement of aircraft during all phases of operations.
Aircraft maintenance engineers (AMEs)	AMEs are responsible for conducting the physical maintenance of aircraft – including the inspection and repair of engines and other aircraft components.
Aircraft Noise Ombudsman (ANO)	The ANO is an independent advisory body within Airservices Australia. The ANO conducts independent reviews of Airservices Australia's and Defence's management of aircraft noise-related activities, including, the handling of complaints, community consultation processes related to aircraft noise and the presentation and distribution of aircraft noise-related information.
Airline Customer Advocate (ACA)	The ACA provides a free service to eligible customers of major Australian airlines by facilitating the resolution of current unresolved complaints about airline services. The ACA was established and is funded by the participating airlines (Qantas, Jetstar and Virgin Australia).



Airport Building Controller (ABC)	The ABC is a person appointed under regulation 4.01 of the Airports (Building Control) Regulations 1996 to oversee and ensure that building activities at specific airport sites comply with the appropriate building and engineering standards.
Airport Environment Officers (AEO)	The AEO is a person appointed under regulation 10.01 of the Airports (Environment Protection) Regulations 1997 to oversee environmental management and compliance at federally-leased airports in Australia.
Airports Act 1996 (Airports Act)	<i>Airports Act 1996</i> , the Commonwealth legislation that regulates the 2 Leased Federal Airports. It is the parent Act of the Airports Regulations 2024, which provides further compliance requirements for LFAs.
Airservices Australia	Airservices Australia is Australia's independent air navigation service provider and provides related airside services to the Australian aviation industry. Airservices Australia is an Australian Government owned corporation. Airservices Australia operates under the <i>Air Services Act 1995</i> . Airservices Australia is responsible for the provision of Aviation Rescue and Fire Fighting Services at Australia's major passenger airports
Airspace Act 2007	The purpose of the <i>Airspace Act 2007</i> is to ensure that Australian airspace is administered and used safely. This Act establishes the powers and functions for CASA to effectively regulate Australian administered airspace.
APS Net Zero initiative	The APS Net Zero Initiative is the Australian Public Service (APS) commitment to achieving net zero emissions by the year 2030. The initiative includes non-corporate Commonwealth entities, and is supported by the Net Zero in Government Operations Strategy.
Australian Airspace Policy Statement (AAPS)	The AAPS provides the Commonwealth Government's airspace policy objectives and priorities to CASA. Under Section 8 of the <i>Airspace Act 2007</i> the Minister must make the AAPS. The AAPS is also intended to provide guidance for the aviation industry and other aviation agencies and is reviewed every three years.
Australian Border Force (ABF)	ABF is part of Home Affairs. It is Australia's frontline border law enforcement and international customs agency. As stewards of one of Australia's greatest strategic assets "the border", the ABF is committed to implementing government policy and ensuring a safe, prosperous and united Australia. The ABF supports national security by protecting our border and national prosperity by facilitating legitimate trade and travel through its functions across the border continuum – pre-border, at the border and post-border. The ABF also plays a crucial role in maintaining the integrity of Australia's migration system.



Australian Competition and Consumer Commission (ACCC)	The ACCC promotes competition in markets to benefit consumers, businesses, and the community.
Australian Consumer Law (ACL)	The ACL is enacted in the <i>Competition and Consumer Act 2010</i> . It sets out consumer rights and business obligations. The ACL is enforced by the Australian Competition and Consumer Commission and state and territory fair trading agencies. It applies to all Australian businesses, including airlines.
Australian Federal Police (AFP)	The AFP is the primary law-enforcement agency at the nine major Australian airports: Adelaide, Brisbane, Cairns, Canberra, Darwin, Gold Coast, Melbourne, Perth and Sydney. The AFP is part of the Attorney-General's portfolio
Australian Financial Complaints Authority (AFCA)	The AFCA is an independent, not-for-profit organization established to provide fair, free, and impartial dispute resolution services for consumers and small businesses in relation to financial products and services in Australia.
Australian Future Airspace Framework (AFAF)	AFAF consists of guiding principles for the future design of airspace architecture and solutions in Australian administered airspace. It is Australia's primary reference source for airspace strategic principles, future operations and strategic change planning and is developed by CASA. It includes a long-term strategic airspace implementation plan for the deployment of different airspace classes across Australian administered airspace.
Australian Human Rights Commission (AHRC)	The AHRC is an independent statutory authority, established under the <i>Australian Human Rights Commission Act 1986</i> . The AHRC investigates and resolves complaints about human rights breaches and discrimination. They also raise and promote human rights awareness via training and resources and advice courts on human rights obligations.
Australian Local Government Association (ALGA)	The ALGA is the national federation representing local government councils across Australia.
Australian Maritime Safety Authority (AMSA)	AMSA is an independent statutory agency established to promote the safety and protection of the marine environment and combat ship-sourced pollution. They provide the infrastructure for the safety of navigation in Australian waters and maintain a national search and rescue service for the maritime and aviation sectors.



Australian Noise Exposure Forecast (ANEF)	The ANEF is a land-use planning tool to measure aircraft noise exposure in the vicinity of airports. An ANEF chart shows a forecast of aircraft noise levels based on approved flight paths. ANEF noise contours are formally endorsed for technical accuracy and practical operational application by Airservices Australia. ANEFs are published for all LFAs.
Australian Renewable Energy Agency (ARENA)	ARENA is an independent statutory authority established under the <i>Australian Renewable Energy Agency Act 2011</i> by the Australian Government to improve the competitiveness and increase the supply of renewable energy in Australia. ARENA funds projects, research, and development activities that advance renewable energy technologies and shares knowledge to support the transition to a sustainable energy future.
Australian Transport Safety Bureau (ATSB)	ATSB is Australia’s independent no blame safety investigator and operates under the <i>Transport Safety Investigation Act 2003</i> . The ATSB is responsible for the independent investigation of accidents and other safety occurrences involving civil aircraft in Australia, and takes part in the investigation of accidents and other occurrences involving Australian aircraft overseas. The ATSB is also responsible for Australia’s system for mandatory reporting of all aviation safety occurrences and operates schemes for voluntary and confidential reporting of aviation safety concerns.
Automatic Dependent Surveillance-Broadcast (ADS-B)	ADS-B is a system in which electronic equipment onboard an aircraft automatically broadcasts the precise location of the aircraft via a digital data link. The data can be used by other aircraft and potentially air traffic control to show the aircraft’s position and altitude on display screens without the need for radar. When ADS-B has both data transmission and reception modes fitted it is also able to be utilised as a collision avoidance system if both aircraft are fitted with ADS-B IN and OUT devices.
Avgas	Avgas, short for aviation gasoline, is a specialized fuel used in aircraft with spark-ignited internal combustion engines. It is distinct from jet fuel.
Aviation Access Forum (AAF)	The AAF is a consultative forum on disability access issues in Australian aviation, comprising government agencies, the disability community and airline and airport operators.
Aviation Safety Advisory Panel (ASAP)	The ASAP has been established to improve CASA’s organisational culture and its engagement with industry. It is supported by Technical Working Groups and other web-based and ad-hoc consultation.



Aviation Security Identification Card (ASIC)	The ASIC is required for most workers at major airports across Australia. The cards certify that the relevant person has had a security background check and they are not considered a threat to aviation.
Aviation Transport Security Regulations 2005	The Aviation Transport Security Regulations 2005 are made under the <i>Aviation Transport Security Act 2004</i> to set the security requirements to protect and regulate the civil aviation sector.
Bureau of Infrastructure and Transport Research Economics (BITRE)	BITRE provides economic analysis, research and statistics on infrastructure and transport issues to inform Australian Government policy development and wider community understanding. BITRE is part of the Department of Infrastructure, Transport, Regional Development, Communications and the Arts.
Bureau of Meteorology (BoM)	BoM is Australia's national weather, climate and water agency and operates under the authority of the <i>Meteorology Act 1955</i> and the <i>Water Act 2007</i> . BoM is the aeronautical meteorological service provider for Australia.
Cabotage	Cabotage refers to the transport of goods or passengers between two places in the same country by a transport operator from another country, often regulated or restricted by law.
Carbon Offsetting and Reduction Scheme (CORSIA)	Carbon Offsetting and Reduction Scheme for International Aviation is a global market-based measure designed to offset international aviation CO ₂ emissions in order to stabilise the levels of such emissions.
Chicago Convention	The Convention on International Civil Aviation, signed in Chicago on 7 December 1944, came into force on 4 April 1947, establishing the International Civil Aviation Organization (ICAO). The legal instrument that gives effect to this in Australia is the <i>Air Navigation Act 1920</i> . The Convention established certain principles and arrangements so international civil aviation can develop in a safe and orderly manner, and that international air transport services be established on the basis of equality of opportunity and operated soundly and economically.
CASA's General Aviation Workplan	The General Aviation Workplan clearly sets out how and when CASA will optimise the regulatory framework for the General Aviation sector.
Civil Aviation (Carriers) Liability Act 1959	The CAACL Act provides the legal framework for air carrier liability in Australia. It gives effect to various international conventions on air carrier liability, including the Montreal Convention. The CAACL Act establishes a strict liability scheme for compensation of passengers in the event of injury, death, or damage to baggage during domestic air travel within Australia.



Civil Aviation Act 1988 (CA Act)	The CA Act is the primary civil aviation safety legislation in Australia. The main object of the CA Act is to establish a regulatory framework for maintaining, enhancing and promoting the safety of civil aviation, with particular emphasis on preventing aviation accidents and incidents.
Civil Aviation Authority of New Zealand (CAANZ)	The CAANZ is the regulatory body overseeing civil aviation in New Zealand, ensuring compliance with safety standards and aviation rules.
Civil Aviation Regulations 1988 (CAR)	The CAR provides regulatory controls over civil aviation safety. They set out the required safety standards for: airworthiness; licences and ratings for flight crew and maintenance personnel; air traffic control; rules of the air; dangerous goods; other aviation safety issues.
Civil Aviation Safety Authority (CASA)	CASA is responsible for ensuring the safety of aviation and promoting safety awareness in Australia. It was established as an independent statutory body in 1995 under the <i>Civil Aviation Act 1988</i> and is responsible for issuing pilot licences, registering and certifying aircraft and setting safety standards to maintain and enhance the safety of aviation.
Civil Aviation Safety Regulations 1998 (CASR)	The CASR provides regulatory controls over civil aviation safety. They set out the required safety standards for: airworthiness; licences and ratings for flight crew and maintenance personnel; air traffic control; rules of the air; dangerous goods; other aviation safety issues.
Civil Military Air Traffic Management System (CMATS)	CMATS is an advanced integrated system that will replace the current independent civil and Defence air traffic management systems. It is being implemented in Australia under the name OneSKY.
Clean Energy Finance Corporation (CEFC)	The CEFC is an Australian Government-owned green bank that invests in clean energy projects to support Australia's goal of achieving net zero emissions by 2050. It delivers investments via the CEFC General Portfolio and Special Investment Programs, such as the Rewiring the Nation Fund and Clean Energy Innovation Fund. As a corporate Commonwealth entity, the CEFC operates commercially and is governed by a Board of Directors following the <i>Cleaning Energy Finance Corporation Act 2012</i> and Investment Mandate Direction.
Climate Change Authority (CCA)	The CCA is an independent Australian statutory agency established in 2012, providing expert advice to the Government on climate change policy and mitigation strategies.
Closing the Gap	The Closing the Gap initiative is an Australian government strategy aimed at reducing disparities in health, education, and employment between Indigenous Australians and the non-Indigenous population.



Commonwealth Scientific and Industrial Research Organisation (CSIRO)	The CSIRO is an Australian Government corporate entity which carries out scientific research to support Australia. In the aviation sector the CSIRO is supporting the Australian Government's net zero initiatives through the Sustainable Aviation Fuel Roadmap and research into opportunities for hydrogen in commercial aviation.
Community Aviation Consultation Groups (CACGs)	CACGs are forums for dialogue between airports, the aviation industry, and local communities on airport operations and impacts, including noise and development issues.
Consultation Regulatory Impact Analysis (C-RIA)	C-RIA is an Australian Government process that includes stakeholder engagement to assess the effects of proposed regulations, ensuring informed decision-making and the identification of optimal regulatory options.
Controlled Flight into Terrain (CFIT)	CFIT refers to accidents in which there was an in-flight collision with terrain, water, or obstacle, without indication of loss of control. It is important to note that in these types of accidents the aircraft was under the control of the flight crew at the time of the collision.
Department of Agriculture, Fisheries and Forestry (DAFF)	DAFF enhances Australia's agricultural industries and trade, and manages the threat of biosecurity risks to Australia. All aircraft arriving in Australian territory from overseas are subject to Australian biosecurity requirements. Airlines and aircraft operators flying into Australia from overseas must meet biosecurity requirements under the Biosecurity Act 2015.
Department of Climate Change, Energy, the Environment and Water (DCCEEW)	DCCEEW leads the Australian Government's response to climate change and sustainable energy use, and protects our environment, heritage and water and administers the <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
Department of Defence	The Department of Defence is responsible for safety and airworthiness of military aviation systems. Defence cooperates with Australia's civil aviation agencies to harmonise its Safety Management System and associated regulations where appropriate.
Department of Finance (DoF)	DoF is the Australian Government portfolio agency responsible for managing public finances, including budget planning, financial reporting, and advising on fiscal policy.
Department of Foreign Affairs and Trade (DFAT)	DFAT promotes and protects Australia's interests internationally and economic growth. DFAT is responsible for the provision of passport and international travel documentation for Australian and specified non-citizens and providing guidance on international interests that may impact engagement on ICAO matters.



Department of Health and Aged Care (DHAC)	DHAC develops and delivers policies and programs and advises the Australian Government on health, aged care and sport. In the aviation sector, Health provides information and security measures for international travellers.
Department of Home Affairs	The Department of Home Affairs is responsible for immigration and customs border policy. Within Home Affairs individual areas have responsibilities for managing aspects of Australia’s aviation sector including the National Office for Cyber Security, Australian Border Force and Immigration.
Department of Industry, Science and Resources (DISR)	DISR supports the aviation industry through its broad mandate of building a better future for all Australians by enabling a productive, resilient and sustainable economy, enriched by science and technology.
Department of Infrastructure, Transport, Regional Development, Communications and the Arts (DITRDCA)	The Department of Infrastructure, Transport, Regional Development, Communications and the Arts is the portfolio agency responsible for advising the Australian Government on the policy and regulatory framework for international, domestic, and regional aviation elements (not including security).
<i>Disability Discrimination Act 1992 (DDA)</i>	Commonwealth legislation which aims to eliminate discrimination against people with disabilities, including in the provision of services such as public transport and access to premises. The Disability Standards for Accessible Public Transport 2002 and the Disability (Access to Premises – Buildings) Standards 2010 are delegated legislative instruments made under the DDA.
Disaster Ready Fund (DRF)	The DRF is an Australian Government initiative providing funds for projects enhancing natural disaster resilience and risk reduction.
Drones	Drones are a colloquial term for what are referred to as Remotely Piloted Aircraft Systems (RPAS) in Australian legislation. ICAO also uses the term RPAS in its materials. Other common terms include Uncrewed Aerial Systems (UAS). RPAS is the correct Australian legal terminology, however, drones will be used in this document as it is the term most commonly understood in the broader community. Drones typically have a freight capacity of up to c.10kg and have use cases involving aerial surveillance and photography, or last mile delivery of small parcels and consumer goods.
Emerging Aviation Technologies (EAT)	In this document, EAT is used as a general description covering drones and AAM. This includes any supporting airspace, safety and security regulations, and infrastructure such as Vertiports.



Emerging Aviation Technology Program (EATP)	<p>The EATP Program is a Government-industry partnership program, providing government funding and support for industry to develop and deploy innovative technologies including drones, eVTOL aircraft, and low and zero emission propulsion systems.</p> <p>The EATP Program aims to support the growth of the emerging aviation technology sector in Australia, address regulatory barriers to technology uptake, and demonstrate the potential benefits to Australian businesses and communities.</p>
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	<p>The EPBC Act is the Commonwealth legislation that regulates environmental matters on Commonwealth land (including LFAs) and matters of national environmental significance both on and off Commonwealth land.</p>
European Union Aviation Safety Agency (EASA)	<p>The EASA is the EU body responsible for ensuring aviation safety, environmental protection, and regulatory harmonization across member states.</p>
Fair Work Act 2009	<p>The <i>Fair Work Act 2009</i> is Australian legislation that regulates employment terms and conditions, establishing rights and responsibilities for employers and employees, and creating Fair Work institutions.</p>
Flight Information Management System (FIMS)	<p>Australia's FIMS is a data exchange pathway that will connect UTM participants with Australia's air traffic management system. It will enable airspace users to access important airspace information to promote the safe, reliable and efficient use of airspace.</p>
General Aviation (GA)	<p>The International Civil Aviation Organization (ICAO) classifies GA as covering a range of operations that are not commercial air transport services. This includes aerial work (such as agriculture, photography, surveying, search and rescue), instructional flying and recreational flying.</p>
Instrument Flight Rules (IFR)	<p>IFR are a comprehensive set of rules and procedures governing aircraft navigation via instruments only. Instead of relying on external visual cues, IFR flight relies on a sophisticated array of flight instruments and equipment to ensure precise navigation and maintain safety margins in all phases of flight. Subdivision 91.D.4.3 in the <i>Civil Aviation Safety Regulations 1998</i> sets out the Australian rules and procedures.</p>
Instrument Landing System (ILS)	<p>ILS is a precision runway approach aid that uses two radio beams which together provide pilots with both horizontal and vertical guidance during the landing approach.</p>
International Air Transport Association (IATA)	<p>IATA is an international airline trade association.</p>



International Civil Aviation Organization (ICAO)	ICAO is a specialised agency of the United Nations (UN) that collaborates closely with the UN and its Economic and Social Council. Established in 1944, ICAO operates under the Chicago Convention, facilitating cooperation among 193 member states to enhance diplomacy and support cooperation in air transport.
Australian Jet Zero Council	The Australian Jet Zero Council brings together stakeholders from across the aviation sector and its supply chains to inform the design of policy settings to encourage emissions reduction in the aviation industry, and to work with industry to promote, mobilise and galvanise industry efforts to decarbonise aviation.
Jobs and Skills Australia (JSA)	JSA is an independent statutory body providing expert analysis and advice on Australia's labour market, skills needs, and workforce development strategies. JSA was established in 2022 under the <i>Jobs and Skills Australia Act 2022</i> .
Jobs and Skills Council (JSC)	JSC are industry-led Australian organizations that guide vocational education and training to address specific skills and workforce needs across various economic sectors.
Leased Federal Airport (LFA)	LFAs are regulated under the <i>Airports Act 1996</i> . The Commonwealth owns 22 LFAs and has privatised the operations of 21 of these airports to operators, known as airport-lessee companies (ALCs), which are privately owned. The LFAs are Adelaide, Alice Springs, Archerfield, Bankstown, Brisbane, Camden, Canberra, Darwin, Essendon Fields, Gold Coast, Hobart, Jandakot, Launceston, Melbourne, Moorabbin, Mt Isa, Parafield, Perth, Sydney, Tennant Creek, Townsville and Western Sydney International (Nancy-Bird Walton) airports. Western Sydney Airport Company Ltd, the ALC of WSI, is fully owned by the Commonwealth.
Licensed Aviation Maintenance Engineers (LAME)	LAME are CASA certified professionals responsible for supervising aircraft maintenance, ensuring compliance with standards, and certifying aircraft as fit for flight.
Localiser Performance with Vertical Guidance (LPV)	LPV is a type of approach used in aviation navigation. LPV approaches offer precise lateral and vertical guidance without the need for ground-based equipment and is supported by a SBAS.
Low-cost Carriers (LCC)	Low-cost carriers or low-cost airlines are airlines that offer comparatively low prices.
Major Development Plan (MDP)	An MDP is a proposal for major development at federally leased airports.



National Access Regime	The National Access Regime is a regulatory framework through which third parties may seek access to nationally significant infrastructure services. It is established by Part IIIA of the <i>Competition and Consumer Act 2010</i> . The National Access Regime was implemented as part of the National Competition Policy reforms in 1995 that followed the Hilmer Report.
National Airports Safeguarding Advisory Group (NASAG)	The NASAG is a collaborative body comprising Commonwealth, state, and territory government representatives, providing guidance on land use planning to protect aviation operations.
National Airports Safeguarding Framework (NASF)	The NASF is a set of guidelines and principles designed by NASAG to protect the safety, efficiency, and operational integrity of airports and their surrounding areas.
National Aviation Safety Plan (NASP)	The NASP is a document released every three years which summarises Australia's safety-related activities and establishes Australia's safety goals, safety risks and priorities for enhancement. The Australian National Aviation Safety Plan 2021–23 complements the Australian SSP. The document highlights initiatives being undertaken to mitigate risks associated with aviation operations in Australia and details the strategic direction for the management of aviation safety in the short, medium and long term. The updated NASP is expected to be published in mid-2024.
National Greenhouse and Energy Reporting (NGER) scheme	The NGER scheme is Australia's framework for corporations to report greenhouse gas emissions, energy production, and consumption to inform policy and compliance. The Safeguard Mechanism builds on the NGER Scheme.
National Hydrogen Strategy	The National Hydrogen Strategy sets a vision for a clean, safe and competitive hydrogen industry and contains strategic actions around national coordination, developing production capacity, supporting local demand, responsive regulation, research and development and skills and workforce. A key element of Australia's approach will be to create hydrogen hubs, clusters of large-scale demand around ports, cities, regional or remote areas to provide industry with a springboard to scale.
National Reconstruction Fund (NRF)	The Australian Government has established the \$15 billion National Reconstruction Fund to support, diversify and transform Australia's industry and economy to help create secure, well-paid jobs, secure future prosperity, and drive sustainable economic growth.



Noise and Flight Path Monitoring System (NFPMS)	The NFPMS is a tool used by Airservices Australia to manage and monitor airport noise and flight paths at major Australian airports, supporting the implementation and review of Noise Abatement Procedures (NAPs) to minimise the impact of aircraft noise on communities.
OneSKY	OneSKY is the name of Australia’s new air traffic management system. See CMATS for further information.
Per and Poly-fluoroalkyl substances (PFAS)	<p>PFAS are a group of synthetic chemicals used since the 1950s in various applications for their resistance to heat, oil, stains, grease, and water. PFAS are persistent in the environment and human body, leading to concerns about potential adverse health effects. They are commonly found in firefighting foams, non-stick cookware, and water-repellent fabrics.</p> <p>The PFAS Airports Investigation Program 2021–22 focuses on assessing and managing PFAS contamination at civil and defence airports across Australia. The National PFAS Position Statement outlines Australia’s commitment to minimising PFAS use and environmental release, aiming for a consistent national approach.</p> <p>The PFAS National Environmental Management Plan provides guidance on managing PFAS contamination, emphasising environmental regulation and risk-based approaches.</p>
Productivity Commission (PC)	The PC is the Australian Government’s independent research and advisory body on a range of economic, social and environmental issues affecting the welfare of Australians.
Remote Aerodrome Inspection Program	The Remote Aerodrome Inspection Program provides identified remote Indigenous communities with annual aerodrome inspections and related services to assist those communities to meet their aviation safety obligations.
Regional Airports Program (RAP)	The RAP is an Australian Government grant initiative aimed at enhancing the safety and accessibility of regional airports and aerodromes, supporting essential services and connectivity for regional communities.
Regional Airports Screening Infrastructure (RASI)	The RASI program supported regional airports in covering essential infrastructure expenses to install upgraded security screening equipment financed through the Regional Airport Security Screening Fund. This was an initiative as part of the Australian Government’s aviation assistance efforts in response to COVID-19 aimed at alleviating the financial strain of security compliance for regional airports.



Regular Public Transport (RPT)	RPT is used in aviation to refer to commercial airline services operating to a regular schedule. Amendments to the CASR in 2021 removed references to RPT and introduced the term 'air transport' to cover charter, RPT and air ambulance services when conducted for hire or reward. However, other legislation, such as the Aviation Transport Security Regulations 2005, still uses the term.
Remote Airstrip Upgrade Program (RAUP)	The RAUP is an Australian Government initiative providing grants to enhance the safety, accessibility, and all-weather capability of aerodromes in remote and very remote areas, supporting essential community services.
Remote Aviation Access Program (RAAP)	RAAP is an Australian Government initiative aimed at enhancing aviation services to remote and very remote communities, ensuring access to essential goods, services, and connectivity through subsidised air transport.
Remotely Piloted Aircraft Systems (RPAS)	RPAS is the Australian legal term for drones. In this document, we use the term 'drones' to refer to RPAS.
Review of the Sydney Airport Demand Management Scheme (the Harris Review)	The Harris Review is an independent review prepared by Mr Peter Harris AO, released in 2021. The Harris Review was commissioned to determine if the Sydney Airport demand management objectives remain relevant and the scheme is fit-for-purpose.
Rewiring the Nation	Rewiring the Nation is a \$20 billion Australian Government initiative aimed at expanding and modernising Australia's electricity grids to support increased renewable energy integration and facilitate the transition to a low-emissions future. The program is providing finance at concessional rates to minimise the costs of these investments, with the aim of lowering the cost of this essential infrastructure to consumers.
Safeguard Mechanism	The Safeguard Mechanism is an Australian policy that sets emissions baselines for large industrial facilities to limit greenhouse gas emissions and contribute to national reduction targets, with compliance measures for exceeding the baseline and incentives for under-baseline performance.
Satellite-Based Augmentation System (SBAS)	SBAS is a navigational system that supplements the existing systems, providing a more accurate and reliable navigation service and without the need for ground-based infrastructure. In an aviation context, one benefit of SBAS is that it allows aircraft to conduct satellite-guided landing approaches which are operationally equivalent to current Instrument Landing System Category 1 approaches guided by land-based infrastructure.



Security of Critical Infrastructure Act 2018 (SOCI Act)	The SOCI Act is designed to strengthen the Australian Government's capacity to manage the national security risks of espionage, sabotage and coercion arising from foreign involvement in Australia's critical infrastructure. This legislation is administered by Home Affairs.
State Safety Programme (SSP)	The SSP is the primary publication used to describe how Australia ensures the effectiveness of our aviation safety system. It is a summary of all Australian aviation safety-related legislation, risk management and assurance processes, as well as safety promotion mechanisms, that support Australia's aviation safety system. The updated SSP is expected to be published in mid-2024.
Sustainable Aviation Fuel (SAF)	SAF is produced from sustainable feedstocks and is very similar in its chemistry to traditional fossil jet fuel. To be considered sustainable, SAF must be sourced in a way that does not deplete natural resources, can be continuously and repeatedly replenished and produces fewer carbon emissions than conventional jet fuel (<i>CSIRO Sustainable Aviation Fuel Roadmap 2023</i>).
Sydney Airport Demand Management Scheme (SADM)	The SADM Scheme was established under the <i>Sydney Airport Demand Management Act 1997</i> with the purpose of implementing a system for the allocation of permissions for gate movements (i.e. landings and take-offs) at a specified time on a specified day at Sydney Kingsford Smith Airport.
Telecommunications Industry Ombudsman (TIO)	The TIO is an independent not-for-profit organisation that provides a free and impartial dispute resolution service for individual consumers, small businesses, and property owners who have been unable to resolve their complaints with their phone or internet service provider. The TIO is funded by the telecommunications industry.
THRIVE 2030	THRIVE 2030 is Australia's national strategy for the long-term sustainable growth of the visitor economy.
Uncrewed Aircraft Systems Traffic Management (UTM)	UTM is an ecosystem of data and services for uncrewed operations that is distinct from, but complementary to, traditional Air Traffic Management systems – at least at this point in time. The UTM ecosystem includes the services, regulations, roles and responsibilities, infrastructure, information architecture and data exchange protocols or standards for enabling better management of UAS operations. Development of the UTM ecosystem will be essential to support growth of the UAS industry and effectively manage the risks and community impacts with drones and other UAS.



Universal Safety Oversight Audit Programme (USOAP)	ICAO's USOAP focuses on a State's capability in providing safety oversight by assessing whether the State has implemented the critical elements (CEs) of a safety oversight system effectively and consistently.
Vertiports	Vertiports are a new type of take-off and landing site designed to service next-generation vertical take-off and landing (VTOL) capable aircraft (VCA). Vertiports could be built on the sites of existing airports but also in both urban and regional locations not easily accessible by conventional aviation.
Visual Flight Rules (VFR)	VFR are a set of rules and procedures whereby a pilot navigates an aircraft using visual references to the ground or water. Under VFR the pilot operates an aircraft in weather conditions visible enough to see the direction of the aircraft and its surrounding vicinity. (Subdivisions 91.D.4.2 and 131.D.4.2 in the Civil Aviation Safety Regulations 1998 sets out the Australian rules and procedures).
Vocational Education and Training (VET)	This is education that allows people to learn specific and practical job skills.
Worldwide Airport Slot Guidelines (WASG)	WASG is the industry standard recognised by many regulatory authorities for the management and allocation of airport capacity. The WASG is jointly published by Airports Council International, the International Air Transport Association, and the Worldwide Airport Coordinators Group to provide the global air transport community with a single set of standards for the management of airport slots at coordinated airports and of planned operations at facilitated airports.





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