30 November 2023

Submission to Aviation Green Paper

Sydney's new airport

The Sydney basin is the largest aviation market in Australia. Aviation demand in the greater Sydney region is forecast to double to approximately 87 million passengers by 2035 and double again by 2060. Sydney (Kingsford-Smith) Airport (KSA) cannot accommodate this demand alone.[1]

In recognition of the importance of transport connections for productive economies, in 2014 the Australian Government designated Badgerys Creek as the site for the second airport in Sydney. Following Sydney Airport Corporation's decision not to exercise its right of first refusal to develop and operate the airport, in 2017 the Government announced it would invest to deliver the facility.

<ins>Western Sydney Airport</ins>

Western Sydney (Nancy-Bird Walton) International Airport (WSI) will be a full-service facility with 24-hour operational capability, catering for domestic and international passengers as well as freight. It will be developed in stages as demand grows, opening with a single runway and facilities to handle up to 10 million annual passengers (MAP), with a second runway to be added when required. By 2063, WSI is expected to accommodate up to approximately 82 MAP. The airport is currently planned to process more than 220,000 tonnes of air freight each year in its initial stage, with this capability planned to scale up with demand to handle up to 1.8 million tonnes annually in the long term.

Construction of the passenger terminal and runway at WSI is underway, with development of the airfield and landside precincts continuing over the next two years, ahead of the public opening date at the end of 2026.

WSI's unique greenfield development creates opportunities to leverage leading technology and learn from existing airports globally in order to deliver passengers, airlines and air cargo operators with a leading customer experience, and for the first time, choice and access to services not currently available in the Sydney basin.

Sustainability will also be a hallmark of WSI. WSI has already achieved a number of important sustainability outcomes during construction, leading to numerous industry recognitions, including most recently the awarding of an "excellent" rating for the airport's earthworks project by the Infrastructure Sustainability Council of Australia. Cognisant of its responsibility as a newly developed airport to contribute positively to the aviation industry's sustainability performance, WSI's current focus is on finalising plans for its operational sustainability, including its approach to carbon and energy.

Inclusion will be a foundation of the experience WSI delivers. Working with representative organisations such as Disability NSW, the Australian Human Rights Commission and Dementia NSW, WSI is exploring ways to maximise equality of access and experience for people with disabilities or mobility impairments, older people and people travelling with carers or assistance animals. Mindful that the airport is just one of the facilitators of a journey through an airport to the aircraft, WSI will seek to partner with airlines, border agencies and other stakeholders to look for every opportunity to achieve increased accessibility and inclusiveness.

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[1] https://www.westernsydneyairport.gov.au/about/why-another-airport

Western Sydney is one of the fastest growing regions in Australia and is expected to be home to 3 million residents by 2036, representing two-thirds of the total population increase predicted for greater Sydney over that period. WSI will cater for passenger demand from Western Sydney, as well as traffic seeking to visit the region for business and leisure purposes. Direct air links will promote investment and tourism, with WSI serving as a gateway to Western Sydney's sporting, arts, cultural and nearby natural attractions such as the Blue Mountains.

As the Aviation Green Paper (Green Paper) notes, WSI will also play a key role in the air cargo supply chain, with proximity to freight precincts and intermodal facilities in Western Sydney and the ability to operate 24 hours a day. Sydney plays a central role in national supply chains, handling almost 50 per cent of total international freight and over 20 per cent of domestic air freight. WSI will deliver an uplift in Sydney's air cargo capacity of over 50 per cent from the first day of operation, thereby supporting national supply chain resilience.

In this way, WSI will complement the capacity provided by KSA to meet long-term aviation demand in the Sydney basin.

<u>WSI as a driver of socioeconomic uplift</u>

The Minister's foreword to the Green Paper notes that a safe, efficient, sustainable and competitive aviation sector is critical to the economy and the standard of living of all Australians.

WSI is particularly cognisant of these outcomes in the context of the objectives it has been tasked with delivering as part of its contract with the Australian Government. These include:

- optimising the benefit of WSI on employment and investment in Western Sydney by recognising that the airport will be a major catalyst for growth and development in Western Sydney; and

- maximising the value of WSI as a national asset.

Underpinning these objectives is the multiplier effect of WSI during construction – and more significantly over the long term once operational – as a driver of economic activity through creation of jobs and business opportunities and by fostering trade and investment.

Just as importantly, these objectives actively seek to address the socioeconomic divide between Western and Eastern Sydney. Research has demonstrated the disparities between the two areas in terms of socioeconomic, transport, climate and environmental outcomes and that Western Sydney is consistently disadvantaged in comparison with Eastern Sydney across all of these metrics.[2]

WSI approach to Green Paper response

As WSI will not become operational until late 2026, we consider that current industry participants are likely better placed to contribute detailed views regarding the effectiveness of current aviation policy and regulatory settings from a practical perspective.

WSI notes the Commonwealth's long-term policy of 'light touch' economic regulation of airports and is aware that the Productivity Commission is expected to conduct its periodic review of this framework in 2024/25. The legislative framework governing airports has clear links to competition policy and WSI further notes that a broader review of these settings is being undertaken by the Australian Government over the next two years.

Accordingly, WSI's submission to the Green Paper is future-focused and seeks to offer some high-level views on issues and approaches that could be considered in the development of policy and regulatory settings that will meet the challenges expected to face the industry, achieve the Government's aviation objectives and capitalise on opportunities to maximise both WSI and the sector's long-term contribution to Australia's economic and social prosperity.

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[2] University of NSW (Duong, Monshi and Phan), A Tale of Two Cities: Sydney's Great Divide Identifying trends in socioeconomic, transport, climate and environmental disparities between Western and Eastern Sydney
<u>A Tale of Two Cities: Sydney's Great Divide (arcgis.com)</u>

Airport development and planning

As the Green Paper observes, most sectors of the Australian economy rely directly or indirectly on the efficient movement of people and goods through airports. Additional airport infrastructure will be a key supply-side driver of aviation productivity and competition out to 2050 and beyond. In addition to WSI's opening, significant new and upgraded infrastructure is planned at Brisbane, Melbourne, Perth and Hobart airports over this horizon. This will provide capacity for existing airlines to expand services and operate their fleet and networks more efficiently, as well as facilitating market entry by new airlines. In combination, this will generate greater connectivity, choice and downward pressure on pricing for consumers.

In order to maximise these productivity and competition outcomes over the long term, it is imperative that airport infrastructure operates in the most efficient way possible.

Land use planning around airports

As the Green Paper notes, the best tool to manage aircraft noise is through effective land use planning. WSI supports ongoing work to ensure that appropriate planning controls are in place to protect efficient aviation operations and preserve community amenity. The interconnected nature of aviation networks means that operational constraints on any airport infrastructure have consequences for the productivity of the aviation network as a whole and accordingly, for the national economy.

As the management of airport and urban expansion is dispersed within government, continued implementation of the National Airports Safeguarding Framework (NASF) and its associated Guidelines is central in this regard, as identified in the 2019 NASF implementation review. Adoption of planning mechanisms by all levels of government that ensure consideration of aircraft noise and safety issues such as wind shear, wildlife strike risk and intrusions into protected airspace will maximise outcomes for the aviation industry and communities.

Protections at WSI

The Green Paper highlights the development of WSI as evidence of good land use planning practices. The Australian Government worked with the New South Wales (NSW) Government over several decades to ensure appropriate land use planning controls were in place around the Commonwealth-owned land at Badgerys Creek, even before there was a decision to build a new airport in Western Sydney, to protect the future airport from encroaching incompatible development, particularly residential housing.

This underpins the ability of WSI to operate 24 hours a day and contrasts with some established airports that have not had the benefit of coordinated long-term planning frameworks, which has necessitated the introduction of curfews at those facilities, eg KSA, Adelaide, Gold Coast.

The absence of night-time operational constraints at WSI will be a fundamental enabler of the successful establishment and growth of dedicated freighter operations, particularly for the carriage of high-value, time-sensitive and perishable goods. This is critical in supporting activity such as the export of primary produce and the movement of urgent medical supplies within Australia.

Under established legislation, the permissions for freighter aircraft to operate in the curfew period at KSA will cease when WSI is available to be used for night-time aircraft movements.[3] In addition to its size, location and specialised cargo handling facilities, WSI's relative distance from intense and extensive residential development makes it far more suitable than KSA to handle the future Sydney freight task from a community perspective. [4]

WSI's 24-hour capability will also provide opportunities for airlines to schedule flights that arrive or depart the airport in the early morning or late evening. In addition to services that enable more efficient day trips to domestic destinations for business travel, this will support international services that operate to and from major hub airports with flights concentrated at times incompatible with an overnight curfew in Sydney. It is worth noting that, as the experience of curfew-free airports such as Brisbane and Melbourne shows, the demand for international or domestic passenger services scheduled in night-time hours is limited.

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[3] *Sydney Airport Curfew Act 1995*
[4] https://www.westernsydneyairport.gov.au/sites/default/files/summary_brochure-an_airport_for_WS.pdf

Potential improvements to frameworks to address noise

The Australian Noise Exposure Forecast (ANEF) framework was developed through a socio-acoustic survey in the vicinity of a number of Australian airports in the 1980s. It has been increasingly recognised that relying solely on ANEF contours for portraying noise impacts is insufficient.

WSI believes there is merit in adoption of a range of noise metrics, for example 'sound level' measures, in addition to ANEF contours, to inform land use planning decisions and enable communities to better understand the effects of aircraft noise. WSI notes that NSW Government planning frameworks use only ANEF contours, rather than the more contemporary Guideline A under NASF. Airports also generate ground-based noise from aircraft maintenance, surface transport and other activities and this also need to be considered by authorities when making land use planning decisions.

The fundamental principles of the NASF should be embedded in statutory planning frameworks and applied around airports. Although there is inconsistent implementation of the associated NASF Guidelines across NSW state environmental planning polices and local environmental plans, the planning instrument for the Western Sydney Aerotropolis Plan provides an example of how this can be achieved in an effective way.

In WSI's view, there may also be opportunities to strengthen and improve the NASF principles. Building standards that mandate noise insulation and acoustic treatments could be introduced for new residential development approved in the vicinity of existing or planned airports. In addition, requirements to ensure that prospective residents are informed that noise from aviation activities is part of the environment could be implemented through planning certificates for land in proximity to airports and under flight paths.

On-site airport development

The *Airports Act 1996* (Airports Act) provides a single planning framework for leased federal airports (LFAs), in contrast to the significant variations between state and territory regimes.

Commonwealth regulation of on-site land use planning is also consistent with its regulation of key aviation-related activities and the importance of LFAs to the national interest.[5] Commonwealth regulatory agencies also possess the necessary specialised expertise in regulating on-airport land use planning and development.

While the land use planning regime in the Airports Act should be maintained, WSI considers there is scope to update the provisions in the legislation and streamline the assessment and approval processes, particularly for major airport developments.

A fit-for-purpose framework would ensure that assessment and consultation processes for airport plans and infrastructure development are commensurate with potential impacts on communities, occur within a defined timeframe and do not represent a regulatory burden on industry or government that is disproportionate to risk.

Master Plans

Under the Airports Act, most LFAs are required to prepare a Master Plan to establish a strategic direction for efficient and economic development at the airport over a 20-year horizon. This includes demonstrating that development in the planning period is compatible with the surrounding areas of the airport and that all activities will be undertaken in compliance with relevant environmental legislation. The process includes extensive public consultation before the Master Plan is submitted for consideration by Ministers.

A longer-term horizon would enable state and local authorities to better plan for and manage the land uses surrounding the airport and under flight paths, which could prevent residential and other incompatible development that would be affected by future aviation activity beyond the 20-year planning period. It would also help safeguard the future diversity of aviation and non-aviation services that is critical to airports' ability to generate economic benefits and attract future investment.

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[5] 'Taking Flight: The economic and social contribution of Australia's airports', Australian Airports Association and Deloitte Access Economics, November 2023

Against this background, it may be desirable for LFAs to have the option of adopting a longer-term planning horizon for a Master Plan, noting that at particular points of time in an airport's development there may be no benefit for either the airport or stakeholders in doing so.

As the Australian Airports' Association (AAA) has noted, preparation of a Master Plan is resource-intensive, entails significant costs and on average takes airport operators two years to develop.[6] This effectively results in a three-year gap between Master Plans. WSI would like to see consideration given to extending the Master Plan cycle to eight years for all airports, with an option retained for an airport to submit every five years. This would provide greater flexibility for airports based on the development plans they have in prospect over the relevant timeframe. It would also align the airport planning process more closely with those of many local and state government planning authorities.

<ins>Major development plans</ins>

Under the Airports Act, all LFAs are required to prepare major development plans (MDPs) for specific on-airport developments.

The Green Paper indicates that the Australian Government is proposing to lift the monetary threshold for the requirement for an airport to undertake a MDP to $50 million, as well as considering other, potentially more appropriate triggers.

WSI notes the views expressed by the AAA in relation to current MDP requirements, in particular the substantial time and costs of producing MDPs and associated approval processes by relevant Ministers, which can contribute to delays in progressing projects.[7]

The monetary threshold under the legislative framework for an MDP is currently $25 million. Although it was increased from $20 million in 2018, the significant rise in construction costs since that time has eroded any productivity gains for industry or government. WSI also notes that in NSW, State Significant

Development triggers generally range from between $30 million to $100 million, depending on the type and location of the development.

As a greenfield airport with a plan to grow from an initial 10 MAP capacity to a projected 82 MAP, WSI will have an ongoing development pipeline, with facilities growing in line with demand over time. The $25 million development cost trigger would be expected to result in numerous MDPs with no community impact, including for developments that would have been subject to public consultation and Ministerial approval as part of the Master Planning process.

Against this background, WSI supports the monetary threshold being raised to $50 million. WSI considers this is consistent with the maturity of the legislative framework governing airports and notes that a doubling of the threshold has occurred previously. [8]

Given the diversity of LFAs in terms of size and nature of operations, WSI acknowledges that a one-size-fits-all approach may not be appropriate. A framework that considers a monetary threshold in conjunction with a significance test underpinned by clear criteria that would trigger more detailed scrutiny, for example MDP cost relative to an airport's overall asset base, could be adopted. Alternatively, it may be appropriate to consider a tiered system (such as that in place for Master Plan requirements), provided such a framework is sufficiently flexible to respond to changes in airport profiles over time. It would also be desirable to provide for automatic periodic adjustment of the monetary threshold in line with official national construction cost data, rather than the existing mechanism that requires Ministerial intervention.

In addition to the proposed $50 million threshold, there may be value in reviewing the other MDP triggers in the Airports Act. Currently, for example, if a new passenger terminal is constructed and has a floor space greater than 500 square metres, an MDP is required. If an existing passenger terminal increases its gross floor area by more than 10 per cent, an MDP is similarly required. A tiered set of triggers for terminal expansions may be more appropriate.

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[6] Airports Amendment Bill 2016, Minister's Second Reading Speech
[7] awptor2023-submission-a13-australian-airports-association.pdf (infrastructure.gov.au)
[8] *ibid*

Improvements could also potentially be made to the framework to enable developments in approved Master Plans to proceed without the need for a separate MDP, provided they are substantively unchanged from the Master Plan, given that extensive consultation and Ministerial scrutiny has already occurred. MDPs would then be required by exception. This would provide cost efficiencies for airports and greater certainty for both communities and planning authorities.

International aviation

The Green Paper notes that international air services are an integral part of the Australian aviation landscape, providing connectivity with the rest of the world and as a key enabler of the visitor economy.

As discussed above, the provision of infrastructure to support domestic demand for air services to/from Western Sydney and the future national air freight task are primary drivers of WSI's development. As 40 per cent of the population in Western Sydney was born overseas, some level of demand for international services to/from the region is also anticipated, particularly in the Visiting Friends and Relatives (VFR) segment.[9] WSI would like to see the most liberal access possible available to Australian and foreign carriers to meet this demand, as well as to encourage the development of inbound tourism. The CEO of Destination NSW recently stated that WSI had the potential to be "transformative" in this regard, noting "*The question for me is.. are we going to fully leverage the potential of that airport as quickly as we could? … it's a very, very big investment*". [10]

Although dedicated freighters are critical to the transport of high-value, time-sensitive goods, around 80 per cent of international air freight is carried in the belly space of passenger aircraft. The contraction in international passenger flights to Australia during the COVID-19 pandemic underscored this dependency, with flows of air freight exports and imports severely disrupted. Similarly, there will be a direct correlation between the international passenger air services that WSI receives, and the volume of freight handled at the airport. Additionally, as many passengers travelling on international services require connectivity to domestic and regional flights – particularly tourists visiting multiple destinations in Australia – the development of these route networks is linked to the level of international services.

WSI notes the Government's policy of negotiating capacity ahead of demand in Australia's bilateral air services agreements (ASAs). While some bilaterals provide for 'open skies' arrangements, constraints on capacity are in place in the majority of Australia's ASAs.[11] In these bilaterals, a policy differentiation between primary and secondary gateway classification is applied, with unlimited access at the latter to ensure that opportunities for airlines to serve these airports are not hampered by the status of the ASA at a point in time or the need to undertake negotiations.

Facilitation

Availability and affordability (price, frequency, network connectivity, airport proximity) are central determinants of the aviation value proposition, however, the "hassle factor" is another consideration that cannot be discounted.

In the domestic and regional context, Australian businesses and individuals make decisions about whether to travel by air or to use alternative modes of transport, eg road or communication, eg videoconferencing. From a cargo perspective, the speed and cost of movement of goods by air within Australia relative to other transport modes are key considerations.

Internationally, Australia competes in a highly contested market for a share of global tourism, with the vast majority of visitors arriving by air. Given the long-haul nature of travel undertaken, time constraints and Australia's large land mass, visitors expect to be able to move quickly and easily within Australia. Where freight is concerned, Australian businesses are competing in a global market to export and import goods by air as efficiently as possible.

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[9] Birthplace | Western Sydney (LGA) | Community profile (id.com.au)
[10] Sydney to lift its game on food tourism after relying 'too much on the bridge and the harbour' (smh.com.au)
[11] Register of available capacity for Australian international airlines | Department of Infrastructure, Transport, Regional Development, Communications and the Arts and Growth Potential for Foreign Airlines (infrastructure.gov.au)

As well as safeguarding our community and national security, the border enables economic prosperity, resilience and international competitiveness. Australia's status as an island nation amplifies the significance of the border as a national asset, the corollary being that the efficiency of border facilitation frameworks is paramount.

Improvements in facilitation systems will be crucial in generating greater productivity of Australia's airport infrastructure required to support long-term growth in passengers and freight. As well as being capable of supporting the movement of considerably larger volumes of people and goods, such systems will need to be responsive to the fluid and unpredictable environment with respect to safeguarding Australia's interests in the face of physical, cyber and biosecurity threats. The planned application of the critical infrastructure reforms to the aviation sector will provide a more holistic and robust framework and more pro-active role for industry in meeting these challenges.

Investment in and deployment of innovative technology is critical to Australia's future facilitation systems. This investment and the uplift of supporting systems required is likely to be substantial in financial terms, however, absent modernisation, the border will not have the capacity to support a thriving tourism industry or resilient supply chains. As ABF Commissioner Michael Outram APM stated earlier this year, *"if we don't invest in the border, like you would any other asset, it's going to depreciate."*[12]

Given the range of stakeholders with a role in facilitation interfaces, collaboration and partnerships between and within industry and government will be vital in identifying future operating models, technology solutions and developing the frameworks to support successful implementation.

Transformation of the border capability will also require extensive policy and regulatory change to ensure the technology, systems and processes can work as effectively and efficiently as possible.

Leveraging technology and partnerships with trusted industry participants in the passenger and freight facilitation environments, in combination with fit-for-purpose regulation, will optimise the ability of Australia's border agencies to achieve the dual objectives of integrity and efficiency, as well as supporting Australia's international competitiveness.

<u>Future travel</u>

In considering future operating models that improve efficiency without introducing heightened risk into the travel network, it will be important to draw on international best practice. As noted in the Green Paper, many of the aviation hubs through which visitors from major markets access Australia are well advanced in the implementation of enhanced facilitation systems that leverage technology such as biometrics.

Digitised pathways that engage, verify and assess travellers as early as possible will enhance efficiency as well as the passenger experience through delivery of a minimal touchpoint, low-infrastructure journey. The traveller journey prior and beyond the airport environment is also relevant to consideration of innovative approaches such as off-airport check-in and bag drop.

A whole-of-government permissions capability that avoids duplication will be essential in this regard, as will development of mechanisms and protocols for secure data sharing in real time between government and industry participants, within the parameters of privacy, competition and national security considerations, to support clearance and intervention processes.

There are also opportunities to explore the establishment of public/private sector partnerships to more efficiently deliver non-core aspects of border-related activities at airports, eg operation of the Tourist Refund Scheme.

The concept of the border within the airport environment will become more flexible with greater digitisation and the uptake of new technology. This offers potential for more efficient use of the airport footprint from a passenger processing perspective, delivering productivity gains for border agencies, while also providing scope to enhance the passenger experience. However, current regulatory frameworks, which reflect manual processes and legacy infrastructure, do not support such approaches.

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[12] ABF Commissioner Michael Outram APM Speech to the Trans-Tasman Business Circle

Technological developments already exist that would support innovation with respect to retail services offered to passengers in the airport environment without compromising border security or government revenue, but their implementation is hampered by outdated regulatory frameworks.

The effectiveness of future facilitation systems will be maximised by the use of common or harmonised technology across designated Australian airports. Incentives to encourage the uptake of technology and investment in related infrastructure by industry participants, for example biometrics, baggage tracking and tracing, may be appropriate. Such technology could potentially also be utilised to manage security clearances for aviation workers over time.

WSI will be well placed as a technology-enabled and uncongested airport, to provide an environment for the trial of new approaches as it builds passenger throughput in its developmental phase.

<u>Future trade</u>

Australia is placed 106th on the World Bank's 'trading across borders' ranking, down from 27th in 2010, and has the highest border compliance costs in APEC. [13]

In the air cargo environment, the Australian Government's Simplified Trade System (STS) initiative presents a clear opportunity for government and industry to work more closely to leverage technological advances and investments in infrastructure and technology to improve facilitation outcomes. The STS framework is a whole-of-government approach intended to streamline Australia's trade regulations, modernise trade-related information and communication systems and simplify trade processes. There are currently more than 200 cross-border trade regulations and 145 ICT systems supporting cross-border trade, administered by 29 government agencies.[14]

The STS agenda reflects extensive engagement with business and adopts an end-to-end view of the user journey. Where air freight is concerned, this will see the cargo intervention model re-engineered to support faster facilitation of legitimate freight through improved border agency processes embedded in the supply chain, along with the adoption of new advanced detection technologies and automation. The STS focuses on the on-airport approach for this model, in recognition of the benefits it offers relative to off-airport processing through improved utilisation of facilities, enhanced customer flexibility and reduced road congestion. It will be important to ensure that the next iteration of the National Freight and Supply Chain Strategy reflects the STS approach in this regard.

The STS reform agenda presents an ideal opportunity for review and co-design of relevant border agency facilities and processes with a view to integration of STS concepts. In view of its central role in the future national air freight system, there may be opportunities at WSI for collaboration between government and major industry players in the development and testing of STS frameworks.

Emerging aviation technologies

Drones and Advanced Air Mobility (AAM) systems have a range of potential applications at airports that offer economic and social benefits. These include passenger transport, last mile freight deliveries, emergency response capability, apron and runway lighting inspections, perimeter checks and dispersal of wildlife hazards. The planning of WSI has sought to anticipate the development of new technologies and their spatial requirements and the layout of the airport's midfield can readily accommodate drone and AAM activity in the terminal precinct infrastructure.

The nature of the technology used to power drones and AAM means these systems also have a role to play in the future decarbonisation of the aviation sector. In addition to electric batteries, hydrogen-electric technologies are under development, including in Western Sydney. [15]

The potential for use of drones and AAM extends well beyond aviation to key sectors like mining and agriculture, and activities such as natural resource management, scientific research and search and rescue. The inclusion of emerging aviation technologies in the 'List of Critical Technologies in the National Interest' by the Department of Industry, Science and Resources reflects the extensive opportunities for application of these technologies throughout Australia.

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[13] [Reimagining Australia's trade border (afr.com)](afr.com)
[14] [Simplifying trade for business | simplifiedtrade](simplifiedtrade)
[15] "Renewable hydrogen takes to the skies" – Australian Renewable Energy Agency (ARENA) Media Release, 8 November 2023

In that context, the development of coordinated frameworks that address airspace integration and management, access, safety, security and privacy considerations, while seeking to optimise the scope to use drone and AAM technology is imperative for the realisation of potential economic and social benefits for urban and regional areas.

Holistic approach that extends beyond operations

Regulatory frameworks that are flexible, forward-looking and proportionate to risk will be critical in the development of an operational ecosystem that is scalable, efficient and adaptable as emerging aviation technology evolves.

WSI notes the Australian Government's 2021 'New and Emerging Technologies Policy Statement', which seeks to pursue a whole-of-government and system-wide approach to managing and enabling the sector. In particular, WSI welcomes the work being undertaken by the Civil Aviation Safety Authority (CASA), Airservices Australia (Airservices), the Department of Defence and DITRDCA to develop a long-term implementation plan for an Australian Future Airspace Framework covering advanced air traffic management (ATM) and Uncrewed Aircraft System Traffic Management (UTM). This is crucial given the volume and complexity of activity expected at airports and in controlled airspace in the future.

As part of its 2022 'RPAS and AAM Strategic Regulatory Roadmap' activities, CASA has established the Vertiport Design and Operations Technical Working Group to provide suitable aviation safety guidance to industry to support the identification, procurement and design of vertiports ahead of the estimated mid-2025 commencement of commercial AAM operations.

While aviation safety and airspace integration are managed by the Commonwealth, many considerations relevant to drone and AAM operations involve state/territory and local governments. This includes land use planning for the construction and operation of vertiports to support take-offs and landings outside the airport environment. A well-functioning drone and AAM network will also require integration with physical infrastructure such as other modes of ground transport, rapid electrical charging and communications systems. In addition to infrastructure development and connectivity, these planning frameworks will need to consider noise issues and protecting the safety, security and efficiency of UTM operations. Development of guidelines relating to vertiports for adoption by governments as part of the NASF may be useful in this regard.

WSI notes that the Australian Government is undertaking a range of activities designed to support development of a local innovative emerging technology manufacturing capability. Regulatory alignment with international standards and recognition of Australian certification will also be vital in enabling Australian manufacturers to capitalise on the significant export opportunities anticipated as a consequence of the global uptake of drones and AAMs.

The Western Sydney region would appear to be well placed to play a role in this industry development, with the Advanced Manufacturing Research Facility located at the Western Sydney Aerotropolis adjacent to WSI, where a number of businesses that specialise in this capability are foundation partners. WSI considers that the airport may have a future role to play in supporting trials for testing and management of AAM systems that encourage private sector and research institution innovation and capability and that can help inform regulatory development.

Maximising aviation's contribution to net zero

The decarbonisation challenge

Aviation has seen sustained growth over time globally, as the real cost of travel has declined with improvements in aircraft technology and standards of living and disposable incomes have risen. It has become increasingly affordable for more and more people to fly over time. Passenger numbers are expected to double to eight billion annually between now and 2040, with the Asia Pacific forecast to be the fastest growing region over that period, buoyed by favourable income growth and demographic factors.[16]

These long-term trends, and the emissions-intensive nature of aviation have seen decarbonisation of the sector become a worldwide imperative for governments. The Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) was developed through the International Civil Aviation Organization

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[16] IATA Global Outlook for Air Transport, June 2023

(ICAO) framework and agreed by member states in 2016, and represents the first global market-based measure for any sector.[17] It has a long-term aspirational goal of net zero by 2050, in line with broader commitments under the Paris Agreement.

In parallel, heightened awareness and concern of climate change impacts and an increasing focus by travellers, communities and shareholders on aviation's carbon footprint has led to a greater emphasis by industry on improving environmental outcomes. In 2021, the membership of the International Air Transport Association (IATA), which represents 300 airlines and 83 per cent of air traffic, committed to achieve net zero carbon by 2050.[18]

In contrast to other transport modes, however, the aviation industry has few levers available for substantive decarbonisation and their effectiveness is heavily reliant on the development of new technologies, some of which are immature, eg alternative propulsion technologies. In the Australian context, transport mode substitutability is limited by the nation's large land mass, dispersed population and geographic isolation from the rest of the world. In addition, as the Green Paper notes, Airservices believes there is limited remaining scope for efficiencies in Australia's ATM systems compared with regions such as Europe. These unique structural factors are likely to require the formulation of policy and regulatory settings that actively support the development, commercialisation and deployment of carbon-reducing technologies if the aviation sector is to achieve the net zero emissions target adopted by the Australian Government.

Against this background, the establishment of the Jet Zero Council to bring together key industry and government stakeholders from aviation and supply chains to provide coordinated advice to the Australian Government regarding approaches to address the decarbonisation challenge is a welcome initiative. The successful operation of the Council and the Government's willingness to consider and act on recommendations in a timely way will significantly influence the sector's ability to transition.

A sustainable and carbon-neutral WSI

WSI is being built for a carbon-neutral future. In designing the airport, the focus is on optimising energy efficiency and investigating on-site renewable energy supply for maximum impact and value for money.

WSI is currently developing a Sustainability Strategy to formalise how the airport will progress along the carbon neutral pathway, including setting targets for the Airport Carbon Accreditation Scheme, and developing energy and EV strategies. Operational strategies will be developed to reduce Scope 3 emissions by collaborating and partnering with stakeholders and suppliers, with agreed requirements formalised via contractual agreements or the airport operating licence. WSI is planning to be capable of handling sustainable aviation fuels (SAF)from the commencement of operations.

Sustainable aviation fuels

As the Green Paper notes, SAF is the most advanced means to support the aviation sector meeting the net zero objective by 2050 due to its compatibility with existing and new turbine-powered aircraft, scope for use over a longer range than alternative propulsion technologies and scalability. For this reason, the Jet Zero Council's activities will include a strong focus on SAF.

Fuel is one of the largest cost items for airlines and the price differential for SAF relative to conventional jet fuels is significant. Although uptake of some level of SAF by the largest Australian industry participants may be motivated by the need to meet targets under relevant international and domestic emissions reductions frameworks and their social licence to operate, demand is therefore likely to be limited.
The Sustainable Aviation Fuel Roadmap developed by the Commonwealth Scientific and Industrial Research Organisation (CSIRO) in partnership with Boeing estimates that Australia has enough resources to produce almost five billion litres of SAF by 2025, which could supply nearly 60 per cent of jet fuel demand projected for that year.[19] However, a range of supply-side factors is holding back local production, including a lack of refining capacity and complexities in the collection and aggregation of feedstocks.

A policy and regulatory environment that can address these issues by lowering barriers to entry and boosting production towards levels with sufficient economies of scale to reduce the price gap with conventional jet fuel would provide a strong foundation for the commercialisation of SAF.

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[17] ICAO Environmental Report 2019_Chapter 6.pdf
[18] IATA - Fly Net Zero
[19] CSIRO, Sustainable Aviation Fuel Roadmap, August 2023, p8

Australia is not unique in facing obstacles in relation to the uptake and development of SAF, and many of our principal trading partners, including in the Asia Pacific region, are taking steps to make policy commitments to support these objectives. These include placing minimum obligations on fuel suppliers with levels increasing over time (EU), tax credit incentives for the development of SAF (USA) and fuel blending mandates (UK, with Singapore and India currently considering implementing such an approach).[20]

A combination of mechanisms is likely to be required to produce meaningful progress in the commercialisation of SAF in Australia, with varying emphasis on parts of the value chain at different points in time. Potential measures could include financial support (grants, loans, rebates) to encourage private sector investment in construction and operation of commercial plants, including those that accept a diversity of feedstocks to help de-risk supply chains; funding for research and development (R&D) activity to explore innovation in production and materials; and incentives that encourage the distribution of SAF. Safeguards to mitigate against distortionary impacts, eg supply shortages in local markets if prices for export of SAF are more attractive, may need to be considered in the development of any framework.

Mandating targets for the use of SAF would be consistent with action being undertaken globally and send a strong signal to the aviation sector. Placing the primary obligation on fuel suppliers rather than airlines to reduce the emissions-intensity of fuels over time in the implementation of any scheme would ensure active participation by each industry segment in the value chain, including airports through the provision of supporting infrastructure. In addition, as the largest consumer of jet fuel in Australia, this approach would provide the Government with an opportunity to play a leadership role in accelerating decarbonisation and the development of a locally-based supply chain.

It is worth noting that further measures may be appropriate depending on the success of demand and supply-side actions in bridging the price gap between SAF and conventional jet fuel, eg activation of subsidies if conventional jet fuel prices fall below a certain threshold, particularly given the absence of Australian production of the latter.

In addition to putting in place policy and regulatory frameworks that support innovation and investment in SAF, the Government has an essential role in standard setting and certification to uphold the integrity of a local SAF industry with respect to environmental credentials. Frameworks linked to internationally recognised and agreed standards will be a prerequisite to supporting uptake by foreign airlines operating from Australia and in harnessing the strategic, long-term export potential of an Australian SAF industry.

Workforce of the future

<u>WSI's role in creating jobs in Western Sydney</u>

In delivering WSI, we are seeking to build future careers and jobs for the people of Western Sydney. Currently, around 50 per cent of our workforce resides in the region, exceeding the 30 per cent target for the Airport construction phase, with a target of 50 per cent set for 2026 when WSI becomes operational. We are committed to continually increasing our local employment targets in recognition of WSI's role as a major catalyst for economic growth and prosperity in Western Sydney.

WSI's policies and practices aim to foster a positive, inclusive and flexible workforce culture where employees feel valued and engaged to reach their full potential regardless of age, gender, disability or other attributes. With around 40 per cent of residents in Western Sydney born overseas and 45 per cent speaking a language other than English, the region is home to one of the most diverse culturally and linguistically diverse communities in Australia.[21] WSI supports a range of initiatives through partnerships with not-for-profit, community and educational organisations to assist students and migrants in becoming "work ready" and to raise the profile of jobs and careers associated with the airport.

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[20] RefuelEU aviation initiative: Council adopts new law to decarbonise the aviation sector - Consilium (europa.eu) Aviation Green paper pp 78-79 and S'pore studying govt mandate, incentives to drive demand, lower cost for green jet fuel: Iswaran | The Straits Times
[21] Language used at home | Western Sydney (LGA) | Community profile (id.com.au)

Western Sydney is also home to Australia's largest urban population of First Nations people. WSI's inaugural Reconciliation Action Plan launched in 2022 focuses on initiatives that build respect, relationships and opportunities for Aboriginal and Torres Strait Islander people on lands surrounding the airport. This includes maintaining a 2.4 per cent employment commitment to First Nations people and awarding a minimum of 3 per cent of contracts to First Nations suppliers. In 2023 WSI launched the First Nations Taking Off pilot program, to foster connections between young First Nations people, highlight job opportunities and identify the skills required to succeed in construction and aviation.

Technology-driven skills and training

It is clear that digitisation, automation and new technologies will play a pivotal role in aviation meeting the safety, security, productivity, consumer and decarbonisation challenges articulated in the Government's objectives for the sector, as outlined in the Green Paper. These enablers also present real opportunities for Australia in terms of the potential growth of new industries and high-quality jobs that support them.

Over time, the introduction of new processes and technologies will change the skills requirements for aviation workers in both industry and regulatory bodies. This transition will require the development of training pathways for the future workforce, including the ability for existing workers to update their skills. The design and delivery of training that is equipped to maximise the benefits and jobs flowing from the application of new technologies in aviation will depend on coordination and consultation across governments, the education sector, industry and other relevant organisations such as STEM Australia.

WSI notes that as part of the National Skills Agreement announced in October 2023, a new National Stewardship model will coordinate strategic investment in skills across the economy and support delivery of skills needed in national priority and emerging areas, which include clean energy and net zero transformation of the economy, advanced manufacturing, and digital and technology capability.

This will require integrating courses relevant to the development and use of new technologies such as AAMs and SAF and the physical and communications infrastructure that supports them into academic and vocational programs of study, eg coding, robotics, mechatronics, chemistry, materials science, software and systems engineering. Policy levers such as incentives for businesses to undertake greater investment in R&D could also play a role in growing Australia's future STEM workforce. Encouraging a system of providing micro-credentials developed in partnership between industry and education providers could provide a useful means of incrementally improving future capability without adversely impacting skills availability in the short term.

In the aviation sector, there will be a need to develop pathways to deliver the new skills that will be required by aircraft engineers and ground crew to maintain and operate future aircraft systems.
Although aviation is moving towards an 'all hazards' approach as part of the economy-wide critical infrastructure reforms framework, widespread digitisation of processes to support enhanced border facilitation and greater automation of ground-based and airborne systems will require a substantial uplift in cyber skill capability in the future workforce.

International benchmarking will be important in assessing skills and training needs for emerging industries and developing frameworks to support future skills and workforce capability. As well as drawing on best practice and ensuring appropriately high standards are maintained, this approach will also provide a platform for mutual recognition of qualifications with other countries that has the potential to be leveraged in future to meet short-term skills shortages and support skilled migration pathways.

Partnerships

WSI welcomes the intention to establish nationally networked TAFE Centres of Excellence involving partnerships between TAFEs, universities, Jobs and Skills Councils and industry as part of the National Stewardship model. The aviation industry has a key role to play in partnering with the education sector to ensure the aviation workforce is future ready.

WSI currently collaborates with a range of organisations, to support programs that showcase careers in aviation and science, technology, engineering and mathematics (STEM), with a particular emphasis on female participation and youth engagement.

As part of our ongoing participation in the Western Sydney Women's STEM Awards, WSI provides mentoring and help raise the profile of women in the community and the industry. In 2022–23, WSI connected with over 8,200 young people and 80 schools through our youth programs, including through initiatives in partnership with the CSIRO, the Royal Aeronautical Society, TAFE NSW, the Australian Business and Community Network, the NSW Department of Education, and our major airport development contractors including Bechtel, Multiplex, CPB Contractors, Acciona, BMD Constructions and Seymour Whyte.

In 2023, WSI formed a partnership with Western Sydney University's School of Computer, Data and Mathematical Sciences and our master systems integrator DXC Technology. This entails mentoring of students by senior DXC personnel and start-up company founders, and collaborative work on new majors with Western Sydney University that include internships at WSI.

Looking forward, we intend to enter into further partnerships to actively contribute to development of the workforce capability necessary to support WSI's success as an airport and as a driver of socioeconomic uplift for Western Sydney and for all Australians.