

Sustainability Plan

Design and Construction



Contents

1	Introduction	4
2	Our sustainability journey	5
3	What sustainability means to us	6
	How we will measure success	6
	United Nations Sustainable Development Goals	8
	How we will deliver our sustainability approach	8
4	Our priorities	9
	Priority 1. A future carbon pathway	9
	Priority 2. Circular resources	10
	Priority 3. Local biodiversity	11
	Priority 4. A thriving society	12
	Priority 5. Responsible governance	14

WSA acknowledges First Nations people as the Traditional Owners of the Country on which we work and live. We acknowledge the Dharug nation as the Traditional Owners of Country on which the Western Sydney International (Nancy-Bird Walton) Airport is being constructed. We pay our respects to their Elders past, present and emerging, and extend that respect to all First Nations people.

1.

Introduction

As Sydney's new airport, Western Sydney International (Nancy-Bird Walton) Airport will provide much-needed 24/7 capacity to meet growing aviation demand in Australia's global city.

Western Sydney International will be a full-service international and domestic passenger airport, with significant air cargo operations. Leveraging digital technology and smart design, we will deliver a transformative experience for our customers. The airport's combined international and domestic passenger terminal will provide a simpler experience for passengers and more seamless transfers between flights. For airlines and air cargo operators, the airport will deliver unprecedented levels of reliability and efficiency.

Western Sydney International is about so much more than aviation. In developing the airport, we are a catalyst for delivering socioeconomic change across Western Sydney. We will deliver high quality jobs and business opportunities across the region, empowering Western Sydney's diverse and passionate community to build a stronger and more sustainable future for themselves and the generations to follow.

The airport's first stage began in will have capacity for up to 10 million passengers per year, with a single runway capable of handling all modern airliners. Our modern air cargo precinct will create a community of air cargo operators

that will grow with global markets and enjoy close proximity to Sydney's biggest population growth areas. Western Sydney International's on-airport business park spans almost 200-hectares and will be home to dozens of employers in a place defined by its energy and connectivity.

Work to build Western Sydney International began in late 2018 with one of the biggest earthmoving challenges in Australian history, with a total of over 26 million cubic metres of earth to move to level the site. Work on the passenger terminal precinct is set to begin in late 2021, with the start of construction of the runway and other civil work to follow in 2022. During peak construction the project will create thousands of direct jobs and even more through the flow-on economic benefits.

As we build Western Sydney International, we are focused on sustainability and minimising our impact on the environment and on our neighbours. There are strong rules around the sustainability standards that we must meet as we develop the airport but we are committed to finding ways to go even further to ensure the airport represents a commitment to future generations.

Western Sydney International (Nancy-Bird Walton) Airport is on track for flights to begin in late 2026. We can't wait to welcome you.

Over 250 pieces of earthmoving equipment is being used on site.



2.

Our sustainability journey

We are committed to doing more than simply meeting the sustainability standards that have been applied to the project as we design and build Western Sydney International. We are working with our contractors and design partners, looking to best practice globally and adopting an innovative mindset to deliver strong sustainability solutions.

Our Design and Construction Sustainability Plan covers our priorities and approach to ensuring sustainability is front and centre as we build the airport, but this is just the first step in Western Sydney International's sustainability journey. It has been developed in line with the Airport Plan and Environment Impact Statement, aligning with the broader Construction Environmental Management Plans.

This Design and Construction Sustainability Plan summary is accompanied by an in-depth version detailing how Western Sydney Airport manages sustainability, roles and responsibilities, how WSA intends to meet requirements and targets and also addresses compliance requirements from the Airport Plan and Environmental Impact Statement. To view this report, please contact info@wsaco.com.au

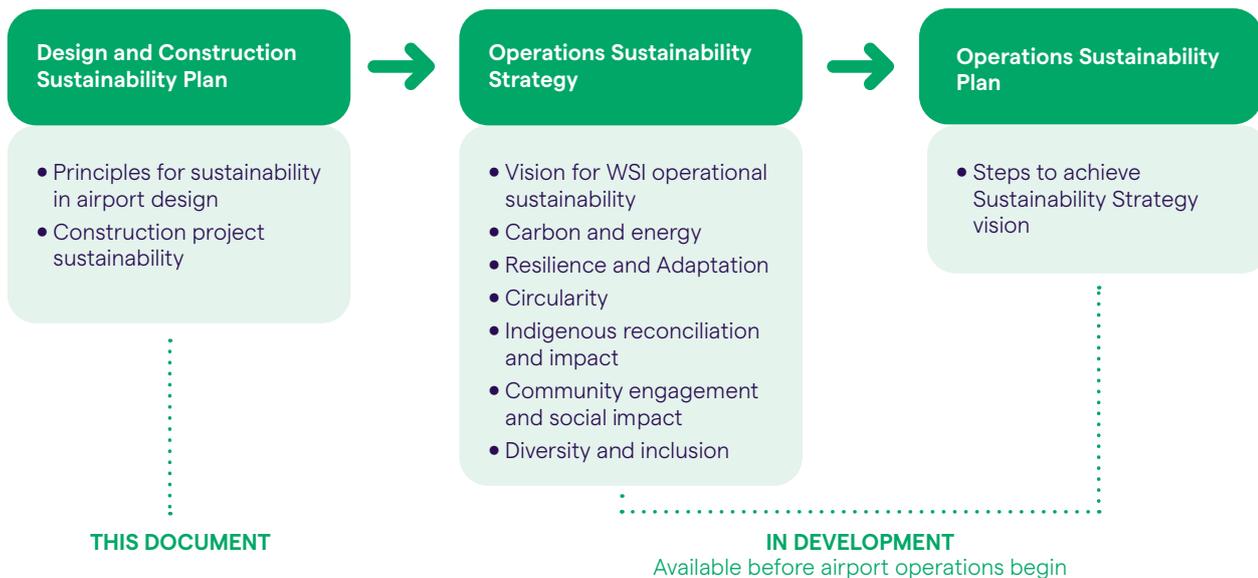


Our vision for sustainability is to design, build and operate a thriving, safe, sustainable Airport that will optimise outcomes for society, the environment and the economy. Sustainability is a 'team sport', and we are collaborating within our own business and with other organisations to get the best results.

— Simon Hickey, CEO

We're already thinking forward, considering the big picture and working on the sustainability strategy for the airport when operations begin.

This is where our ambitions will take flight. Our sustainability strategy will set our long-term vision for how Western Sydney International will contribute to a more sustainable future for the people of Western Sydney and beyond.



We are proud that our sustainability performance on the construction project so far has been strong. In May 2020 our early earthworks phase was awarded an 'Excellent' rating from ISCA, the Infrastructure Sustainability Council of Australia.



3.

What sustainability means to us

To us, sustainability means:

- **improvements for future generations** – the airport will bring employment, services, facilities and socioeconomic benefit to Western Sydney. We will use resources wisely, so we can be proud of our legacy to future generations.
- **reducing resource use** – we will minimise how much water, electricity and other resources the airport will use. Resource-efficient design is a low-cost way to reduce ongoing operational costs and drive down waste.
- **planning for the future** – Sustainability will help the airport to be flexible and resilient, so it will be able to adapt to changes in climate, market, technology and customer expectations
- **meeting stakeholder expectations** – we know that our community, including our passengers, airlines and other customers, expect us to design and build a sustainable airport.

How we will measure success

To demonstrate leadership in sustainability, we will measure our progress and performance against important industry benchmarks and rating systems. While these measures provide a starting point, WSA

Sustainability is a core principle for Western Sydney Airport (WSA). It is interwoven through everything we do during every stage of planning, design, procurement, construction and as we prepare for operation.

The project is targeting



minimum 4-star Green Star Rating.



'Excellent' IS Design & As Built Rating



minimum 4.5-star NABERS for energy and 4-star for water in all eligible buildings

is continuously working to achieve sustainability outcomes well beyond the minimum requirements.

The Infrastructure Sustainability (IS) Rating Scheme is Australia's comprehensive rating system for evaluating sustainability for infrastructure programs, projects, networks and assets. An IS Rating evaluates the sustainability performance of the quadruple bottom line (governance, economic, environmental and social) of infrastructure development.

Green Star assesses the sustainable design, construction and operation of buildings, fitouts and communities in the built environment. Green Star can help optimise operational inefficiencies, create healthy places for people and minimise the environmental footprint. It is Australia's own holistic sustainable rating system, created to suit our property market.

The National Australian Built Environment Rating System (NABERS) is an operational rating scheme that can be applied to various types of buildings. It can be used to measure a building's operational energy efficiency, carbon emissions, water consumption and waste produced, and compare these to similar buildings.

Relevant target (EIS Table 28-38)	SDG	EIS Objective	WSA minimum target
Climate change adaptation		100% of extreme and high rated climate change risks are identified, assessed and appropriate measures implemented, with no extreme residual risks after treatment	100%
		Adaptation options to treat a percentage of all medium priority climate change risks are identified, assessed and appropriate measures implemented	25-50%
Reduced electricity use		Design and construct for reduction in electricity use compared to a base case2 (IS Rating protocol)	15%
Reduced non-aviation fuel use		Reduce non-aviation fuel use by designing for electric air-side vehicles and incorporating recharging infrastructure	The minimum target is currently being considered in the design phase
Reduced water consumption		Reduction in total water use compared to a base-case footprint2 (IS Rating protocol)	5%
		Water use from non-potable sources, from reclaimed or recycled waste water or harvested water	33%
Environmental labelling		Material or products have an Infrastructure Sustainability Council of Australia-approved environmental label	At least one product/material

Relevant target (EIS Table 28-38)	SDG	EIS Objective	WSA minimum target
Recycled content in construction materials		Mandatory optimisation of recycled content in concrete, steel and asphalt construction products, including as a minimum, compliance with Green Star Life Cycle Impact credits (19B.1, 19B.2, 19B.3 and 19B.4)	The optimised targets are currently being considered in design phase 3
Reduced emissions		Reduction in greenhouse gas emissions compared to a base-case footprint ² (IS Rating protocol), including scope 1, scope 2 and land clearing emissions	10%
Quantity of waste to be recycled		Percentage of surplus virgin excavated natural material or excavated natural material spoil to be reused on or off site	100%
		Percentage of inert or non-hazardous waste diverted from landfill for recycling or reuse	80–90%
		Percentage of office waste diverted from landfill for recycling or reuse Office waste is defined as paper, cardboard, commingled, organics and soft plastics.	60%
Biodiversity and landscaping		Plantings to be Australian natives	70%
		Plantings to be indigenous native plants to preserve Cumberland Plains identity in the Western Sydney region	50%
Workforce diversity		Representation of workforce through learning workers by 2025 (including trainees, apprenticeships and workers training to upgrade their qualifications and skills)	20%
		Percentage of the workforce locally employed during construction	30%
		Percentage of overall workforce diversity. Divided into: <ul style="list-style-type: none"> Indigenous workforce (during construction) Women in non-traditional roles, women in leadership positions, socially and economically disadvantaged people, and people with a disability 	10%
			2.4%
		Percentage of contracts awarded to Indigenous businesses	7.6%
People		Number of priority community health and wellbeing issues to be identified, and measures implemented to positively contribute to these issues	Minimum of 1
			
Innovation		Sustainability innovations implemented	Minimum of 3

United Nations Sustainable Development Goals

WSA would like to contribute towards Australia meeting the United Nations Sustainable Development Goals, the UN's blueprint for peace and prosperity for people and the planet.

As a result, we have considered and aligned additional specific targets for the airport's development with the United Nations' Sustainable Development Goals. (see previous pages table)

How we will deliver our sustainability approach

Adopting an integrated approach that considers risks and opportunities, invites input from diverse disciplines and backgrounds, and embeds sustainability into practices, will provide many positive outcomes. (see Figure 1)



The endangered Spiked Rice Flower (*Pimelea Spicata*) is being preserved at WSI thanks to a successful translocation program

Sustainability requirements, objectives and guidance material

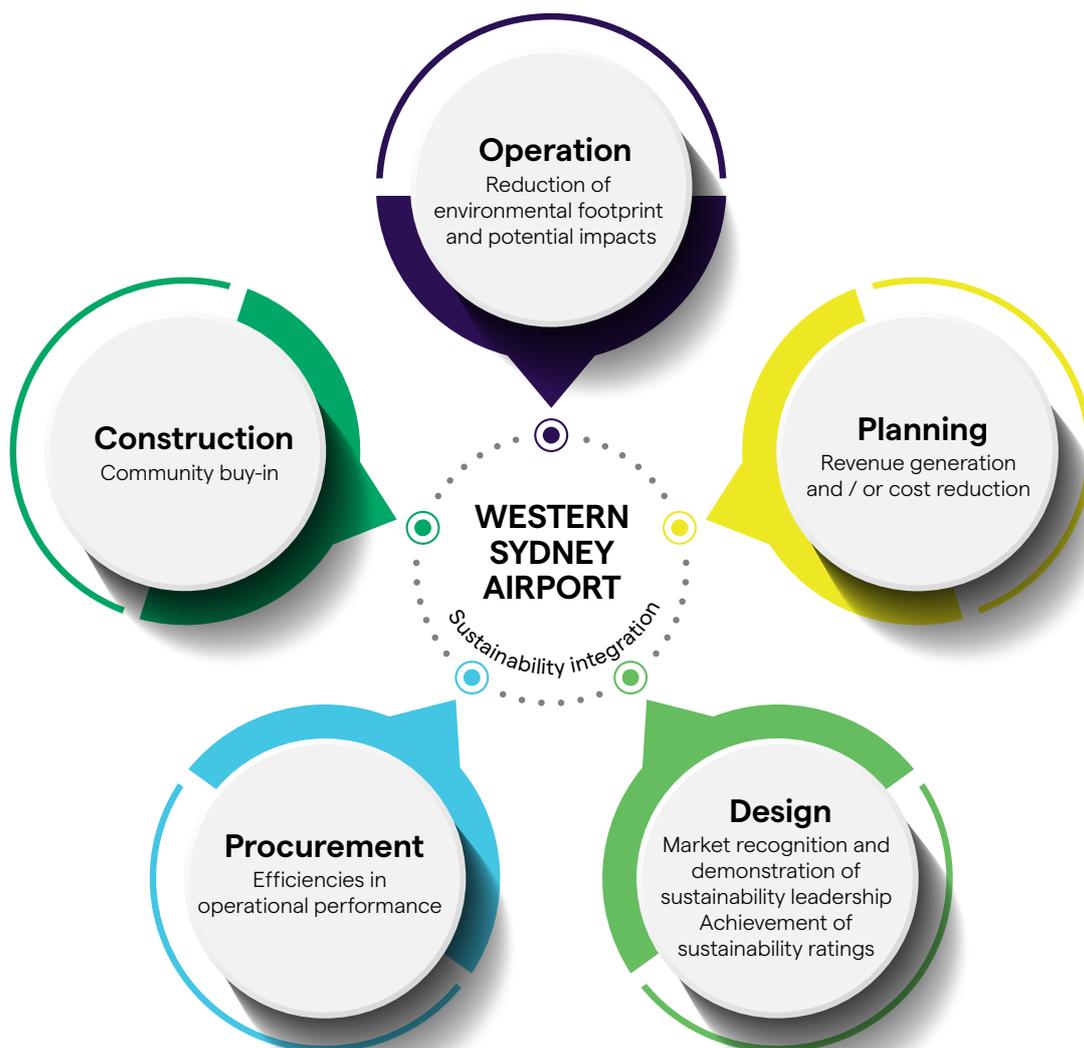


Figure 1. Integrated sustainability approach

4.

Our priorities

The five priorities of sustainability for WSA are:

- a future carbon pathway
- circular resources
- local biodiversity
- a thriving society
- responsible governance.

Priority 1. A future carbon pathway

We will design and build Western Sydney International so the airport is ready for a carbon-neutral future. Intelligent design and energy optimisation will be foundations of this approach.

Achieving carbon neutrality puts the lowest cost and highest business value initiatives at the bottom of the pyramid, with the highest cost and lowest business value initiatives at the top of the pyramid.

Carbon neutral pathway

As we are designing the airport, our focus is on optimising energy efficiency and investigating on-site renewable energy supply to create the biggest impact and the best value for money.

WSA 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. The agreed requirements will be formalised via contractual agreements or the airport operating licence.

Climate change

An Initial Climate Risk and Adaptation Report was developed prior to the start of airport construction and identified potential climate change impacts. It made recommendations for WSA to ensure that climate change adaptation is successfully integrated into the airport's design, construction and operation.

Climate change risk assessments have been undertaken for all phases of airport construction, considering :

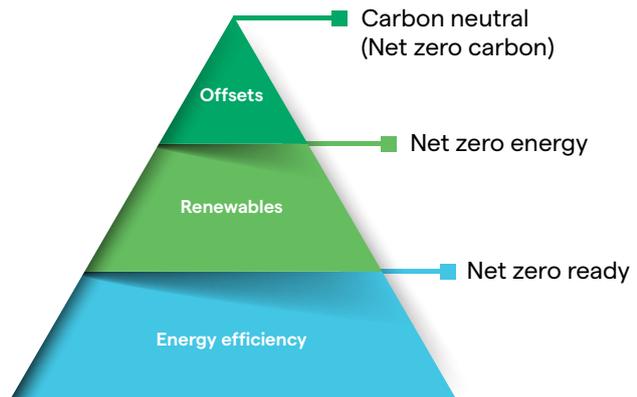
- bushfire
- increased frequency of extreme heat
- increased average temperature
- dry periods and regional drought
- increased intensity of storms, including rain, hail, wind and flooding.

The measures developed in response to the above climate risks prioritise design-based solutions, followed by process or operational solutions. We work through all risks with our construction contractors to ensure adaptation and mitigation measures are integrated into the design and construction of the airport.

Integrating these measures early ensures that WSA will meet the following targets:

- 100% of extreme and high-rated climate change risks are identified and assessed, with appropriate measures implemented, and no extreme residual risks after treatment.

Figure 2. Carbon neutral pathway



Carbon-neutral pathways – terminal building

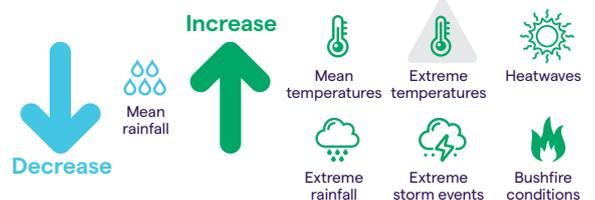
Our passenger terminal has been designed to reduce the amount of carbon in construction, operation and in our supply chain. Energy-efficient design in the terminal facilities material selection and renewable energy opportunities, such as electric recharge for electric vehicles and ground support equipment, and onsite solar generation.



Related SDG



Identified changes in relevant climate variables



- Options to reduce 25–50% of medium priority climate change risks are identified, assessed and appropriate measures implemented.

Priority 2. Circular resources

Western Sydney International is being designed with circular economy and passive sustainability at the core. These principles are based on designing out-waste and building as much efficiency as possible into the airport’s structure, construction materials and operational building systems such as air-conditioning.

Energy, water and emissions

In addition to sustainability rating requirements, we have specific target reductions in place for electricity consumption, potable water usage and greenhouse gas emissions. We encourage our designers and contractors to investigate any possible sustainable energy and water initiatives. This could range from onsite renewables during construction through to designing facilities to reduce resource use.

Materials and waste

We consider waste as a resource during airport design and construction. Australia will stop exporting all waste types overseas by 2024, which provides a great opportunity for WSA to be a leader in circular economics, and help to create closed-loop systems between waste management and material procurement.

Recycled materials will be used throughout the project to contribute to the circular economy and reduce embodied carbon.

Opportunities to be investigated include:

- recycled asphalt product, glass, plastic and rubber tyres in bitumen and asphalt
- recycled glass, slag and fly ash in concrete for low-risk areas, such as footpaths
- recycled product used for road base



Environmental Conservation Zones

ECZs include around 117 hectares of land that is managed by WSA for biodiversity conservation. The ECZs provide a buffer between the airport and its neighbours, connecting areas of native vegetation along the eastern, southern and western boundaries, including the habitat corridors of Badgerys Creek, Oaky Creek and Duncans Creek.

The extent of native vegetation cover will be increased and weeds will be managed in the ECZ, improving biodiversity on and around the airport.

- recycled plastic in outdoor furniture, bollards, composite outdoor decking and timber battens, fencing and point-of-interest signage
- recycled glass, plastic, rubber tyres or paper/cardboard in architectural design such as floor and wall finishes, including carpet, tiles, paints and composite timber battens
- participation in an innovation project or industry group to promote the development and use of recycled materials.

Related SDG



We have gone above and beyond the usual health, safety and environmental regulations by banning some chemicals from being used on site. Although these chemicals are allowed to be used in Australia, WSA has restricted them from use in constructing the airport because they are either bioaccumulative (build up in nature over time) or toxic to the environment and people.

The three restricted chemicals are:

- petrochemically derived products that are used by releasing them into the environment – such as soil-binding polymers
- glyphosate-based and neonicotinoid pesticides
- per- and poly-fluoroalkyl substances – such as flame retardants.

All WSA project office spaces throughout construction and into the operational phase operate in accordance with the WSA Green Office Guideline.



The WSI topsoil seedbank at Willowdene, an environment sustainability initiative to preserve native flora.

The 5 key principles of the Green Office Guideline are:

- conserve energy and natural resources
- create awareness of good waste management and follow the waste hierarchy – refuse, reduce, reuse, recycle and rot (compost)
- no procurement of single-use plastics
- procure sustainable accredited materials where possible
- continue to review and minimise the impacts of all activities.

Priority 3. Local biodiversity

Western Sydney is known as the food bowl for Greater Sydney, where the majority of local

Related SDG



produce is grown and farmed. It is also home to the native Cumberland Plain Woodland, which listed as critically endangered.

Ecological assessments of the airport site were carried out and detailed in the Western Sydney Airport Environmental Impact Statement and the Stage 1 Biodiversity Assessment Report. These documents outline all flora and fauna listed under the Environment Protection and Biodiversity Conservation (EPBC) Act or state legislation that are found within the site boundary. Ongoing, this body of work will be governed by the Biodiversity Construction Environment Management Plan.

We are committed to restoring and maintaining areas of Cumberland Plain Woodland in the Environmental Conservation Zones (ECZs) and other programs.

Biodiversity, Urban Design & Landscaping required tasks & initiatives

Initiative	Phase of Project			
	Plan	Design	Const	Ops
Biodiversity & Urban Design				
Engage with stakeholder organisations to develop a consistent approach in maintaining Western Sydney's green spaces and biodiversity	✓	✓		
Maintain Western Sydney's unique ecological community and biodiversity values		✓	✓	✓
Improve water quality of Badgery's Creek		✓	✓	✓
Integrate Water Sensitive Urban Design (WSUD) principles into design for Airport precinct		✓		
Landscaping				
Investigate how the project can incorporate plantings, seeds or propagations removed from site, or from within the ECZ, into final design		✓	✓	
Investigate landscaping opportunities to enhance habitat for Native Bee and European Honeybee populations, whilst balancing Wildlife Hazard risks		✓	✓	✓

Biodiversity offsets

Biodiversity offset programs enable organisations to invest in environmental projects to balance out their own environmental impacts.

The Department of Infrastructure, Transport, Regional Development and Communications (DITRDC) is responsible for meeting the biodiversity offsets obligations relating to the airport's development.

Landscaping for native bees

Native bees are harmless. They do not sting or cause allergic reactions. They are busy pollinators, providing a helping hand to local farmers and native bushland.

We want our project to be a part of preserving native bees in the Western Sydney region. There is an opportunity for the landscape design to encourage Australian native bees by providing them with habitat.

To do this, landscaping designs and planning should consider including:

- suitable plant species that are native to the Cumberland Plain Woodland
- natural habitat features, such as bare mounds and patches without mulch
- additional habitat features, such as bee hotels or nesting blocks.

Priority 4. A thriving society

Western Sydney is Australia's third-largest economy and one of the most vibrant and exciting regions in Australia. It is home to people from hundreds of diverse cultures, united by their strong community spirit, love of family and determination to work hard and build a better future.

Related SDG



Building Western Sydney International will create thousands of jobs and there will be even more when the airport opens. Our employment targets mean jobs for Western Sydney locals – at least 30 per cent of jobs while we are building the airport, increasing to at least half of all jobs when the airport opens.

As the airport helps boost Western Sydney's economy, it will create opportunities for businesses of all sizes, including farmers and other local businesses.

Heritage management

Respecting the region's Aboriginal heritage and acknowledging the rich contribution of the Cabrogal people of the Dharug Nation as the Traditional Owners of the airport site is important to us.

Our Aboriginal Heritage Management Plan outlines the full extent of our initiatives to preserve this important history.

Our targets guarantee we will employ Aboriginal people and work with Aboriginal suppliers as we build and operate Western Sydney International.

Led by Aboriginal heritage experts, our program to survey the airport site before earthworks began led to around 40,000 Aboriginal heritage artefacts from across the site being identified and preserved to assist in the identification and assessment of heritage items and areas.

As airport construction continues, our Oral History Plan will see Dharug history preserved by recording individual Aboriginal stories and memories relating to the airport site and its district. The record will serve as an archive and resource that will help ensure the Aboriginal heritage value of the site is preserved forever.



A smoking ceremony performed at the Airport for NAIDOC week 2020



Some of the 40,000 Aboriginal artifacts found at WSI

WSA has developed a Reconciliation Action Plan. We are focused on ensuring that Western Sydney International provides opportunities for Aboriginal people and respects country and culture.

We are working with our design partners to engage the local Aboriginal community to ensure the inclusion of Aboriginal design elements in the terminal is authentically led by Aboriginal voices.

Heritage management tasks and initiatives that are required include to:

- incorporate the interpretive use of artefacts for education and celebration of Indigenous heritage within the Airport and Experience Centre
- develop and implement Indigenous design principles
- ensure heritage management and Indigenous design principles align with surrounding projects
- use a collaborative approach with surrounding projects, local Indigenous groups and stakeholders
- investigate and implement specific Indigenous and heritage initiatives if they are determined to be feasible
- incorporate Indigenous land management practices into the management of ECZs.

Workforce management

WSA is committed to developing the current WSA is committed to playing our part to develop the current and future skills of our community, which will increase the capability and capacity needed to meet infrastructure, construction and operational requirements for the airport.

Our Higher Education Strategy aims to improve project performance, leadership, workplace health and safety, individual competency and transferable skills in specified occupational areas.

We will work and collaborate in partnership with our contractors, state and Commonwealth

Social sustainability

Clean Force is being used for cleaning services at the construction site compound. This is a social enterprise with a vision to create sustainable award-wage employment opportunities for people with mental illness. It has a blended workforce, with approximately 50% of employees diagnosed with a disability or who are disadvantaged, and 19% who are from culturally diverse backgrounds.

Clean Force has had the value of its social impact independently verified. A Social Return on Investment study carried out by Social Ventures Australia concluded that for every \$1 invested in Clean Force, there is \$6.50 of community benefit derived from it.

The company also uses eco-friendly cleaning products and actively looks for ways to minimise consumption and waste.

FY20/21 we achieved:



54

airport shuttle tours onsite



1,000+

phone calls and emails from the community



6,000+

attendees at school and career engagement programs



70

stakeholder presentations



130

Aboriginal Site Officers engaged in the Aboriginal cultural heritage program

Government agencies, and education providers to deliver a suite of workplace initiatives designed to build capability and development skills and employment pathways in Western Sydney.

Workforce onboarding will promote an awareness of project-wide sustainability requirements and each person's contribution to sustainable performance. The induction process will require all project employees, contractors and suppliers to participate in orientation training, which will be tailored to the specific work they will be undertaking.

While WSA is responsible for training WSA employees, each package-of-work head contractor will be responsible for training their own employees, contractors and suppliers.

Community health, wellbeing and engagement

We are committed to working closely with the community and stakeholders to listen to community feedback, inform people about the airport's construction and the opportunities it will create and help minimise any impacts. Our Community Engagement team provides support that includes:

- a 24-hour information line, along with email and written contact options
- an Experience Centre that is a community engagement and education hub, where people can learn how Western Sydney International will help shape the future of Western Sydney
- a Stakeholder Planning Forum, which provides regular and strategic engagement between WSA, the Commonwealth and NSW governments, local government and utility providers that will be directly affected by, or have a role in, the Airport's development



- community surveys and feedback opportunities at local events
- various digital channels, including social media, a website, a blog and project webinars.

Priority 5. Responsible governance

We will keep records to demonstrate our compliance with the Sustainability Plan, specific resource consumption targets, and IS, Green Star and NABERS ratings.

Aspects to be monitored during design and construction include:

- implementation and evidence gathering for relevant sustainability ratings
- site sustainability inspections
- resource consumption, including electricity, fuels, water, materials and emissions
- waste and recycling
- stakeholder engagement and community feedback
- workforce management
- biodiversity and heritage management
- emerging issues.

Sustainability management

We understand that it is important for us to have the right management approach to deliver on our sustainability commitments during airport design and construction.

The key management objectives for this plan include to:

- enhance the effectiveness of environmental management and sustainable design measures during construction and operation of the airport
- assist in avoiding, reducing or mitigating environmental impacts
- maximise the social and economic benefits of the airport
- contribute to the productivity and liveability of communities in Western Sydney
- reduce the Airport's exposure to long-term risks such as climate change.

Sustainability will be embedded into the procurement process for major contractors, subcontractors, material suppliers and the workforce. Facilities management service providers play a key role in achieving sustainability rating requirements.

Reporting and auditing

We will report on our sustainability performance on a regular basis throughout all phases of the project to comply with sustainability requirements and to satisfy the Green Star and IS ratings.

The project will also include internal and external audits of sustainability management practices and reporting as required.

Drone program

WSA's drone program began in February 2020. The team use drones to monitor construction progress, and ensure safety and environmental compliance across the airport site.

A full site survey is conducted quarterly, with surveys of smaller key areas occurring more regularly. The drone program enables the WSA team to view areas of site access due to construction activities, and inaccessible areas due to rainfall, enhancing workplace safety and environmental outcomes.



Related SDG





**For enquiries regarding the licence
and any use of this publication/
document, please contact:**

WSA Co Limited
ABN 81 618 989 272
PO Box 397
Liverpool NSW 1871
e: info@wsaco.com.au

 [Western Sydney Airport](#)

 [flyWSA](#)

 [Western Sydney Airport](#)

 [Western_Sydney_Airport](#)

westernsydney.com.au