WESTERN AUSTRALIAN TREASURY CORPORATION

# Sustainability Bond Framework Annual Report 2024



WESTERN AUSTRALIAN
TREASURY CORPORATION

Financial Solutions for the Benefit of All Western Australians

## Acknowledgements

#### **Acknowledgment of Country**

Western Australian Treasury Corporation acknowledges the traditional custodians throughout Western Australia and their continuing connection to the land, waters and community. We pay our respects to all members of the Aboriginal communities and their cultures, and to Elders both past and present.

#### **Language Note**

In this document, the term Aboriginal people is used in preference to "Indigenous" or "Aboriginal and Torres Strait Islander" people, in recognition that Aboriginal peoples are the original inhabitants of Western Australia.

#### **Sustainability Bond Framework Working Group**

A special thank you to the Western Australian Government entities that have collaborated on this project, including:

- · Department of Energy, Mines, Industry Regulation and Safety
- Department of Transport
- Department of Treasury
- Department of Water and Environmental Regulation
- Horizon Power
- Main Roads Western Australia
- METRONET
- · Public Transport Authority of Western Australia
- Synergy
- Water Corporation
- Western Power.

#### **Accessibility**

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## **CEO Insights: Evolving WATC's** Participation in the Sustainable Finance Market

## 66

WATC's intention is to become a long term issuer in the sustainable finance market and we closely observe its ongoing evolution, noting the recent renewed acceleration in issuance.

**KAYLENE GULICH PSM** CHIEF EXECUTIVE OFFICER, WATC



## Consolidating the July 2033 Green **Bond**

The inaugural July 2033 green bond signalled the entry of Western Australian Treasury Corporation (WATC) into the sustainable finance market. The extremely positive investor participation affirmed the credibility of the process undertaken in creating our **Sustainability** Bond Framework, the quality of the asset pool, the strength of the underlying message and insight into the State of Western Australia's approach to sustainability.

After launching the bond in June 2023 with an initial face value of \$1.9 billion and a July 2033 maturity date, the focus in 2024 has been consolidating the green bond as part of WATC's benchmark curve.

In the year to 31 October 2024, being the reporting period since the inaugural Sustainability Bond Framework Annual Report 2023, we have regularly tapped the July 2033 green bond, issuing \$440 million

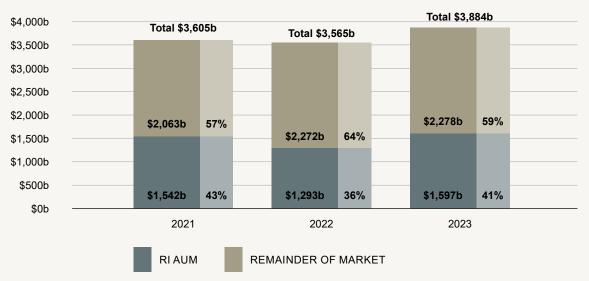
to assist in financing the projects within the green bond project pool that will achieve transformational change in environmental outcomes for Western Australia. With currently reduced funding requirements, we have sought to incorporate sustainable bond issuance into our benchmark curve to achieve the dual goal of supporting liquidity across the entirety of our curve and maintaining momentum in the sustainable finance market.

## **Expanding investor engagement**

During 2024 WATC partnered with key Western Australian government entities and major industry participants to produce a new investor focussed publication titled **Decarbonising Western Australia** and Our Trading Partners.

The publication was structured to provide holistic disclosures with the level of detail WATC understands investors require to undertake their due diligence on the manner in which sovereign and sub-sovereign

## Change in Responsible Investment Assets Under Management (RI AUM) compared to remainder of market in Australia 2021–2023



Source: Responsible Investment Association Australasia, Responsible Investment Benchmark Report: Australia 2024.

governments are seeking to transition their economies to net zero, covering the key topics of:

- Emissions profile of Western Australia and a governance framework to achieve net zero.
- Decarbonisation drivers for existing economic activity and how this activity is already contributing to Western Australia's trading partners' decarbonisation.
- Emerging green industries with the potential to harness Western Australia's unique comparative advantages and materially impact global decarbonisation.
- Government leadership in collaboration with industry and engagement with capital markets, in particular through WATC's <u>Sustainable Finance</u> <u>Program</u>, that is facilitating Western Australia's progress towards decarbonisation.

The publication was launched in September 2024 in conjunction with a webinar series that catered for investors across Australasia, Europe and North America. The webinars were well received, with attendees including representatives from 59 separate investor institutions spanning 17 countries, the majority of whom had invested in WATC's inaugural green bond issued in June 2023. WATC will continue to update the

publication over the coming years and incorporate its key messages within our broader investor engagement activities in support of both our regular and sustainable bond issuance programs.

## This Annual Report and forward intentions

This second *Sustainability Bond Framework Annual Report* demonstrates the progress being made in the delivery of transformational environmental projects that comprise our green bond project pool – where the scale of these projects is evident through the current project pool having eligible expenditure exceeding \$13 billion.

As detailed in <u>Section 3</u> of this report, the majority of proceeds from the green bond have been allocated to projects that will expand renewable energy generation and improve energy efficiency. Notably, this aligns with the highest priority for sustainability-themed investments across the rapidly expanding cohort of responsible investment managers in Australia (see chart on next page). In 2023 the responsible investment portion of the total funds under management in Australia was \$1.6 trillion or 41 per cent (see chart at top of page), a \$304 billion and 5 percentage point increase from 2022¹.

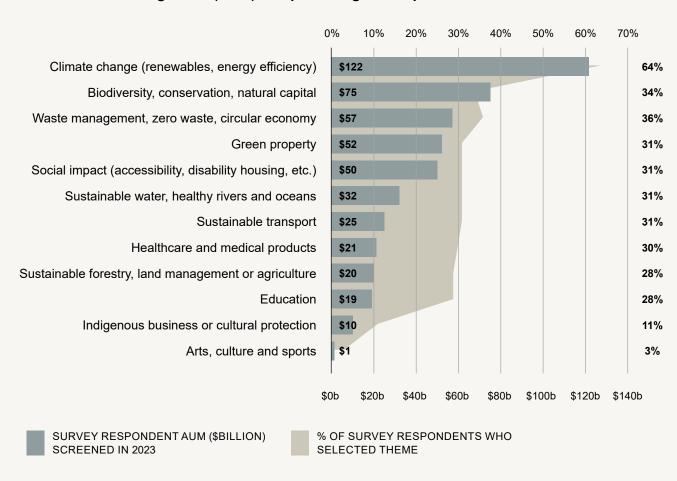
<sup>1</sup> Source: Responsible Investment Association Australasia, Responsible Investment Benchmark Report: Australia 2024.

ONGOING PURPOSE OF SBF

WATC's intention is to become a long term issuer in the sustainable finance market and we closely observe its ongoing evolution, noting the recent renewed acceleration in global sustainable bond issuance being over US\$1.2 trillion to the end of the third guarter of 2024, having increased by 10 per cent compared to the same period in 20232.

Consistent with this intent, WATC is currently planning for the issuance of its second sustainable bond in the second quarter of 2025, also expected to be in a green format of benchmark size with either a 2035 or 2036 maturity. In support of this, WATC is currently working with members of the intragovernmental Sustainability Bond Framework Working Group to evaluate new projects for inclusion in the project pool that will be assessed through the whole-of-government committee, the Portfolio Oversight Group for Climate Action and the Environment, early in the new year.

### Sustainability-themed investments of survey respondents by theme -Assets Under Management (AUM) and percentage of respondents



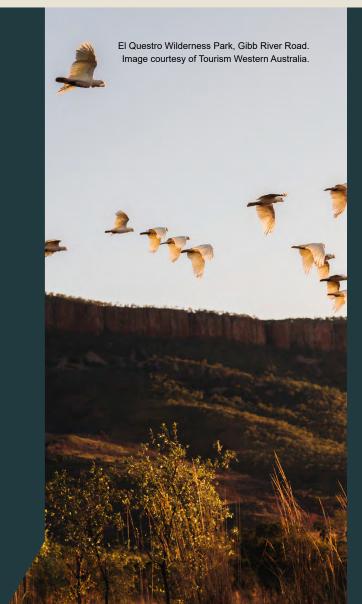
Source: Responsible Investment Association Australasia, Responsible Investment Benchmark Report: Australia 2024.

Source: BloomberaNEF.

## Ongoing Purpose of WATC's Sustainability **Bond Framework**

## 66

Whilst the SPO validates the eligibility of an extremely broad range of projects supporting continuous improvement in environmental and social outcomes. the project evaluation protocols and governance established through the whole of government committee focus on forward looking projects that will have a material impact on transforming environmental outcomes or addressing challenging social issues.



## Validating the ESG Credentials of WATC's entire borrowing program

WATC's **Sustainability Bond Framework** (Framework) was developed with the dual purpose of facilitating issuance in the sustainable finance market whilst supporting the environmental, social and governance (ESG) credentials of WATC's entire borrowing program.

It builds on the comprehensive ESG disclosure series Supporting Continuous Improvement in ESG Outcomes for Western Australia established in November 2021 and updated following the Western Australian Government's State Budget releases in 2022, 2023 and most recently in August 2024. This series is supplemented by the September 2024 release of the new investor focussed publication **Decarbonising** Western Australia and Our Trading Partners. These disclosures provide holistic information to investors of the Western Australian Government's key policy

commitments, infrastructure delivery and engagement with industry that underpin the State's commitment of achieving the Paris Agreement objective of net-zero emissions by 2050, and supporting Australia's pursuit of the United Nations Sustainable Development Goals.

The Framework covers all aspects of the International Capital Markets Association (ICMA) Green Bond Principles, Social Bond Principles and Sustainability Bond Guidelines and is supported by a comprehensive Second Party Opinion (SPO) from Sustainalytics. This provides independent validation that the projects outlined in the ESG disclosure series, which WATC's borrowing program contributes to, meet ICMA green and social bond principles.

ONGOING PURPOSE OF SBF

Whilst the SPO validates the eligibility of an extremely broad range of projects supporting continuous improvement in environmental and social outcomes, the project evaluation protocols and governance established through the whole-of-government committee focus on forward looking projects that will have a material impact on transforming environmental outcomes or addressing challenging social issues.

This is reflected in the current green bond project pool where projects were selected within environmental themes aligned to the delivery of transformational State Government policy objectives, the primary theme being Reducing emissions from electricity generation. This is directly aligned to increasing renewable energy penetration in the State's main electricity grid, enabling State-owned coal-fired power generation to be phased out by 2030. The environmental impact of many projects in the green bond project pool benefit from growth in renewables, for example by ensuring that our expanded rail network, electric vehicle (EV) charging stations and desalination plants are all powered by low emission, coal-free energy.

A key focus on project evaluation is social co-benefits, which are articulated in the project descriptions in the Appendix to this publication and in several cases within the impact summary indicator tables.

As outlined in **Section 3**, the size of eligible expenditures within the current green bond project pool can support a second green bond issue. It is expected these will be supplemented with related new major projects, following recent or likely forthcoming expenditure commitments by the State Government through the State Budget process, notably on:

- Expansion of electricity network infrastructure to facilitate connection to future private and publicly funded renewable energy infrastructure;
- Additional wind farm projects;
- Establishment of an electric bus fleet, partially replacing retiring diesel powered buses.

The August 2024 update to **Supporting Continuous** Improvement in ESG Outcomes in Western Australia outlined progress being made across a broader range of environmental and social initiatives that also demonstrate additionality. Funding for these projects will be supported by WATC's regular bond issuance program, but the following examples indicate the types of activities that could be considered for inclusion in future expansion of the Sustainable Finance Program:

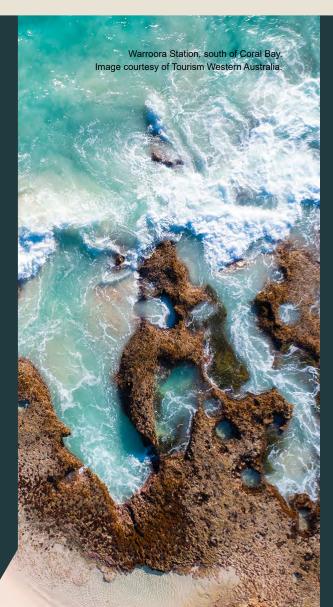
PROJECT SUMMARIES

- A range of projects that will deliver on the State's Climate Adaptation Strategy to accelerate adaptation actions and ensure the State's community and economy are resilient to risks posed by climate change.
- Improving biodiversity outcomes through significant expansion of the State's conservation estate and protection of the State's native forests and native species habitat.
- Significant expansion of care facilities and programs to address mental health issues and improve mental health outcomes for Western Australians.
- Contemporary infrastructure and programs to reduce homelessness and expand social housing provision.
- Significant expansion of funding for infrastructure and programs to both support victims and address root causes to reduce future incidence of family and domestic violence.
- Programs seeking to improve outcomes for Aboriginal people and facilitate economic selfdetermination.

## Green Bond Project Pool

## 66

The governance committee overseeing the Framework evaluates individual projects based on their relevance to progressing three key environmental themes that were identified as being strongly connected to delivery of priority policies of the Western Australian Government that will contribute significantly to achieving meaningful, positive change.



## Composition of the project pool

The <u>Second Party Opinion</u> to WATC's <u>Sustainability Bond Framework</u> provides detailed evidence of the wide range of projects that align with ICMA green and social bond principles that could be included in a labelled issuance – reaffirming the role WATC's existing debt issuance program plays in supporting sustainable outcomes.

## **Environmental themes guiding the project** pool

The governance committee overseeing the Framework evaluates individual projects based on their relevance to progressing three key environmental themes that were identified as being strongly connected to delivery of priority policies of the Western Australian Government that will contribute significantly to achieving meaningful, positive change.

The first of these themes, *Reducing emissions from electricity generation* is directly related to the Western Australian Government's commitment to phase out State-owned coal-fired power generation by 2030 and reduce own-source emissions to 80 per cent below 2020 levels.

A commitment has been made to allocate at least 50 per cent of proceeds from the July 2033 maturity green bond to projects aligned to the theme of *Reducing emissions from electricity generation* as they are pivotal to achieving the Western Australian Government's emissions reduction target.

Through providing an increasingly decarbonised electricity grid, the first theme is a primary enabler for enhancing environmental outcomes achievable from projects included within the other two priority environment themes, being *Transport infrastructure to support the net-zero transition* and *Enhancing climate change adaptation and resilience*.

#### Indicative Expenditure by Environmental Theme for Green Bond Project Pool

			ELIGIBLE PROJECT EXPENDITURE (\$M)		
	THEME	SDG	INCURRED TO 30/06/2024	FORWARD OUTLOOK*	TOTAL
**************************************	Reducing emissions from electricity generation	7 AFFORDABLE AND 9 MODISTRY, INNOVATION AND INFRASTRUCTURE	1,371	3,113	4,484
	Transport infrastructure to support net-zero transition	9 NOUSTRY, INNOVATION 11 SISTAMABLE CITIES AND INFRASTRUCTURE 11 SISTAMABLE CITIES AND COMMUNITIES	4,722	1,775	6,497
<u>⊹</u> €	Enhancing climate change adaptation and resilience	6 CLEAN WATER AND SANITATION 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE	155	2,662	2,817
	Total		6,248	7,550	13,798

Forward outlook approximates the eligible expenditure expected for projects currently allocated to the pool from July 2024 onwards. This will be subject to revision and excludes any direct funding to the projects from the Australian Government.

### Eligible expenditure by environmental theme

The significance of the chosen themes and their importance to the Western Australian Government's priority policy commitments are reflected in the scale of expected expenditure as outlined above. As the primary theme of Reducing emissions from electricity generation is also critical to maximising the environmental outcome of the other themes, a commitment has been made to allocate at least 50 per cent of all proceeds from the July 2033 maturity green bond to assist financing projects within this theme as shown in the proceeds allocation table on the next page.

## Allocation of proceeds by project and ICMA Green Bond Principles category

Allocation of bond proceeds to the individual projects within each environmental theme by ICMA Green Bond Principles category are shown in the table on the next page, followed by further summary information on their scope, delivery progress, environmental impact and associated social co-benefits. Detailed descriptions for all projects are also provided in the Appendix.

### Allocation of Green Bond Proceeds: Issuance to 31/10/2024

ICMA GREEN BOND PRINCIPLES CATEGORY	PROJECT NAME PROJECT STATUS		GREEN BOND PROCEEDS ALLOCATION (\$M)						
Reducing emissions from electricity generation									
	Wind Farms	PLANNING	35						
Renewable Energy	Stand-alone Power Systems	UNDER CONSTRUCTION / PARTLY OPERATIONAL	80						
	Solar Schools Program	UNDER CONSTRUCTION / PARTLY OPERATIONAL	5						
	Large Scale Batteries	UNDER CONSTRUCTION / PARTLY OPERATIONAL	1,000						
Energy Efficiency	Advanced Metering Infrastructure	UNDER CONSTRUCTION / PARTLY OPERATIONAL	100						
	LED Streetlights  UNDER CONSTRUCTION / PARTLY OPERATIONAL		15						
Transport inf	rastructure to support net-zero tran	sition							
Transport inf	rastructure to support net-zero tran	sition  UNDER CONSTRUCTION / PARTLY OPERATIONAL	1,000						
Transport inf  Clean Transportation		UNDER CONSTRUCTION	1,000 35						
<u> </u>	METRONET	UNDER CONSTRUCTION / PARTLY OPERATIONAL UNDER CONSTRUCTION							
Clean Transportation	METRONET  Electric Vehicle Initiatives	UNDER CONSTRUCTION / PARTLY OPERATIONAL  UNDER CONSTRUCTION / PARTLY OPERATIONAL  UNDER CONSTRUCTION / PARTLY OPERATIONAL	35						
Clean Transportation	METRONET  Electric Vehicle Initiatives  Active Transport Infrastructure	UNDER CONSTRUCTION / PARTLY OPERATIONAL  UNDER CONSTRUCTION / PARTLY OPERATIONAL  UNDER CONSTRUCTION / PARTLY OPERATIONAL	35						

## Project Summaries and **Impact Indicators**



Projects within the Reducing emissions from electricity generation theme align to the ICMA Green Bond Principles categories of Renewable Energy and Energy Efficiency and will make a major contribution towards the Western Australian Government's commitment to reduce its own-source greenhouse gas emissions to 80 per cent below 2020 levels by 2030.



### Reducing emissions from electricity generation

Projects within this theme align to the ICMA Green Bond Principles categories of Renewable Energy and Energy Efficiency and will make a major contribution towards the Western Australian Government's commitment to reduce its own-source greenhouse gas emissions to 80 per cent below 2020 levels by 2030.

Where smaller-scale projects have also been included within this theme, they focus on the importance of delivering more reliable and cost effective renewablebased power to remote regions across the vast expanses of Western Australia that ensures all people benefit from the energy transformation.

#### Transport infrastructure to support netzero transition

Projects within this theme align to the Clean Transportation category of the ICMA Green Bond Principles and support an interrelated strategy to reduce transport emissions in Western Australia. The key component is providing more accessible and cost effective electrified public transport, supported by developing infrastructure and incentives to motivate the transition of private travel to electric vehicles, and by increasing access to safe pedestrian and bicycle infrastructure.

#### Enhancing climate change adaptation and resilience

The importance of continuing to increase and diversify Western Australia's water supply without impacting carbon emissions is the key reason for including the forward-looking renewably powered desalination plant project that aligns to the Sustainable Water category of the ICMA Green Bond Principles.

PROJECT SUMMARY

PRIMARY INDICATORS

#### Renewable Energy Focussed Projects - Impact Summary

ONGOING PURPOSE OF SBF



#### **Wind Farms**

In planning phase, securing project rights and supply chains.

PROJECT DETAIL (2)



Two new wind farms planned in the Wheatbelt and Great Southern regions to significantly expand renewable energy generation capacity on the South West Interconnected System and aid displacement of coal-fired power generation.

## INFRASTRUCTURE

PLANNED

Total renewable energy generation capacity to be installed: up to 250 MW.

#### **OPERATIONS**

INTENDED INDICATOR

 Annual renewable energy generation in MWh/GWh



#### **Stand-alone Power** Systems (SPS)

Being progressively delivered in project phases at the fringes of the South West **Interconnected System** and other remote noninterconnected towns.

PROJECT DETAIL (2)



Replace traditional poles and wire infrastructure vulnerable to climate events in regional and isolated areas with up to 4,000 off-grid renewables based energy systems.

#### SOCIAL CO-BENEFITS

Improving power reliability to remote areas with a reduction in the frequency of power outages, exceeding 85% for SPS converted customers over FY23 and FY24.

#### INFRASTRUCTURE

PROGRESS TO 30/06/24

- Number of SPS commissioned: 291.
- Kilometres of overhead power lines removed: 778 km.

#### **OPERATIONS**

INTENDED INDICATOR

- Annual renewable energy generation in MWh.
- Average % of renewable energy generation across SPS.



#### **Solar Schools Program**

**Majority of schools** operational, completion of all sites expected before end of 2024.

PROJECT DETAIL (2)



Deliver rooftop solar panel systems in 35 remote and regional schools, predominantly in the Kimberley and Pilbara regions.

#### SOCIAL CO-BENEFITS

Expected to reduce schools' annual electricity costs by around one quarter and provide students with important STEM learning outcomes.

#### INFRASTRUCTURE

PROGRESS TO 30/06/24

Renewable energy generation capacity installed: 1,165 kW.

#### INFRASTRUCTURE

PROGRESS TO 30/09/24

 Number of regional and remote schools completed: 34 schools.

#### **OPERATIONS**

INTENDED INDICATOR

 Annual renewable energy generation in MWh

PROJECT SUMMARY

PRIMARY INDICATORS

#### **Energy Efficiency Focussed Projects – Impact Summary**



#### **Large Scale Batteries**

One battery in operation, two others in procurement.

PROJECT DETAIL (?)



Three large scale batteries with a total capacity of 800 MW / 3000 MWh to facilitate increased penetration of renewable energy sources connected to the South West Interconnected System (SWIS), the electricity grid that services over 85% of Western Australia's residential population.

#### SOCIAL CO-BENEFITS

Supports the Just Transition from coal mining and coal-fired power generation in the town of Collie where the largest (500 MW / 2000 MWh) battery will be located.

#### INFRASTRUCTURE PROGRESS TO 30/09/24

Capacity installed: 100 MW / 200 MWh.

### **OPERATIONS**

ACHIEVED FY243

Average daily withdrawal of (predominantly renewable) energy from the grid: 275 MWh.



#### **Advanced Metering** Infrastructure (AMI)

Implementation over 60% complete.

PROJECT DETAIL (P



Install AMI for all eligible households and businesses connected to the SWIS by 2027, increasing efficient use of rooftop solar generation and facilitating enablement of other emerging technologies.

#### SOCIAL CO-BENEFITS

Provide more data to help customers manage their energy usage, monitor energy efficiency targets and reduce overall power costs.

### INFRASTRUCTURE

PROGRESS TO 31/08/24

Number of AMI installed: 746,821 (~61% of network connections converted).



#### **LED Streetlights**

Project being completed in phases with several areas of Perth already converted.

PROJECT DETAIL P



Replace all standard streetlights on local road networks in the SWIS with LED lights by 2035.

## INFRASTRUCTURE

PROGRESS TO 31/08/24

· Number of streetlights converted: 73,652 (~25% of streetlight fleet).

#### OPERATIONS

ACHIEVED FY243

- · Annual GHG emissions avoided: 9,192 tCO2-e.
- 66% energy consumption reduction from streetlights replaced.

FY24: Australian financial year being from 1 July 2023 to 30 June 2024.

PROJECT SUMMARY

PRIMARY INDICATORS

### **Clean Transportation Focussed Projects – Impact Summary**



#### **METRONET**

New passenger lines commissioned in October 2022 and July 2024, with construction on others progressing well.

PROJECT DETAIL P



Major expansion of the metropolitan electrified public rail network of approximately 40% / 72 km with 23 new stations.

#### SOCIAL CO-BENEFITS

- · Two-zone capped fare, delivering more affordable public transport to all passengers, regardless of geographical location or socio-economic circumstances.
- Introduction of the Ride to School Free Program.

### INFRASTRUCTURE

PROGRESS TO 30/09/24

23 km of new rail line commissioned and 8 new stations.

### **OPERATIONS**

ACHIEVED FY243

- New Airport Line: 4.9m passengers, 29% increase on previous year4.
- Total network passengers: 59.7m, an increase of 12% on previous year.



#### **Electric Vehicle (EV) Initiatives**

The WA EV Network is partially operational with completion of all sites across Western Australia expected by the end of 2024.

PROJECT DETAIL (?)



Establishing Australia's longest EV charging network of more than 7,000 km with 49 fastcharging locations across the State, together with purchase rebates of \$3,500 per vehicle to incentivise consumer uptake.

#### INFRASTRUCTURE

PROGRESS TO 30/09/24

Number of locations operational and charging ports installed: 42 locations / 114 charging ports.

### **OPERATIONS**

ACHIEVED FY243

- Estimated tailpipe GHG emissions avoided: 609 tCO2-e.
- Number of purchase rebates provided: 5,463 to value of \$19.1m.



#### **Active Transport** Infrastructure

Construction of bridge structures across the Swan River to Perth CBD now complete. Works underway to fit out the bridges. Other pathway expansions being progressively delivered.

PROJECT DETAIL (?)



Delivery of a network of safe, high-quality paths for people of all ages and abilities to walk, wheel and ride, connecting key business activity and education centres.

#### SOCIAL CO-BENEFITS

Facilitating healthier lifestyles and safer offroad travel by minimising interruptions from other traffic to create more enjoyable walking and riding experiences.

#### INFRASTRUCTURE

PROGRESS TO 30/09/24

34 km of new principal shared paths delivered through the Principal Shared Path Expansion Program and major road and rail projects since July 2021.

FY24: Australian financial year being from 1 July 2023 to 30 June 2024.

Calculated over the nine-month comparable periods of October to June, as line commenced in October 2022.

PROJECT SUMMARY

PRIMARY INDICATORS

### **Sustainable Water Focussed Projects – Impact Summary**



Renewable Energy **Powered Desalination** 

Design completed

PROJECT DETAIL P

Construction of a 50 billion litres-a-year desalination plant powered by renewables to support Western Australia's long-term growing population and reduce reliance on groundwater to help protect the natural environment.

## INFRASTRUCTURE

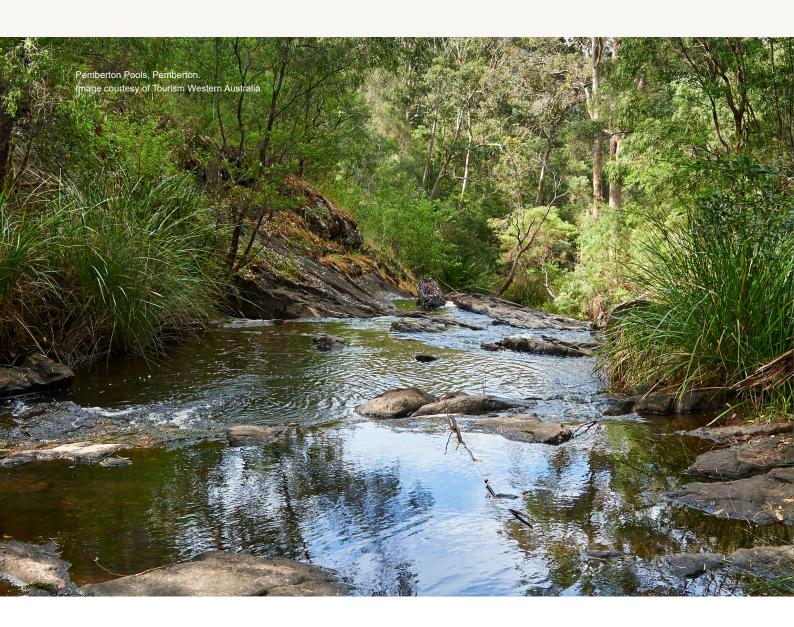
PLANNED

Annual output capacity of 50 GL.

**OPERATIONS** INTENDED INDICATOR

output in GL.

Annual absolute amount of water



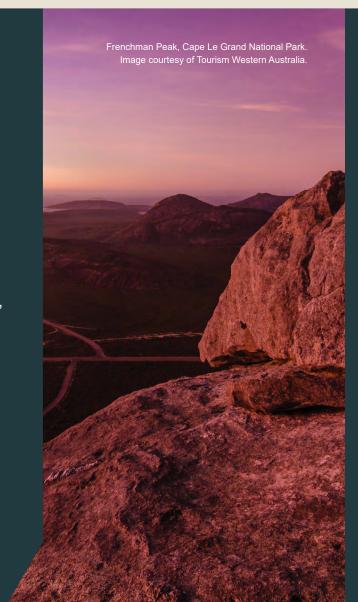
## Independent Assurance

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Nothing has come to Sustainalytics' attention that causes us to believe that, in all material respects, the Nominated Expenditures do not conform with the use of proceeds criteria and reporting commitments in the Framework.

#### **SUSTAINALYTICS**

SECOND PARTY OPINION, 18 NOVEMBER 2024



The WATC Sustainability Framework Bond (Framework) released in May 2023 obtained a comprehensive Second Party Opinion confirming its alignment to the ICMA principles which is available on the WATC website as a key component of WATC's Sustainable Finance Program disclosures.

In line with the commitment made within the Framework, in conjunction with preparing this Annual Report, WATC commissioned a reputable independent assurance provider to evaluate the projects funded with proceeds from the green bond and confirm on whether they:

- Met the use of proceeds and eligibility criteria defined in the Framework; and
- Reported on at least one key performance indicator for each ICMA Green Bond Principles use of proceeds category defined in the Framework.

The Assurance Report provided by global ESGresearch firm Sustainalytics confirmed the allocation of issuance proceeds from the green bond as of 31 October 2024 has met these requirements. As Sustainalytics concluded, "...nothing has come to Sustainalytics' attention that causes us to believe that, in all material respects, the Nominated Expenditures do not conform with the use of proceeds criteria and reporting commitments in the Framework."

## Appendix: Green Bond **Project Pool** Detailed Descriptions

The phasing out of State-owned coal-fired power generation is on track to be achieved by 2030. This will enhance the environmental outcomes achieved by other projects in the green bond project pool that will be operating on a progressively decarbonised electricity grid.



**APPENDIX** 

	Wind Farms	9
Renewable Energy	Stand-alone Power Systems	2
	Solar Schools Program	9
	Large Scale Batteries	2
Energy Efficiency	Advanced Metering Infrastructure	2
	LED Streetlights	9
	METRONET	9
Clean Transportation	Electric Vehicle Initiatives	9
	Active Transport Infrastructure	2
Sustainable Water	Renewable Energy Powered Desalination Plant	P







Taking advantage of advancing technology through the installation of new wind farms is a key component of the Western Australian Government's expansion of renewable energy generation capacity on the South West Interconnected System (SWIS) to aid phasing out of State-owned coal-fired power generation in accordance with the following indicative schedule.

#### Timeline for phasing out of State-owned coal-fired power generation









- Muja C Power Station will be in reserve outage mode to April 2025.
- These dates are subject to required approvals and may be influenced by several factors.

  Plant retirements will be part of a responsible staged plan that supports system stability and reliability.

Key components of this expansion within the green bond project pool include the installation of two wind farms at the strategic locations.

## King Rocks 1



Located in Western Australia's Wheatbelt region, planning is well advanced for installation of a facility with up to 150 MW generation capacity comprising up to 30 wind turbines with towers up to 150 metres tall and turbine blades of up to 90 metres long bringing the total height of each wind turbine to around 240 metres. Construction is expected to commence in 2025 and once operational, expected by the end of 2026, is projected to generate sufficient power to meet the annual needs of up to 100,000 average homes in Western Australia. The site's strategic selection was based on strong overnight winds, complementing photovoltaic solar systems generation during the day when the sun is shining, and its proximity to existing transmission infrastructure facilitating cost and production efficiencies. Moreover, the project design emphasises environmental preservation, allowing the retention of pockets of vegetation and minimal disruption to the site's low intensity agricultural usage.





## Flat Rocks 1



Located in Western Australia's Great Southern region and expected to consist of up to 24 wind turbines. Flat Rocks Wind Farm Stage 2 is currently being developed with work progressing on engineering design, environmental approvals, grid connection planning and community engagement.









#### Western Australia's State-Government owned wind farms



SOUTH WEST INTERCONNECTED SYSTEM



**NEW WIND FARM** 



WIND FARM











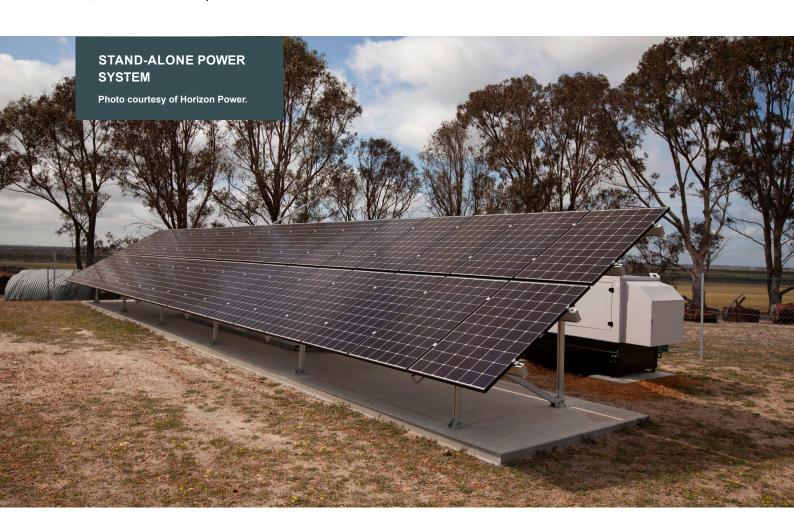




Western Australia has one of the largest isolated electricity networks in the world which presents challenges for providing customers with reliable and safe power, while also bringing more renewables onto the grid. To address this, Stand-alone Power Systems (SPS) have redefined power delivery in regional and remote areas of Western Australia. The Western Australian Government-owned utilities have taken the lead globally in replacing conventional pole and wire infrastructure with this innovative, renewable-based technology.

Each SPS consists of solar panels, a PV inverter, battery storage and where required back-up diesel generation. These units come in different sizes to meet individual customers' energy requirements. Initial systems rolled out in a pilot program were designed to ensure a minimum of 75 per cent of renewable generation, with performance data indicating this was comfortably achieved. Advances in technological functionality has enabled current system design being targeted to achieve up to 90 per cent renewable generation.

The success of the pilot program paved the way for an ambitious plan to deploy up to 4,000 SPS across the fringes of the South West Interconnected System (SWIS) and other non-interconnected isolated towns such as Carnarvon, Esperance and Exmouth over the coming decade and enable the progressive decommissioning of approximately 15,000 km of overhead powerlines.



ONGOING PURPOSE OF SBF





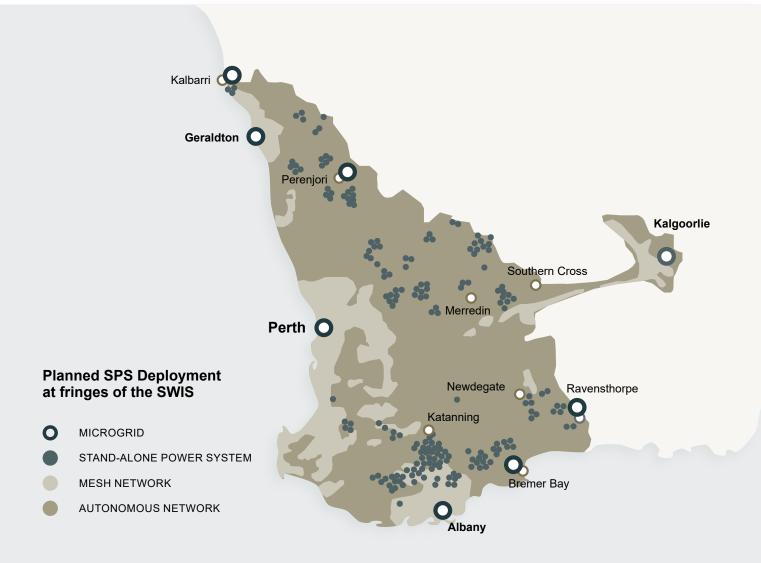
PROJECT SUMMARIES





#### Social co-benefits

In addition to providing cleaner energy, SPS also improve reliability with power outages reduced by more than 85 per cent for SPS converted customers over both the 2022-23 and 2023-24 financial years. This benefit arises through SPS enabling the removal or reduction of common disruption causes such as line maintenance and environmental factors, for example wind, rain, vegetation contact, lightning and bushfire. The risk of bushfire has also been reduced by decommissioning overhead powerlines, with over 750 km removed through the program so far to 30 June 2024.



### RENEWABLE ENERGY

## Solar Schools Program •





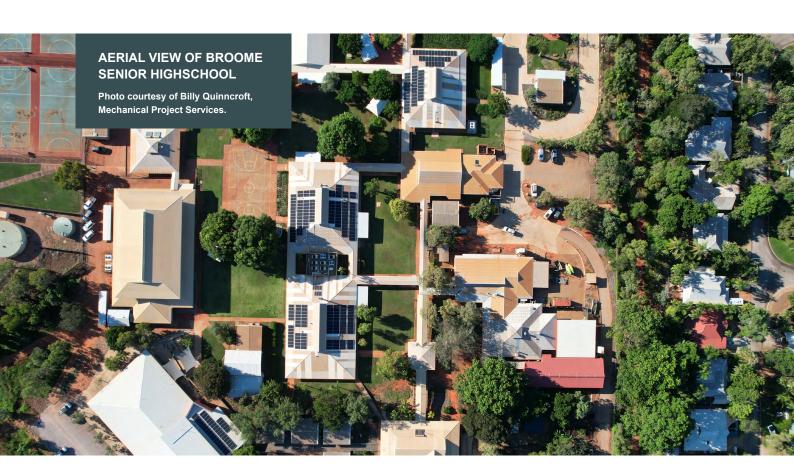


Stage 2 of the Solar Schools Program will deliver cleaner, green energy solutions for 35 public schools located predominately in the Kimberley and Pilbara regions of northern Western Australia, building on the success of Stage 1 delivered in regional areas across the State. Energy requirements, particularly from air conditioning, can be significant in the Kimberley and Pilbara regions where temperatures regularly exceed 40°C.

This initiative will be completed by the end of 2024 and is expected to reduce greenhouse gas emissions by up to 1,000 tonnes per year through installation of approximately 1.2 MW of combined rooftop and ground mount solar across 35 schools. For the largest system in the program consisting of 499 solar panels already installed at Broome Senior High School, savings in electricity costs are estimated at \$350,000 annually. Savings across the entire program are expected to be around 24 per cent.

#### Social co-benefits

The Solar Schools Program extends its impact to education by offering science, technology, engineering and mathematics or 'STEM' learning resources to students. The materials are developed to cater to the diverse levels of student literacy in collaboration with the Science Teachers' Association of Western Australia, and encourages students to have hands-on fun while learning about solar and other energy topics. The program employs regionally-based personnel which includes a commitment to Aboriginal employment, including trainees.







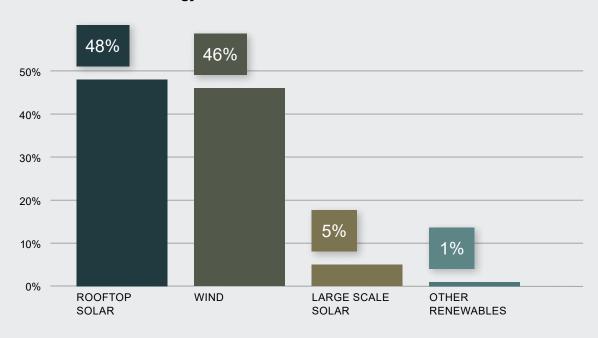


The Western Australian Government has committed to phasing out State-owned coal-fired power generation by 2030 and will invest in wind and storage projects to replace this capacity. Additionally, household rooftop solar is making a major contribution with over 40 per cent of households having already installed systems which is projected to increase to around 50 per cent by 2030.

Supporting the delivery of energy firming technology is critical in enabling the continued uptake of residential rooftop solar and encouraging investment in large scale renewable energy infrastructure. On sunny autumn or spring days, rooftop solar production is high while overall consumption can be low which results in instability in the grid. The Western Australian Government's **Energy Transformation Strategy** supported by detailed modelling in the **Whole** of System Plan and SWIS Demand Assessment highlights the need for significant energy storage to support the State's shift towards a more sustainable energy future.

Battery Energy Storage Systems (BESS) can store excess renewable energy when generated and release it as required. They can respond rapidly to changes in demand compared with other generation technologies, helping to smooth the volatility caused by either intermittent renewable generation sources or other changes to energy generation or grid demand. BESS plays a crucial role in keeping the electricity system stable and aiding the transition to significantly increase renewable electricity in the system.

#### SWIS Renewable Energy Sources 2023–24



Source: Australian Energy Market Operator.





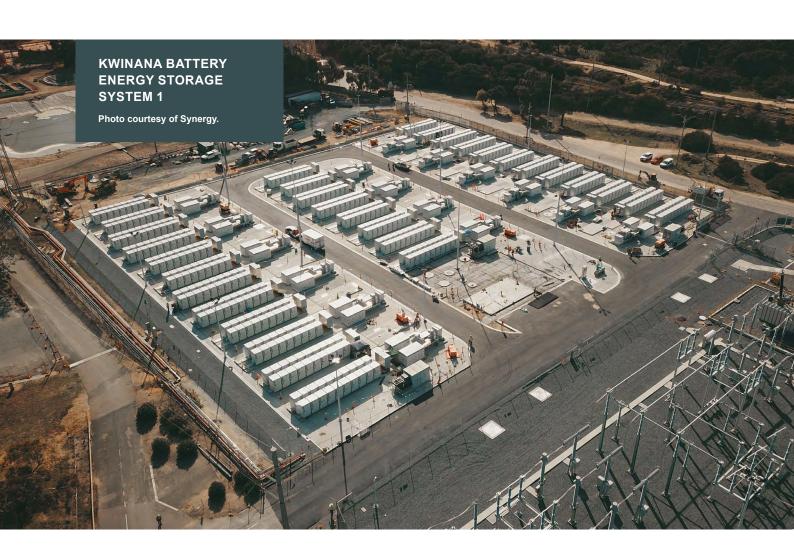


## **Battery Energy Storage Systems**

The green bond project pool currently includes a number of Western Australian Government Battery Energy Storage Systems (BESS) projects.

#### Kwinana Battery Energy Storage System 1 (KBESS1) 100 MW / 200 MWh

Located at the former coal-fired Kwinana Power Station site, KBESS1 is the first transmission connected battery energy storage system in the SWIS, achieving commercial operation in September 2023. It has the potential to power approximately 160,000 average Western Australian homes for two hours, helping to stabilise the electricity grid by absorbing excess solar power during the day and discharging it in the evening. Since becoming operational, KBESS1 has been achieving this objective, withdrawing on average 275 MWh per day (mostly during the daytime) and distributing on average 231 MWh per day (mostly during the evening).









#### Kwinana Battery Energy Storage System Stage 2 (KBESS2) 200 MW / 800 MWh

Adjacent to the operational KBESS1, this second battery has four times the duration and efficiency improvement over KBESS1 through the application of new-generation technology for the system's 72 inverter units. Construction of KBESS2 commenced in mid-2023, supported by a local contractor creating up to 160 local jobs. As of July 2024, commissioning has commenced with facility testing scheduled for October 2024. KBESS2 is expected to be operational by the end of 2024.









#### Collie Battery Energy Storage System (CBESS) 500 MW / 2000 MWh



Located in the historical town of Collie, 200 km south-east of Perth where State-owned coal-fired power stations will be phased out by 2030, this project will benefit from utilising existing network infrastructure. The CBESS is designed with a capacity of 500 MW / 2000 MWh, making it one of the biggest in the country with a layout of 150,000 m<sup>2</sup>, equivalent to eight full-sized football ovals or 10 times the amount of storage of KBESS1.

Following the award to a local contractor, site-preparation works were completed in May 2024 allowing main construction works to commence that will utilise 640 containerised batteries, 160 inverters and 260 km of high voltage cables. CBESS is expected to be operational by the end of 2025 and is a key component in the delivery of the Western Australian Government's Energy Transformation Strategy supporting its 2030 emissions reduction target.

#### Collie - Just Transition Plan



The CBESS project will play a key role in facilitating the transition to renewable energy, but also in supporting Collie's economy by creating more than 500 jobs during the peak of construction. The town's transition is aided by the Collie Just Transition Plan, which aligns with the internationally renowned Just Transition Framework that focuses on supporting workers, industries and communities in the shift from carbon-intensive industries.



## **ENERGY EFFICIENCY**



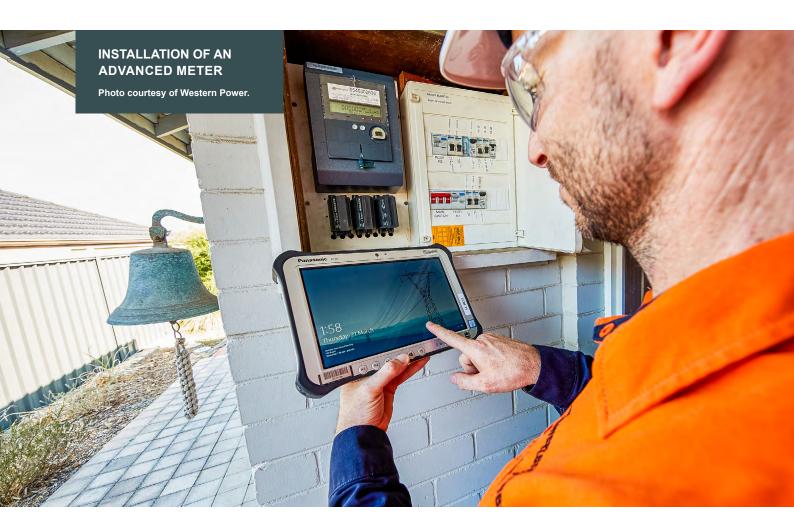






The Advanced Metering Infrastructure (AMI) project is seeking to install over 1.2 million advanced meters by 2027, covering over 99 per cent of the South West Interconnected System (SWIS). AMI enables more efficient usage of rooftop solar thereby supporting its continued expansion among Western Australian households and businesses. Rooftop solar is projected to increase from an already significant penetration of over 40 per cent to 50 per cent by 2030.

Access to advanced meter data not only empowers Western Australians to better manage their energy consumption and reduce their power costs, it also facilitates the adoption of emerging electric technologies including community batteries, microgrids, embedded networks and electric vehicles. As of the end August 2024, 746,821 advanced meters have been installed on the SWIS, covering approximately 61 per cent of the network.









The Western Australian Government is aiming to replace all standard streetlights with LED lights on local road networks within the South West Interconnected System (SWIS) by 2035.

There are over 288,000 streetlights across the SWIS network and as of the end of August 2024, 73,652 streetlights or approximately 25 per cent of the fleet have been converted to LED, providing an estimated reduction in energy usage of 66 per cent. For the 2023-24 financial year this has resulted in an estimated reduction in energy consumption across the street light fleet of 18 GWh, translating to an avoidance of 9,192 tCO2-e. Once completed, it is estimated the LED replacement program will reduce greenhouse gas emissions by more than 33,000 tCO2-e per year with the added benefits of significantly reducing community energy costs, removing mercury from the environment and reducing waste.







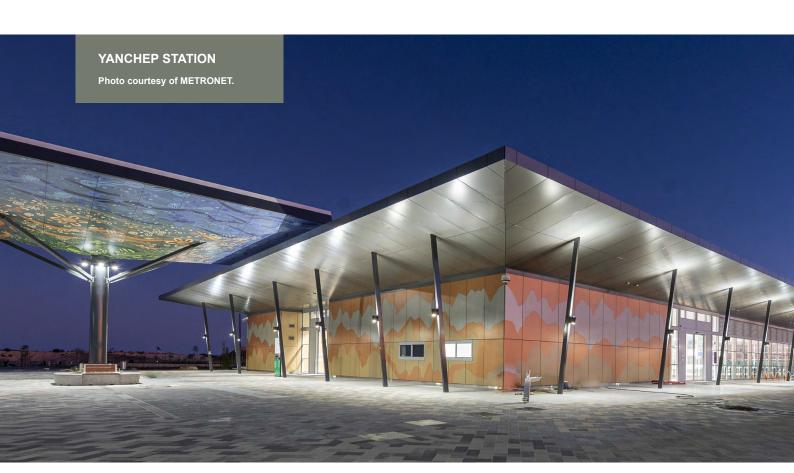
METRONET is the single largest investment in electrified public transport Perth has seen, expanding the existing metropolitan rail network by approximately 40 per cent with 72 km of new passenger lines and 23 new stations. METRONET represents the Western Australian Government's vision to integrate transport with urban planning to support sustainable growth in Perth over the next 50 to 100 years. This includes facilitating higher density housing close to stations, with provision for social and affordable housing.

### Implementation progress and patronage

Implementation is progressing well, with 8 of the 23 new stations commissioned as of 30 September 2024, facilitating the opening of the following new passenger lines:

- The 8.5 km Forrestfield-Airport Link, connecting Perth Airport to the metropolitan rail network.
- The 14.5 km northern corridor Yanchep Rail Extension, linking to the existing rail network to provide 127 km of direct rail line through to the City of Mandurah, south of Perth.

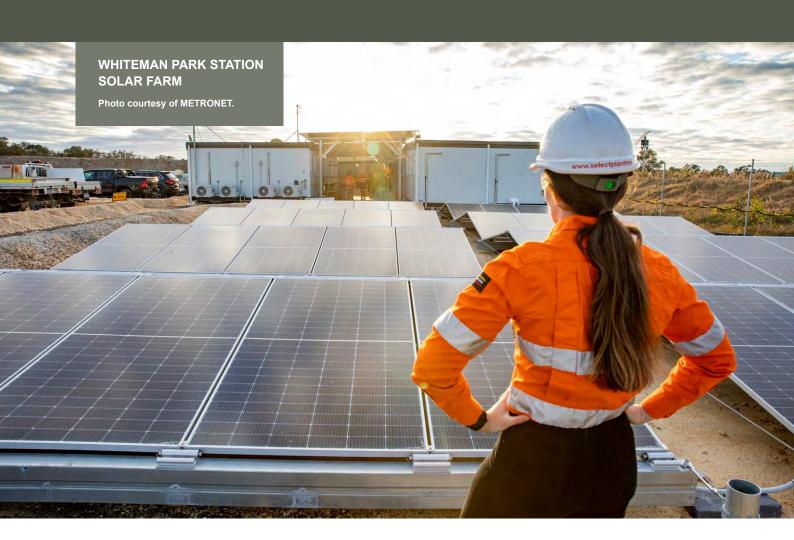
Patronage on the extended line including the new Forrestfield-Airport Link, which opened in October 2022, increased by 29 per cent for the comparable nine-month period in the 2023–24 financial year. This positive community response to the new infrastructure was also reflected in the overall use of the metropolitan public rail network that increased by 12 per cent to 59.7 million passenger trips over the 2023–24 financial year.











#### Broader environmental and social co-benefits

Sustainability is considered and embedded consistently across the METRONET program of works. This is supported by the **METRONET Sustainability Strategy**, which sets environmental and social targets within procurement including Infrastructure Sustainability Council (ISC) and Green Star targets, as well as outcomes aligned to the United Nations Sustainable Development Goals.

A number of notable sustainability outcomes have been achieved through METRONET projects so far including:

- The new Forrestfield-Airport Link achieving the highest sustainability rating of 'Leading' from the ISC.
- NEWest Alliance, responsible for delivering the Yanchep Rail Extension and Thornlie-Cockburn Link projects, awarded a winner in the Environmental Achievement category of the Civil Contractors Federation WA Awards 2023.
- The Morley-Ellenbrook Line Project achieved an ISC 'Gold' rating for Design.
- The diversion of 99 per cent of construction and demolition waste from landfill associated with works for the 8 new stations and 23 km of rail completed.
- The installation of 402 kW of photovoltaic solar at METRONET stations, together with Western Australia's first 50 kVA hybrid solar battery used in construction to help power the Whiteman Park Station.





#### Aboriginal engagement

Updated in July 2024, the METRONET Gnarla Biddi Aboriginal Engagement Strategy builds upon the 2018 strategy to reflect changes in State Government policy and the involvement of the South West Aboriginal Land and Sea Council (SWALSC) arising from the landmark South West Native Title Settlement in 2021. Developed in consultation with the METRONET Noongar Reference Group and SWALSC, the updated strategy:

- Focusses on a long-term commitment to embed genuine engagement with the Aboriginal community, and to contribute to the delivery of enhanced place and project outcomes while achieving significant community, social and economic benefits through cultural contribution and participation.
- Guides the implementation of Aboriginal engagement initiatives throughout the planning, design and delivery of the METRONET program of works.

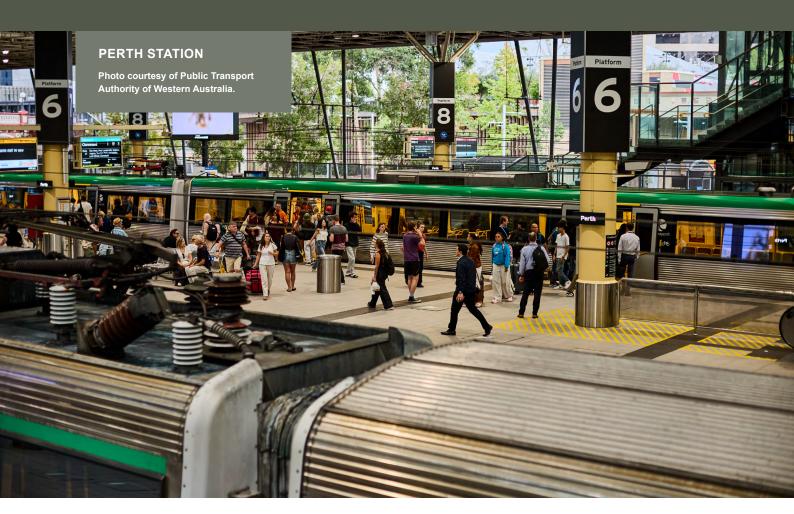
Minimum targets are set across five engagement streams, facilitating cultural, procurement, employment and land access / sites management outcomes for the Aboriginal community. Aboriginal engagement outcomes achieved during the 2022–23 financial year include:

- Total Aboriginal business spend: \$36.4 million or 3 per cent
- Total Aboriginal participation hours: 280,718 or 4.7 per cent.









### Reducing public transport cost

In January 2022, a two-zone capped fare was introduced, replacing the previous nine-zone system that progressively increased fares for longer travel. The outcome from the capped fare system is that travel from approximately 10 km to over 100 km now costs the same, encouraging increased public transport usage and providing savings of up to 60 per cent for passengers living in outer suburbs, easing cost-of-living pressures.

Further initiatives to reduce cost-of-living pressures and enhance network usage since June 2023 have included:

- Ride to School Free Program, providing free public transport for travel to and from school Monday to Friday for those who hold a valid Student SmartRider card.
- Fare Free Sundays, available to passengers with a valid SmartRider card was introduced in June 2023 for a twoyear period, to encourage public transport usage on weekends, supporting local hospitality and entertainment businesses.
- Summer of Free Public Transport, from 24 December 2023 to 28 January 2024 for all SmartRider users.
- Ongoing community education programs for diverse and vulnerable users to assist them with navigating the public transport system.











## Electric Vehicle Initiatives 1





Western Australia's electric vehicle (EV) charging network, known as the WA EV Network is a key component of the Western Australian Government's Electric Vehicle Strategy and will be the longest in Australia, connecting more than 7,000 km across all parts of the State. The network will provide fast-charging stations at 49 locations across the State averaging less than 200 km apart, with 150 kW chargers taking as little as 14 minutes to charge a vehicle. It will facilitate travel north from Perth to Kununurra, along the south west coast to Esperance, east to Kalgoorlie and through to the South Australian border becoming one of the world's longest EV charging infrastructure networks.

As of the end of September 2024, 42 of the 49 planned charging locations were operational providing a total of 114 charging ports. During the 2023–24 financial year, the growing network distributed approximately 558 MWh of energy, enabling around 3.3 million km of travel with EV usage avoiding an estimated 609 tonnes of tailpipe greenhouse gas emissions. The delivery of the charging network is effectively supporting growth in EVs in Western Australia, with EV registrations more than doubling in the year to March 2024.

The entire network is expected to be fully operational by the end of 2024, and will be supported with other complementary initiatives such as further installation of EV charging ports at selected major metropolitan train station carparks and grants to support local governments, not-for-profits and small and medium businesses to install charging infrastructure.



## Electric Vehicle Initiatives 1





### Incentivising EV purchase

The Western Australian Government's Zero Emission Vehicle Rebate program, launched in May 2022 to incentivise the uptake of electric vehicles, is continuing. The program provides \$3,500 rebates for new EV purchases with a value of \$70,000 or less.

During the 2023–24 financial year, a total of 5,463 rebates were awarded to a value of \$19.1 million. This represented a 350 per cent increase on the 2022-23 financial year demonstrating the positive impact the rebate program is having on contributing to the increased usage of EVs on Western Australian roads.



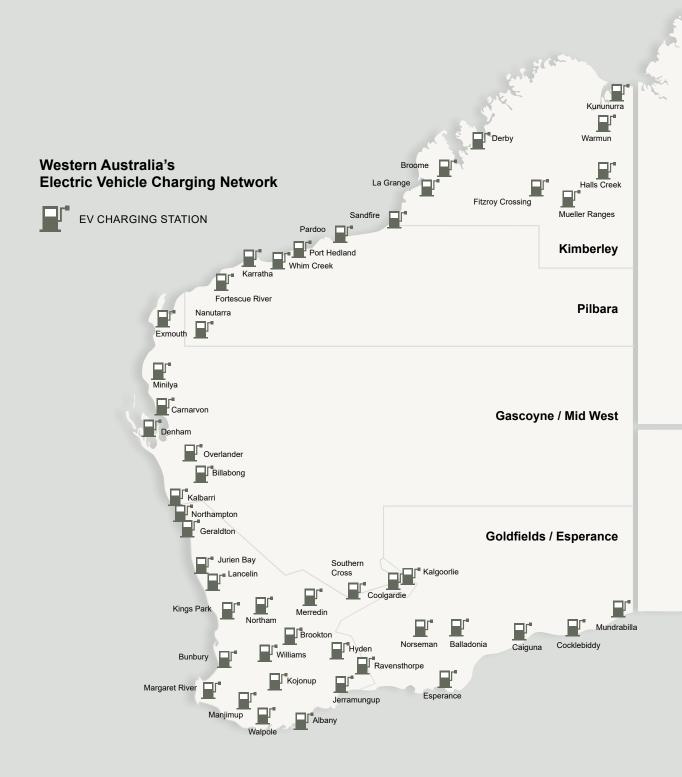


ONGOING PURPOSE OF SBF

## Electric Vehicle Initiatives







## Active Transport Infrastructure





The Western Australian Government is investing in active transport infrastructure to deliver an integrated network of safe, comfortable, high-quality paths for people of all ages and abilities to walk, wheel and ride. The aim is to connect activity centres, such as Perth's Central Business District (CBD), schools, and stations to make active travel a safer, more convenient and widely accepted form of transport, with minimal interruption from other traffic. Specific projects in the green bond project pool are detailed below.

#### Principal Shared Path (PSP) Expansion Program (1)



This program is extending and upgrading high-quality walking and riding routes to enable longer, more direct trips, with minimal interruption from other traffic, in high commuter corridors. Through to 2024, the focus has been on completing the PSP network within 15 km of the Perth CBD. Some PSP projects are delivered alongside the METRONET program of works to provide an integrated network of clean transportation.



## Active Transport Infrastructure





During the 2023-24 financial year, 7 km of PSP and other shared path infrastructure was delivered through the PSP Expansion Program and associated major projects, including 4.3 km of PSP delivered through the *Tonkin* **Gap** project. This completed a long-term network gap, which ultimately enables people to ride more than 130 km on a continuous, uninterrupted route from Mandurah to Muchea.



## Active Transport Infrastructure





### Causeway Pedestrian and Cyclist Bridges (i)



Construction of a dedicated six-metre wide segregated path across the Swan River is providing further opportunities for clean transport into Perth's CBD. The segregated path, that includes two new bridges, will alleviate growing pressure on the existing shared path used by more than 3,000 people every day that is no longer fit for purpose. With user numbers predicted to rise as Perth's population continues to grow, this dedicated walking and riding infrastructure will improve safety by completely separating path users from traffic.

Construction of the bridge structures is now complete, with works underway to fit out the bridges, and construct the precinct and activation works, including linking paths, lighting, artworks and landscaping. The bridge structures were fabricated locally, having been designed in consultation with the Matagarup Elders Group, drawing inspiration from the significance of the area to the Aboriginal Noongar people. Construction techniques used minimised impacts on the surrounding environment including marine, bird and land animals.



#### **SUSTAINABLE WATER**







## Renewable Energy Powered **Desalination Plant**

The Western Australian Government pioneered understanding of how climate change could impact the security and quality of the State's water supply, being the first State in Australia to develop large-scale demand management and water supply initiatives. This has enabled significant diversification in water supply sources to be achieved over the past 20 years, in particular through seawater desalination plants, as a rapidly drying climate continues to reduce streamflow to metropolitan dams and recharge to groundwater aquifers.

With this trend certain to continue, recent detailed evaluation of the most effective forms of climate-independent water sources identified a need for significant expansion of seawater desalination and groundwater replenishment schemes.

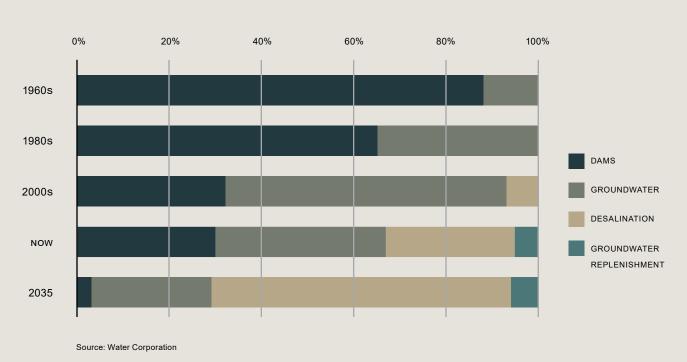
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### Net-zero Scope 1 and 2 greenhouse gas emissions during construction and operation

The next seawater desalination plant will be located in Alkimos, 40 km north of Perth. The first stage of this project will deliver a 50 GL capacity facility by 2028. As part of the Western Australian Government's commitment to achieve net-zero emissions from its direct activities, this new desalination plant will achieve net-zero scope 1 and 2 emissions during all phases of construction and operations.

#### **Greater Perth Water Sources**



**SUSTAINABLE WATER** 



## Renewable Energy Powered **Desalination Plant**





Given the energy-intensive nature of operating a desalination plant, most emissions will fall under scope 2. To address this, the Western Australian Government intends to secure 400 MW of renewable energy from local renewable projects to power this new plant and the two existing metropolitan desalination plants by 2035.



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