

Climate change and sustainability



Today's investment decisions must identify and balance environmental, social and economic outcomes to ensure infrastructure is sustainable and equitable for future generations. Infrastructure decisions should seek to avoid and mitigate any negative impacts and align to a **net zero emissions future**.



What IWA heard

During consultation on the draft strategy, a significant number of stakeholders highlighted the importance of addressing climate change and infrastructure sustainability issues. Stakeholders supported the reduction of greenhouse gas emissions to net zero by at least 2050, with many calling for a more ambitious time frame, interim targets, legislation, guidance and sufficient funding. The Strategy now calls for the strengthening of the current net zero by 2050 aspiration to become a firm target and for the establishment of interim targets.

The pressure climate change is having on WA's coastal areas was also raised, and there were calls for the WA Government to provide a greater infrastructure response to coastal erosion and inundation. The Strategy now acknowledges the vulnerability of coastal infrastructure and recognises the existing coastal adaptation programs.

Feedback also called for wider consideration of environmental protection and enhancement, particularly limiting native vegetation loss, and some stakeholders sought greater incorporation of blue and green infrastructure. Several stakeholders highlighted the need for better environmental and heritage information to understand and monitor the cumulative impact of infrastructure and to inform the infrastructure decision-making process. A new recommendation on environmental information has been included to inform infrastructure decision-making in priority locations.

Infrastructure has the potential to decrease impacts on the environment as well as introduce new pressures on it. This has been considered in the development of the Strategy. This is reflected in the priority and prominence given to infrastructure that accelerates progress towards net zero greenhouse gas emissions, renewable energy and the sustainable management of water resources, recognising the crucial threat that climate change poses not just to the natural environment but also to wellbeing and the economy. The Strategy is also mindful of the need to minimise the impacts of infrastructure on the environment, such as the generation of waste, habitat loss, pollution and the loss of amenity and cultural heritage. Further, planning for new infrastructure should recognise opportunities to enhance the delivery of environmental outcomes, such as clean water and air, amenity and cultural connection. The Strategy also anticipates that infrastructure must be resilient to the changes in the environment resulting from a changing climate.

Climate change and global warming are 2 of the most pressing matters of our time. This was reinforced in the Intergovernmental Panel on Climate Change *Sixth assessment report*, which found that unless there are rapid and large-scale reductions in greenhouse gas emissions, limiting warming in line with the Paris Agreement will be beyond reach.¹ Under the Paris Agreement, much of the international community, including Australia, committed to take actions to limit global warming to well below 2°C, preferably 1.5°C, compared to pre-industrial levels.²

Across Australia, this has been followed by jurisdictions setting net zero greenhouse gas emissions reduction targets.³ Each jurisdiction has taken a different approach on the timing of the net zero targets, with some supporting their position through interim targets or dedicated legislation.⁴ The WA Government has established a long-term policy of economy-wide net zero emissions by 2050, but has not yet set interim targets or formalised emission reduction targets through legislation.⁵ This mirrors the Australian Government's position, established in advance of the 2021 COP26 in Glasgow. Many private sector companies are now setting their own interim and net zero targets to leverage the significant opportunities of a low emissions economy.



The time is now

WA's industries and trading partners are moving fast to reduce emissions, driven by corporate responsibility and, increasingly, the financial risks of inaction.

Infrastructure that is not prepared for a net zero emissions future risks loss of value and restricted finance. Unless rapid progress is made, WA risks losing global investment opportunities, as financiers and industry look elsewhere for greater certainty, action and risk mitigation. State agencies and government trading enterprises (GTEs) should embed targets set by the WA Climate Policy in the infrastructure decisions and operations of today to meet long-term goals.

Outcomes from the 26th United Nations Climate Change Conference of Parties

The 2021 United Nations Climate Change Conference of Parties (COP26) conference was the biggest climate change summit in the last 5 years. The summit produced a 10-page agreement known as the Glasgow Pact.⁶ The Glasgow Pact is a follow-up to, and does not change, the structure of the 2015 Paris Agreement. The Glasgow Pact requires each signatory country to determine how it will reduce greenhouse gas emissions through legislation, policies and targets. While the Glasgow Pact is voluntary and not legally binding, each country's commitment is on the record. Any party not implementing directions detailed in the Glasgow Pact will come under domestic and international scrutiny.

There are several items in the Glasgow Pact that relate to this Strategy and infrastructure sectors. This includes requesting each country, head of states and government to:

- revisit and strengthen the 2030 emission reduction targets by the end of 2022 to align with the Paris Agreement temperature goal
- work with the private sector to accelerate sectoral action by 2030
- accelerate technological and policy development to transition towards low emission energy systems, including rapidly scaling-up clean power generation and energy efficiency measures, phasing-down coal power and inefficient fossil fuel subsidies, and recognising the need for support towards a just transition
- increase pledges to the Climate Finance Delivery Plan to reach the US\$100 billion goal to assist developing countries to decarbonise and adapt to climate change impacts
- provide additional financial support to developing countries to cover the 'loss and damage' caused by climate impacts that cannot be adapted to.

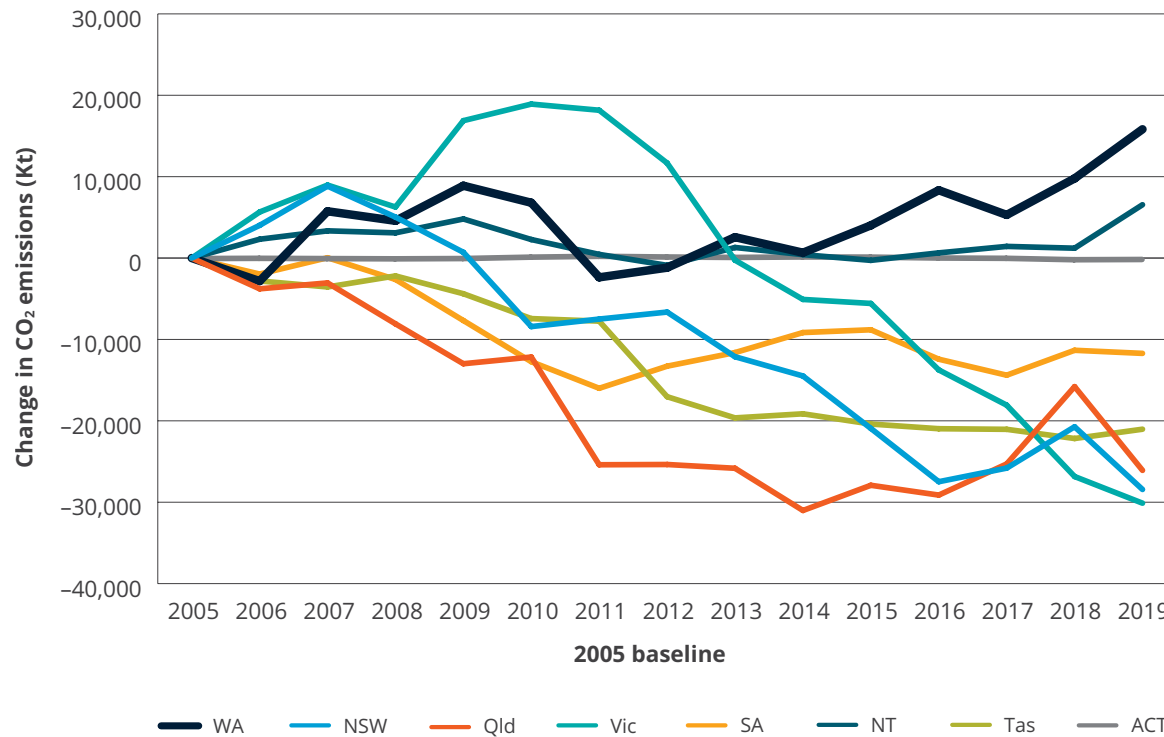
This Strategy calls for the WA Government to strengthen the current net zero emissions by 2050 aspiration to become a firm target and establish interim emissions reduction targets, and for these to be embedded in the activities of government and industry. The Strategy also highlights the need to accelerate decommissioning of coal-fired power (subject to the outcomes of new modelling) and the importance of a just transition for impacted communities.



For WA, reducing its emissions to achieve net zero emissions by 2050 is both a challenge and an opportunity. As shown in Figure 22, several jurisdictions have begun decarbonising their economies, despite population and economic growth.⁷ Since 2005, WA's emissions have increased by 20.8% (Figure 22), primarily attributed to production expansion in the resources industry.⁸ WA's transport emissions have also increased, driven by a growth in population and vehicle numbers.⁹

There is considerable opportunity for WA to meet the net zero emissions by 2050 target while ensuring the state's economy continues to remain strong and competitive. WA has access to some of the best renewable energy resources in the world, and has the land mass to support the footprints

Figure 22: Change in Australian jurisdictional emissions¹⁰



required by the sector.¹¹ By harnessing these resources, industries can transition to clean energy and produce low-carbon exports. As trading partners seek to meet their own emission reduction targets, low-carbon exports are expected to increase in demand. While reducing emissions should be a priority, the state is also in a strong position to capitalise on its vast geography to lead carbon farming and support a market for carbon sequestration.

With around 70% of Australia's emissions associated with infrastructure-based projects, infrastructure has a very large role to play in meeting the net zero emissions by 2050 target.¹² Using the 4 pillars of decarbonisation (Figure 23), a range of emissions reduction actions should be taken across sectors.¹³ This includes:

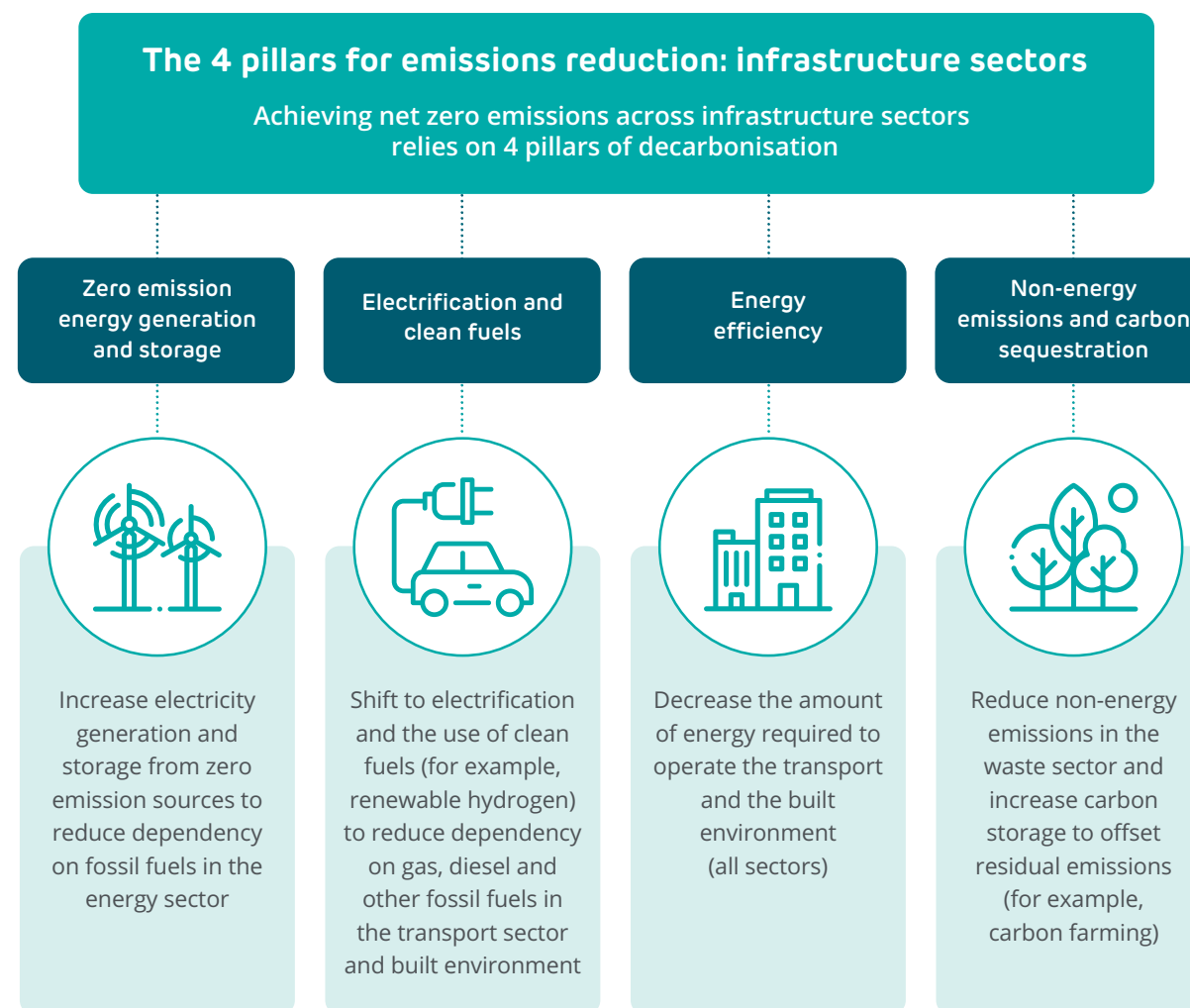
- transitioning energy generation to renewables, adopting renewable energy storage and influencing energy demand (see the Energy chapter)
- supporting the uptake of electric vehicles, transitioning private vehicles, public transport and freight to clean fuels, and shifting to more sustainable transport modes (see the Transport chapter)
- improving sustainability and efficiency performance in the built environment
- reducing non-energy emissions in the waste sector (see the Waste chapter) and increasing carbon storage to offset residual emissions.

Infrastructure policy and decision-making processes should focus on these areas to ensure state agencies and GTEs are leading the transition to net zero emissions by 2050. While there are upfront capital costs associated with infrastructure emissions reduction, low-carbon technologies are, in many cases, becoming more cost-effective than fossil fuel-related alternatives.¹⁴ Reducing emissions through energy efficiency also reduces infrastructure operation costs for state agencies, industry, businesses and the wider community. A recent example is the Greener Government Buildings program by the Victorian Department of Treasury and Finance. Since its establishment in 2009, the program has facilitated 35 energy efficiency and renewable energy initiatives, achieving annual savings of \$27 million and abating 132,000 tonnes of emissions per year.¹⁵

Adapting to the impact of climate change on infrastructure is equally as important as reducing infrastructure emissions. Adaptive strategies for infrastructure assets can include:

- reducing the vulnerability to, and likelihood, of impacts (for example, including infrastructure protection measures and relocation)
- increasing the resilience (reducing the consequence) of impacts on infrastructure (for example, increased maintenance and urban greening).

Figure 23: Four pillars of decarbonisation¹⁶

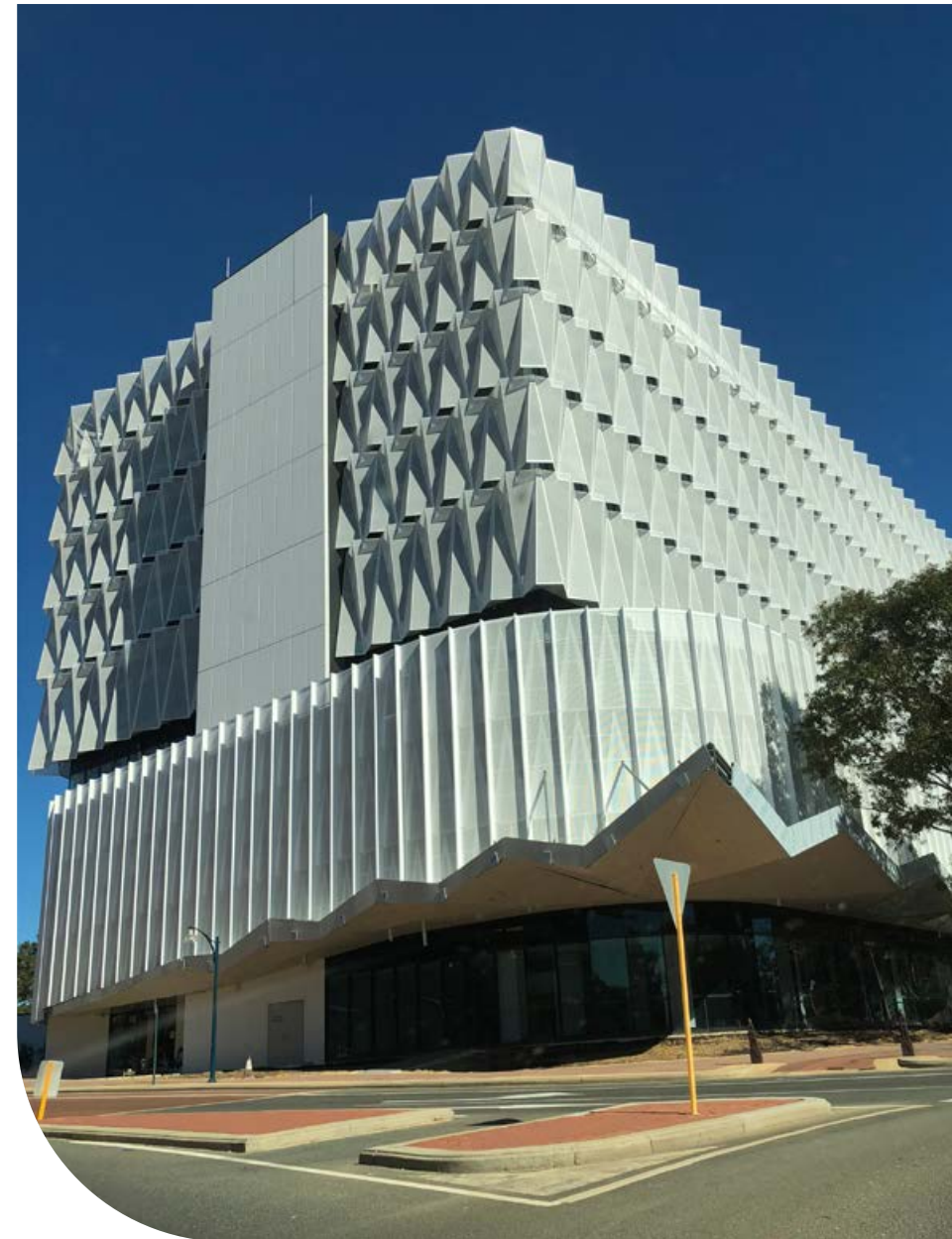




Essential infrastructure in sectors such as housing, transport, energy and water is potentially at risk from sea-level rise, coastal inundation, intensifying weather events and bushfires. **State agencies and GTEs have an important role to perform** in understanding and planning for the potential impacts on its assets, as well as working with stakeholders to build adaptive capacity more broadly.

Built environment energy efficiency and the National Construction Code 2022

Today's planning, design and investment decisions for long-life infrastructure must be made in the context of a net zero emissions future. One of the simplest and most cost-effective ways to reduce emissions in government operations is improving energy performance in the built environment. The WA Government can show leadership and drive change through the buildings and assets it owns, leases and constructs by progressively increasing and exceeding minimum energy efficiency and other sustainability standards (for example, the Nationwide House Energy Rating Scheme or the National Australian Built Environment Rating System star ratings for built assets) and establishing energy efficiency retrofitting targets for existing assets. For the wider building and property industries, change can be achieved by adopting the National Construction Code 2022 without delay, which will set higher energy efficiency standards for residential buildings. This will align WA's standards with other leading jurisdictions. Government projects should be early adopters of the code, with information on costs and benefits shared with industry to build confidence in the transition.





Governance

Climate policy and assessment

In 2020, the WA Government released the WA Climate Policy, which includes a commitment to working with all sectors of the WA economy to achieve net zero emissions by 2050.¹⁷ The policy outlines actions to support emissions reduction and enhanced climate resilience. The Department of Water and Environmental Regulation is responsible for coordinating the suite of actions, with implementation actions distributed across a range of state agencies and GTEs. In the absence of climate change legislation, government-led climate action relies on the initiatives set out in the policy. Implementation of these actions will be guided by the recently established Ministerial Taskforce on Climate Action and is supported by the

\$750 million Climate Action Fund announced in the 2021–22 State Budget. The fund includes renewable energy and renewable hydrogen initiatives, an expansion of the state's softwood plantation estate, activities to create climate resilient communities and carbon innovation grants.

When considering the emissions of infrastructure proposals, the Environmental Protection Authority is guided by the WA Government's *Greenhouse Gas Emissions Policy for major projects*, which includes an aspiration for the state to reach net zero emissions by 2050.¹⁸ The Environmental Protection Authority's *Environmental Factor Guideline: greenhouse gas emissions* outlines how and when the greenhouse gas emissions factor is considered in the environmental impact assessment process.¹⁹ Major project proposals (both government and private industry-led) assessed under the *Environmental Protection Act 1986*,



likely to result in over 100,000 tonnes of Scope 1 emissions, require a greenhouse gas management plan, including interim and long-term targets consistent with the WA Government's target.

Climate change adaptation planning has also begun to be reflected in a number of policies and initiatives across state agencies and GTEs, such as responding to a drying climate in the water sector and adapting to increased risks of sea-level rise and bushfires through state planning policies. In 2020, the Department of Health completed the Climate Health WA Inquiry to investigate the implications of climate change on health, which took into account infrastructure considerations.²⁰ The departments of Treasury, and Water and Environmental Regulation are developing a climate risk framework to enhance management of climate risks across the public sector. This framework will guide the monitoring, assessment and reporting of climate risks associated with the state's finances, infrastructure, physical assets and service delivery.

Climate change mitigation and adaptation in infrastructure planning

In developing this Strategy, IWA undertook a review of the strategies and strategic asset plans of state agencies and GTEs. Most plans did not communicate that climate change mitigation and/or adaptation considerations had factored into infrastructure planning, project selection, design or operation. The review concluded that

some GTEs are considering climate change risks and adaptation measures, as well as being required to measure and report emissions under the National Greenhouse and Energy Reporting Scheme. However, most other state agencies did not appear to consider the impact of policies on emissions, measure emissions under their control or fully consider climate change impact risks and appropriate adaptation measures. Considering the urgency of climate change action and the level of risk posed to state assets, it is necessary for all state agencies and GTEs to address actions in the WA Climate Policy and build capability and skills in this area as a matter of priority.

Sustainability

Sustainability is commonly defined as meeting present-day needs without compromising the needs of future generations by balancing social, environmental and economic outcomes. There is currently no whole of government sustainability framework that seeks to balance social, environment and economic objectives, policies and activities across government. However, sustainability is sometimes considered at individual state agency or project levels. Sustainability certification is being applied to some major projects to improve social, environmental and economic outcomes. For example, Main Roads Western Australia (Main Roads WA) and METRONET are using the Infrastructure Sustainability Council of Australia's sustainability rating tools to guide road and rail infrastructure design.

Reporting against sustainability objectives is also undertaken sporadically and without an agreed, consistent framework. In the absence of an agreed position, DevelopmentWA has been applying the Global Reporting Initiative standards in its Annual Sustainability Report for several years to assess performance against sustainability measures.

Environmental protection and assessment

Environmental impacts from major infrastructure projects are assessed under federal and state legislation, including the *Environmental Protection Act 1986*, the *Environment Protection and Biodiversity Conservation Act 1999* (Cth), the *Rights in Water and Irrigation Act 1914* and the *Biodiversity Conservation Act 2016*. Proponents of significant infrastructure projects or planning scheme amendments must demonstrate efforts to mitigate impact to the environment and heritage, and show that those impacts are acceptable and, if necessary, can be offset.

There has been increasing public expectation around environmental protection, transparency and statutory reform following recent reviews of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth). The *Environmental Protection Act 1986* has also been amended to emphasise cumulative environmental impacts and may result in environmental approvals being more difficult to obtain.

A focus on government, state agency and government trading enterprise leadership

IWA's climate change and sustainability recommendations seek to build on the actions in the WA Climate Policy. IWA has focused on embedding and accelerating initiatives across infrastructure sectors, through setting interim targets, coordination across government, state agency and GTE leadership, changes to the infrastructure decision-making process and transparent reporting on progress.

To achieve net zero emissions by 2050 – ideally earlier – it is vital that targets are formalised (including the 'aspirational' 2050 target within the WA Climate Policy), and clear strategies and plans are established. These should outline the actions, responsibilities and timing required across government and industry sectors to progressively reduce emissions, along with modelling of the effect of these changes and emissions profiles over time. Net zero transition plans for state agencies and GTEs, coupled with sectoral emissions reduction strategies, are essential components in establishing the path forward. These tools will be critical in understanding organisations and sectors that can decarbonise quickly and those which will need greater support or regulatory oversight. With the WA Government's own energy and water utilities cumulatively contributing 7 million tonnes of Scope 1 and 2 emissions in 2019–20, there is much that can be gained by an early focus on the state's assets.²¹

Given the rapidly changing policy, regulatory and technological environment, IWA will continue to review the greenhouse gas reduction progress of both the WA Government and private industry.

Recommendations

Interim and net zero emissions by 2050 target

IWA supports the WA Government's aspiration for whole of economy net zero emissions by 2050 – ideally earlier, where it is feasible to do so. To clarify the intent for all parties, it is essential that interim targets are set that map a pathway to net zero emissions and that the 2050 aspiration is strengthened to become a firm target. There are a number of potential options for how interim targets could be set, including an economy-wide target and targets specific to each sector. A critical review should be undertaken to understand the contribution that each state agency and GTE makes to emissions reduction within its existing and planned asset base. This review should include the role of their suppliers as well as the influence that the state agencies and GTEs have on the emissions profile of other parties.

Actions from the WA Climate Policy that embed greenhouse gas reductions in state agency and GTE infrastructure assets and broader activities include:

- **net zero transition plans:** require state agencies and GTEs to develop and implement plans to transition toward net zero emissions by 2050
- **sectoral emissions reduction strategies:** evaluate opportunities for cost-effective abatement across WA's key economic sectors and develop strategies to guide emissions reduction.²²

Limited detail is provided in the WA Climate Policy about the methodology, timing or requirements for these plans and strategies. However, the process and principles for developing sectoral emissions reductions strategies has recently been announced by the WA Government.²³ There is significant potential to establish a common, transparent pathway for reducing the emissions of government and industry more broadly. Future infrastructure investment decisions could then be measured against the extent to which they align with the strategic intent.



Development of net zero transition plans and sectoral emission reduction strategies should be accelerated, with cost-effective greenhouse gas reduction actions appropriately funded and resourced. Importantly, strategies and plans to achieve net zero emissions must be reviewed and

refined over time to ensure actions are achieving intended outcomes. In this regard, state agencies and GTEs should understand their emissions through data, as well as digitise and automate the collection and analysis of this data to better inform real-time decisions.

Recommendation 10

Better inform future infrastructure requirements and align infrastructure investment with the WA Climate Policy by implementing the WA Government's policy for net zero emissions by 2050, including:

- a. strengthening the current net zero emissions by 2050 aspiration to become a firm target and establishing interim emissions reduction targets
- b. preparing and implementing net zero transition plans as required by the WA Climate Policy by an agreed deadline, that:
 - align with interim targets (once defined) for Scope 1 and 2 emissions associated with facilities under the operational control of state agencies or government trading enterprises
 - identify actions, with associated timing, for Scope 1 and 2 emissions reductions
 - include mechanisms for state agencies and government trading enterprises to report annually on progress against targets and implementation actions
 - are supported by funding, resources and public sector capability training
- c. preparing and implementing sectoral emissions reduction strategies, as required by the WA Climate Policy by an agreed deadline, that:
 - are prepared under the direction of the Department of Water and Environmental Regulation with authority of a Cabinet decision
 - clearly identify government policies and processes that impact emissions for the sector and the changes required to those policies and processes needed to give effect to the sectoral emissions reduction strategy
 - include analysis of opportunities for state agencies and government trading enterprises to influence embodied, operational and enabled emissions
 - account for enabled emissions through infrastructure design and assessment processes, and prepare infrastructure to accommodate emerging low and zero carbon technology and transitions
 - identify cost-effective emission reduction actions, along with associated requirements for funding and financing, resources and public sector capability training.

Carbon farming and sequestration

The WA Climate Policy has highlighted opportunities to capitalise on the state's significant land mass and extensive coastline to capture and store carbon in vegetation and soils (known as carbon farming).²⁴ Industries may seek to offset residual carbon emissions by purchasing carbon credits to achieve net zero targets, creating a demand for projects that can sequester carbon. WA carbon sequestration projects that remove carbon dioxide from the atmosphere can create economic value by providing locally produced carbon credits. These projects can also generate wider benefits, including landscape regeneration, empowering Traditional Owners and Custodians, biodiversity conservation and expanding existing industries.



There is also a broader opportunity for Traditional Owners and Custodians to play a role in co-managing, conserving and restoring native vegetation, and in planning for its management. This opportunity has been highlighted in the recent consultation draft of the native vegetation policy for WA.²⁵ Recently, the WA Government has announced proposed changes to the *WA Land Administration Act 1997* to introduce new and more flexible forms of land tenure, allowing for Crown and pastoral land to be used for carbon farming.²⁶

The WA Climate Policy includes various actions that contribute to carbon farming and sequestration. Existing and emerging programs include:

- Carbon for conservation initiative: led by the Department of Biodiversity, Conservation and Attractions, this program provides opportunities for carbon farming service providers to work with the state agencies and GTEs to restore degraded areas of the conservation estate.
- Carbon farming and land restoration program: led by the Department of Primary Industries and Regional Development, this program targets the uptake of carbon farming in the South West agricultural zone.
- Problem and opportunity statements: led by the Forest Products Commission, this initiative explores a 50,000 hectare expansion of softwood plantation estate in the next decade.
- Enabling access to the Australian Government's Emissions Reduction Fund: the Department of Planning, Lands and Heritage provides support for carbon farming through human-induced regeneration on pastoral leases and savannah burning (emissions avoidance) methods on Crown land in the Kimberley.²⁷

While recognising the potential impact of these measures, the WA Climate Policy has no overarching strategic approach or agreed lead state agency charged with responsibility for carbon farming and sequestration. A coordinated effort is required to ensure this opportunity is fully realised.



Recommendation 11

Assist in offsetting carbon impacts associated with infrastructure by strengthening and expanding programs outlined in the WA Climate Policy to develop carbon farming and sequestration markets, including:

- a. assigning a lead state agency to coordinate the program of works, including development of a Western Australian carbon farming strategy and carbon farming industry development plan across state agencies, government trading enterprises, and tenure types to identify and enhance the carbon farming market in WA
- b. exploring opportunities to expand carbon farming to government-managed land outside of the conservation estate
- c. supporting Aboriginal empowerment through land management and custodianship in carbon farming initiatives.

Statewide climate change adaptation

Climate change impacts on infrastructure assets will continue even if global commitments to meet emissions reduction targets are achieved. Understanding projected impacts is essential so that government and industry can respond by adapting existing infrastructure and increasing the resilience of new assets to disruptive climate-related events and chronic climate trends. This will require accurate climate science and hazard data, effective planning and appropriate infrastructure choices and design.

Key climate change adaptation actions identified in the WA Climate Policy are led by the Department of Water and Environmental Regulation and seek to embed climate science and climate change adaptation into state agencies' and GTEs' policies and operations. These actions include:

- Climate Science Initiative: funding regional climate change projections for priority regions including the north-west

- Climate Resilience Action Plan 2022–25: developing a coordinated, collaborative plan to support WA industries, cities and regions to identify and manage climate impacts and enhance climate resilience
- Pilot Sectoral Adaptation Plan: collaborating with government, industry and the community to pilot development of an adaptation plan for a priority sector.²⁸

The Department of Water and Environmental Regulation has an important role to play in working with climate science organisations to interpret impacts and provide clear, up-to-date climate change information suited to the WA context. This should inform policy direction and adaptation guidance to ensure impacts are well understood and planned for by infrastructure sectors, and in a regional context. At present, the Climate Science Initiative has only been funded to identify climate change impacts in priority regions in WA. However, climate change is impacting every region, their infrastructure and communities. Due to the complexity of climate change adaptation and cross-sector implications, there is a need for statewide coverage for the Climate Science Initiative.

Sectoral adaptation plans will be a valuable tool for government, industry and the community to develop a common understanding of future impacts and opportunities to manage or reduce climate impact risks on infrastructure. Plans should be developed for systems such as health, transport, energy, water and the built environment, and be led by the state agencies and GTEs responsible for the sector. In developing these plans, place-based stakeholders, including local government, industry and the community, need to be engaged to ensure that local knowledge is integrated into statewide adaptation planning. In particular, Aboriginal stakeholders have an understanding of the local environment and how it can adapt to climate variability and trends. In addition to looking at the macro level impacts for sectors, it is also vital that state agencies are managing their own assets, services and operations to minimise climate change risks and increase resilience. This requirement is not included in the WA Climate Policy.

A particular area of risk is greater coastal erosion and inundation associated with rising sea levels. While state planning policies governs new development, there is much existing infrastructure that could potentially be impacted.



A 2019 state government study, *Coastal erosion hotspots in Western Australia*, identified 55 locations across the state where coastal erosion is expected to impact public and private infrastructure.²⁹ The study highlights that most physical assets, in these locations, require management and adaptation actions within the next 25 years, the majority within the next 5 to 10 years.³⁰ A set of actions were recommended, including:

- state agencies providing integrated coastal planning and engineering support to local coastal managers, in addition to community education
- a statewide comprehensive review of lease arrangements to support coastal management and adaptation
- the development of more accurate methods for predicting coastal changes to inform adaptation.³¹

Recommendation 12

Better inform future infrastructure climate change risks and adaptation requirements by implementing a statewide approach for climate change adaptation to infrastructure, including:

- a. expanding the Climate Science Initiative to require statewide coverage and update it regularly to incorporate new information
- b. requiring all state agencies and government trading enterprises to develop climate change adaptation plans to enhance the climate resilience of assets, operations and services under their control, including analysis of place-based climate change impacts, risk assessment of vulnerable assets and infrastructure requirements to increase resilience to potential climate change impacts for assets at risk, which are embedded in their strategic asset plans and business cases
- c. developing guidance that enables state agencies and government trading enterprises, in partnership with peak industry bodies, to progress the further development of sectoral adaptation actions
- d. requiring relevant state agencies and government trading enterprises, in partnership with the private sector, to develop sectoral adaptation plans for all relevant sectors that enable sectoral stakeholders and infrastructure asset owners to identify climate change risks and measures to adapt to current and future climate change impacts.



Government coordination for climate change mitigation and adaptation

The state government can greatly assist climate action by leading and coordinating sector-wide and statewide initiatives. State agencies and GTEs can also facilitate communities and organisations working together to understand and address challenges. The Department of Water and Environmental Regulation has been charged with coordinating various actions under the WA Climate Policy. However, coordination can be difficult across the public sector when there are few levers to ensure action and accountability. Appropriate measures including Ministerial-authorized reporting and accountability measures being included in directors-general and GTEs chief executive officers annual performance reports would assist.

Recommendation 13

Ensure effective climate change mitigation and adaptation planning and decision-making for infrastructure by implementing methods of accountability and coordination across state agencies and government trading enterprises, including:

- a. annual public reporting of progress on mitigation and adaptation actions via responsible Ministers
- b. introducing performance measures related to progress of infrastructure-related mitigation and adaptation actions in directors-general and government trading enterprises chief executive officers' accountability mechanisms
- c. regular public reporting of the state's emissions, the extent to which they have changed compared with 2005 levels, and estimated emission reductions achieved through implementing the sectoral emissions reduction strategies.



Achieving the greenhouse gas reduction actions required across all economic sectors is a complex task. **Innovative methods will be required** to ensure whole of government accountability, coordination and reporting.

Sustainability in decision-making

Embedding sustainability considerations into the infrastructure decision-making process is important. IWA's legislative provisions reflect this significance and require the consideration of triple bottom line outcomes when considering WA's infrastructure needs and priorities. Informing and defining sustainability benefits and impacts at the strategic and planning phases of infrastructure decision-making will have the greatest influence on outcomes across the planning, business case development, approvals, delivery and operational phases. The WA Government can greatly facilitate this process by establishing a clear framework for sustainability assessment, and clarity on sustainability policy objectives.

The Strategic Asset Management Framework, which guides the investment decision process, should be strengthened to give greater consideration to triple bottom line outcomes and policy settings, including governance and intergenerational equity. Sustainability rating tools, such as those provided by the Infrastructure Sustainability Council of Australia and the Green Building Council of Australia, can be used to guide infrastructure projects to consider lifecycle sustainability impacts and enable smarter solutions to reduce risks and costs. While these are currently used sporadically by a limited number of state agencies, a consistent approach is required to influence greater sustainability outcomes for infrastructure.

Recommendation 14

Incorporate sustainability into all stages of the infrastructure decision-making process by amending the Strategic Asset Management Framework, including:

- a. updating the Strategic Asset Plan Guidelines, requiring state agencies and government trading enterprises to include projects and actions identified in climate change strategies and plans in their strategic asset plans, including the net zero transition plans, sectoral emissions reduction strategies, climate resilience action plan and relevant adaptation plans
- b. updating the Business Case Guidelines for projects and programs with a capital cost of \$100 million or more to require business cases to:
 - quantify Scope 1, 2 and 3 emissions associated with projects and programs and use this as a key input in determining infrastructure options and design outcomes
 - align to emission reduction goals and pathways identified in net zero emissions transition plans and sectoral emissions reduction strategies (once developed)
 - demonstrate potential climate change impacts on the assets, and adaptation actions to reduce infrastructure vulnerability and increase resilience
- c. updating the Business Case Guidelines for projects and programs with a capital cost of \$100 million or more to require completion and publication of sustainability tool certification, using the most appropriate tool for the type of asset.

Sustainable investment

The WA Government aims to run an operating surplus to fund the pipeline of infrastructure priorities. However, a portion is also borrowed from financial markets to fund a range of infrastructure projects.

Sustainable investment (also known as green, environmental, social and governance (ESG) or socially responsible investment) is increasingly becoming a focus of financial markets and infrastructure funding. Sustainable investment refers to financing projects and programs that prioritise positive environmental, social or governance outcomes. Banks and superannuation funds are increasingly providing sustainable finance to government infrastructure projects because of their low investment risk, good returns and positive ESG impacts. These projects can include, for example, public transport, renewable energy, energy-efficient buildings and water infrastructure, some of which are planned for and recommended in this Strategy. Investor diversity will also ensure that government funding sources are sustainable into the future.

To progress the sustainable finance opportunity, the Western Australian Treasury Corporation, on behalf of the WA Government, should finalise the development of a sustainability bond framework to articulate the governance framework under which the Western Australian Treasury Corporation intends to issue and manage sustainable investment. This framework should include asset identification, reporting regimes and plans to raise funds to support the delivery of sustainable infrastructure priorities.

The WA Government also recently released an ESG information pack to inform current and future investors in state government projects and programs.³² The pack highlights initiatives that enable positive ESG outcomes and are mapped to the United Nations Sustainable Development Goals.³³ While the pack is a good step forward in articulating sustainability in state government activities, this should evolve to a whole of government sustainability framework that embeds more transparency and accountability across government operations and decision-making. Other effective reporting frameworks include the Global Reporting Initiative and International Integrated Reporting Framework, Sustainability Accounting Standard Board and the Task Force on Climate-related Financial Disclosures. Many of these are already used by private industry, particularly publicly listed companies, to communicate balanced sustainability performance to investors and shareholders.



Recommendation 15

Facilitate access to green, social or sustainable finance by developing a sustainability bond framework.

Environment and heritage information

The Strategy makes a number of recommendations that will enable more robust consideration of blue and green infrastructure in strategic planning across WA's regions, and augment existing processes already in place. These include:

- the development of integrated regional plans that will identify priority areas for environmental protection
- a regional development strategic framework that will identify opportunities where environmental values contribute to the region's competitive advantage and overall economic development
- supporting the protection and more efficient use of natural water resources, including groundwater
- tourism destination management plans that will consider the impacts of tourism on sensitive environmental areas.

For each of these initiatives, and government planning and approvals more broadly, up-to-date environmental information is essential to making informed decisions about existing environmental values and the cumulative impact of proposals. Improved environmental data can enhance the state government's social licence to operate by meeting public expectations and improving transparency.

Similarly, this information is important to proponents in their investigations and analysis of the potential impacts of proposed developments to meet environmental approval requirements. Such investigations can be expensive and time consuming, resulting in delays that can be largely avoided through anticipating, collecting, sharing and updating the information that may



be required for planning and approvals. Under current practice and systems, environmental and heritage information used to interpret and predict impacts is held in diverse places across governments and industry. The effort to access and assess this information is repeated for each proposal, adding unnecessary expense and inefficiencies. This challenge extends beyond project assessment and impacts on compliance, environmental offsets and sustainability performance reporting.

Over recent years, WA has made substantial technical and cultural advances in the sharing, curation and public availability of environmental information collected across industry and government, and there is broad support for establishing a shared analytics and data framework for environmental data.³⁴ Such a framework is already being established for Cockburn Sound as part of the Westport project.³⁵ Development of a framework should consider integration with other platforms being developed by the WA Government, such as that proposed in Recommendation 4b.

Recommendation 16

Inform more robust and integrated infrastructure planning, decision-making, design and reporting by developing and implementing a sustained, shared environmental and heritage information system for priority locations.

Environmental offsets

Infrastructure planning should always seek first to avoid environmental impacts. However, there are instances where unavoidable mitigation, management or offsets are required for the clearing of vegetation of high environmental value. Where sites of state or federal environmental significance are disturbed or removed, environmental offsets, among other requirements, are usually necessary to obtain project approvals. These offsets are generally secured on an isolated, case-by-case basis, sometimes resulting in poorer environmental outcomes. There are also risks in approval delays and cost overruns as appropriate offsets become more expensive to fund and harder to source.

The 2019 Review of the WA environmental offsets framework noted the opportunity to develop whole of government consideration and agreement on land acquisition for the conservation estate, including land that

connects, or builds scale, to existing vegetation.³⁶ This review recommended bioregional planning to support the development and implementation of offsets that align with regionally significant and/or landscape-scale environmental objectives.³⁷ It also made recommendations on the governance and operation of the Part V Offsets Fund, including improved intra-agency coordination of offset identification, acquisition and addition to the conservation estate or other measures that offset impacts on extensive land areas.³⁸

In line with this review and its associated implementation plan, the WA Government can apply a more coordinated approach to protect larger, better-networked areas of high environmental value for a cumulative package of major state infrastructure projects. Regional environmental offset plans can support the delivery of infrastructure projects in a timely and cost-effective manner, as the availability of suitable environmental offsets become more scarce and costly. To be most effective, this should be accompanied by engagement with the Australian Government to simultaneously address matters of national environmental significance under the *Environment Protection and Biodiversity Act 1999* (Cth).

Recommendation 17

Support the delivery of major WA Government infrastructure projects by replacing the current system of acquiring environmental offsets separately with a coordinated bioregional approach, including:

- a. identifying priority conservation areas for protection, acquisition and on-ground management, regenerative projects and/or research projects where state agencies and government trading enterprises can direct funds to meet environmental offset requirements
- b. implementing and administering centrally coordinated funds consistent with the principles and operation of other pooled environmental offset funds.



Urban tree coverage

Over time, development patterns and the provision of infrastructure has resulted in a decline in urban tree canopy cover in both greenfield and infill settings. Urban tree canopy is increasingly being recognised as valuable to infrastructure resilience as it can take pressure off an increasingly strained built environment. Greater tree coverage reduces air pollution, provides oxygen and reduces the urban heat island effect by an average of 6°C.³⁹ The health benefits of trees in urban environments are also significant. The presence of trees promotes mental wellness and reduces stress, heart rate, blood pressure and the incidence of obesity, asthma and diabetes.⁴⁰ More urban tree coverage brings an increase in the use of public spaces and improved social cohesion, physical activity and active transport usage. Urban forests also connect urban bushland and support biodiversity.

Although recent planning policies specifically require and encourage the retention of trees on private property and verges, it is difficult to address historical development patterns. To counter this, the Water Corporation and the Western Australian Local Government Association are jointly administering a one-off Urban Tree Canopy Grant Program to support local governments in urban forest projects. Funding and scope for this program should be extended to ensure more strategic and equitable outcomes, in continued partnership with local government.

Recommendation 18

Contribute to infrastructure and community resilience in the urban environment and support the equitable provision of an interconnected network of cover by developing an overarching urban forest program, including:

- a. assigning a lead state agency to provide overarching coordination, resourcing and funding mechanisms
- b. embedding program evaluation to ensure it remains fit for purpose
- c. extending the existing Urban Canopy Grant Program to increase the urban tree canopy across the Perth and Peel regions, and other major regional urban centres
- d. partnering with local governments, community groups and other land managers in the rollout
- e. further reviewing existing planning policy settings with regards to the treatment of trees in new greenfield and infill developments.

