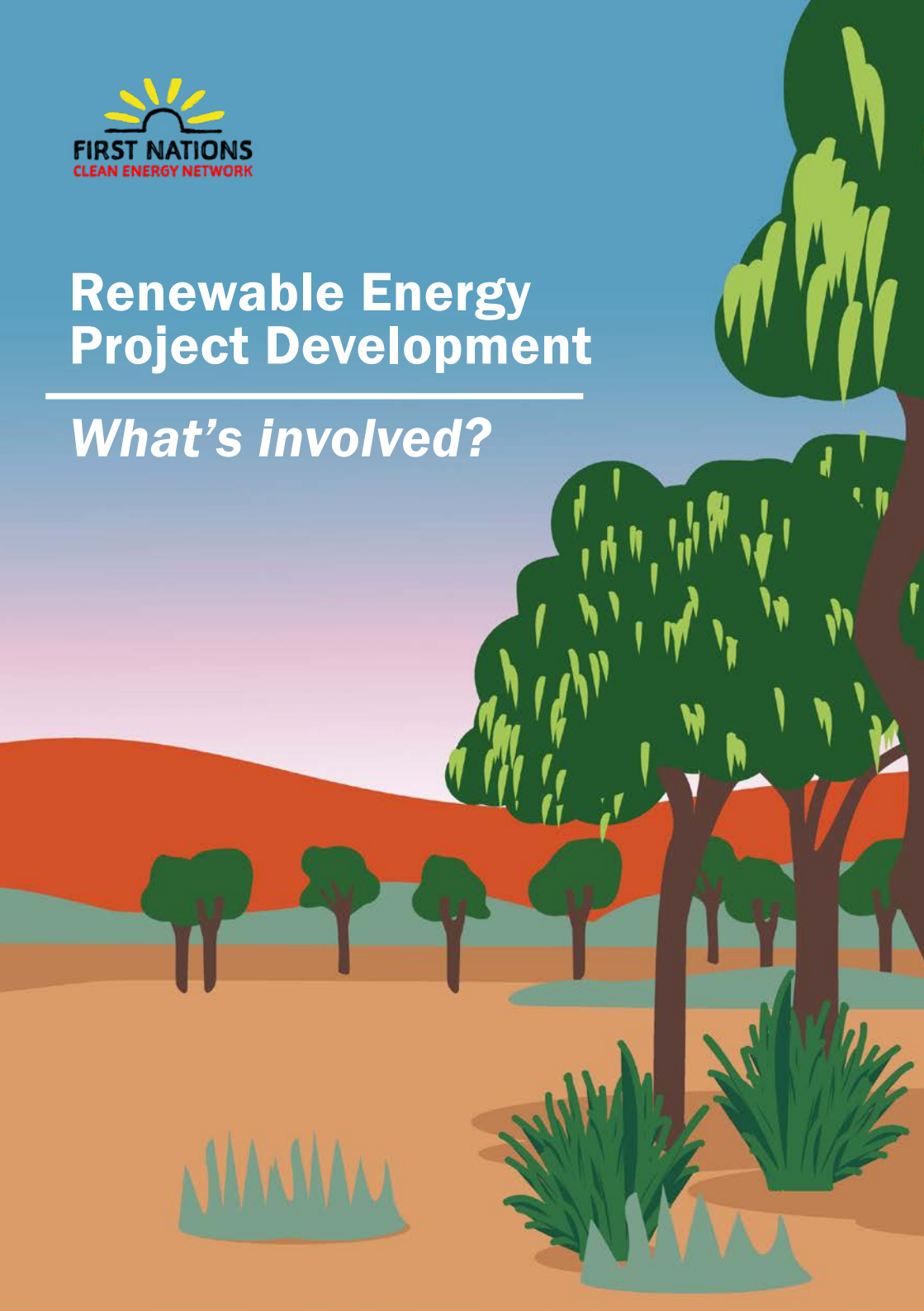
FIRST NATIONS
CLEAN ENERGY NETWORK

Renewable Energy Project Development

What's involved?



Foreword

This guide has been produced for First Nations groups and organisations, advisors, decision-makers and Boards.

It is intended to provide a general overview of how Australia's electricity system works, some of the drivers and policy settings driving energy and climate targets in States and Territories, and an example of the steps necessary to develop any number of the many renewable energy projects needed to meet Australia's ambitious emissions reduction targets to address the changing climate.

Renewable energy, such as rooftop solar and batteries in homes, standalone power systems and microgrids in communities, and large and export scale projects supplying energy to millions of people and requiring vast tracts of land and sea, are complex to develop.

From pre-development through to commissioning and operation may take a number of years to complete (research in 2024 finds onshore wind farms take on average over 4 years and solar over 3), and includes a number of challenges including accessing finance, ensuring grid connection, securing offtake agreements, navigating regulation, and gaining accreditation.

With First Nations people having rights and interests to extensive areas of land and sea in Australia, negotiating land/sea access is an essential early step in progressing any renewable energy project. Coupled with early engagement, it is also a key opportunity for First Nations groups and communities with aspirations for clean energy development, participation, revenue and equity to be proponents or to get involved through strong agreements, benefit sharing, partnership, and ownership or co-ownership.

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Executive Summary

This guide provides a high-level overview of factors to consider for First Nations groups wanting to engage in renewable energy projects.

Purpose of this guide

- ☐ Australia's power grid relies heavily on coal and gas, which are major sources of greenhouse gas emissions. Moreover, our coal-fired power plants are ageing, meaning they are becoming less reliable and more expensive to operate. The country is currently transitioning to renewable energy sources, which presents opportunities for First Nations communities to benefit.
- ☐ First Nations communities and groups can face challenges in engaging with renewable energy projects due to the overwhelming amount of information available and the complex nature of the electricity market. It can be difficult to know what information is required, and where to start when considering to engage with project developers.
- ☐ This resource aims to simplify the complexity of these challenges, and provide an easy-to-follow source of information on:
  - The government policies and governance that affects these projects
  - How renewable energy projects are developed and financed (including who finances them), starting from pre-development
  - The potential benefits of First Nations community engagement with these projects, and how to get started

Areas showing current First Nations involvement in renewable energy projects across Australia.

The stages and timeline of a typical renewable energy development across the project lifecycle

Pre-Development

15 - 18 months

- **Land Access Discussions**
- **Environmental Assessment**
- **Feasibility Studies**
- **Community Consultation**

Development

24 - 30 months

- **Project Financing**
- **Offtake Agreements**
- **Procurement**
- **AEMO Registration**
- **Connection Agreement**
- **Technical Design**

Construction

8 - 10 months

- **Regulatory condition monitoring**

Commission

15 - 18 months

- **Large-scale generation (LGC) Accreditation**
- **Grid connection testing**

Operation

25 - 40 years

- **Operations & Maintenance**

In addition to land access discussions, planning, and other key points along the development timeline, the community consultation stage is crucial for First Nations communities and groups to ensure all possible financial and non-financial benefits arising from a project are realised.

Community consultations should be held to explore, adjust and align the values, rationale, and benefits of a potential project with First Nations groups likely impacted. It can be common practice at this point to form reference groups as representatives of the community and to engage in discussions with the developers.

1 Australia's energy transition

Why renewables?

The renewable energy transition is key in reducing greenhouse gas emissions and fighting climate change

Greenhouse gases →

Climate change

Greenhouse gases are gases produced by burning fossil fuels (coal, oil and gas) which are released into the atmosphere, trapping heat and warming the climate.

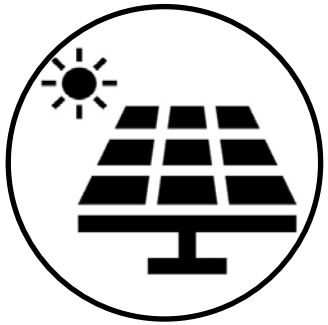
Greenhouse gases are the **main contributor to climate change.**

As the planet warms, it disrupts the climate, causing harmful changes that damages country, water and sacred places, and increases the likelihood of extreme weather events such as severe flooding, prolonged heat waves, and catastrophic bushfires.

A transition to renewable energy and a sustainable future

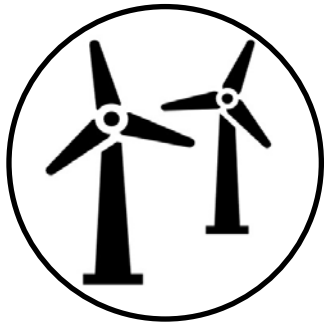
- ☐ Australia's power grid relies heavily on coal and gas, which are major sources of greenhouse gas emissions. Moreover, Australia's coal-fired power plants are ageing, meaning they are becoming less reliable and more expensive to operate.
- ☐ As a result, we are transitioning our power grid and systems to a greener electricity grid.

Different types of renewable energy technologies



Solar

Solar energy converts sunlight into electricity using solar panels.



Wind

Wind energy harnesses the wind to spin a turbine, which spins a generator and generates electricity.

Batteries

Batteries (or hydro dams) are used to store extra energy generated by renewables.

Hydro

Hydro energy is generated through the flow of water from a dam or channel through a generator, producing electricity.

Background on Australia's electricity market

Australia's electricity market comprises of 3 independently operating regions which were designed to reflect their economic and energy needs

National Electricity Market

- ☐ The largest operating market in Australia is the National Electricity Market (NEM), which supplies electricity for the eastern coast of Australia, with 5 interconnected regions including:
  - New South Wales
  - Australian Capital Territory
  - Queensland
  - South Australia
  - Victoria
  - Tasmania
- ☐ It operates as an energy-only wholesale electricity market, where retailers purchase electricity from electricity producers, which is then sold to consumers. Market participants include:
  - Generators (electricity producers)
  - Transmission and distribution network service providers (electricity distributors)
  - Customers (households & businesses)

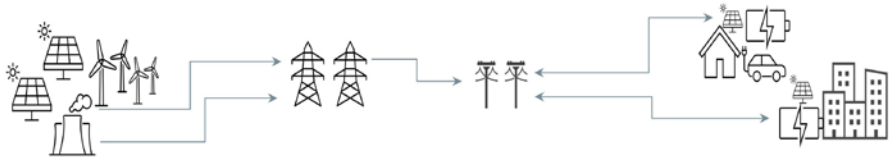
Wholesale Electricity Market

- ☐ The Wholesale Electricity Market (WEM) provides electricity to the south-west of Western Australia, supplying electricity to over 1.1 million households and businesses.
- ☐ Electricity generation and distribution are primarily state owned and operated, where only high electricity users (large energy consuming businesses) can purchase electricity from private generators.

Northern Territory Electricity System and Market Operator

- ☐ The Northern Territory Electricity System and Market Operator (NTESMO) is the smallest electricity market in Australia and covers the entirety of the Northern Territory, spanning the Darwin-Katherine, Alice Springs and Tennant Creek power systems.
- ☐ Like the WEM, electricity is traded via bilateral contracts due to a smaller market pool.

The electricity supply chain



Generators **Transmission and distribution networks** **Customers**

Australian energy plans

Australian energy policy is designed to balance the National Electricity Objectives of reliability, affordability, and sustainability

Renewable energy targets are legislated goals that aim to increase renewable energy generation and reduce greenhouse gas emissions

- ☐ The current Commonwealth Government is providing national climate leadership by legislating renewable energy targets (RETs).
- ☐ A 43% emissions reduction target by 2030 and net zero by 2050 is currently legislated under the *Climate Change Act 2022*.

The Capacity Investment Scheme seeks to incentivise an additional 32 gigawatts of renewable energy capacity by 2030

- ☐ To participate in the Capacity Investment Scheme (CIS), developers must submit tender applications, which include merit criteria outlining the benefits of the project, and importantly the levels of engagement and commitments for First Nations communities (see Merit Criteria 4 and 8).
- ☐ For CIS tenders to be distributed by AEMO in 2026, a minimum megawatt allocation for exemplar projects that have put in place First Nations equity and/or revenue sharing agreements will be introduced.

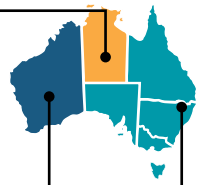
National Renewable Energy Targets * accurate at time of publication (June 2025)

	Emission Reduction	Renewables Target
Aust.	43% by 2030 on 2005 levels. Net zero by 2050	82% by 2030
NSW	50% by 2030 / 70% by 2035 on 2005 levels. Net zero by 2050	12 GW by 2030
VIC	75-80% by 2035 on 2005 levels. Net zero by 2045	65% by 2030
QLD	Net zero by 2050	
SA	50% by 2030 on 2005 levels. Net zero by 2050	100% by 2030
TAS	Net zero by 2050	200% by 2040
ACT	Net zero by 2045	Achieved 100% in 2020
NT	Net zero by 2050	
WA	80% on 2020 levels by 2030	

Expected evolution of Australia's different energy markets

Australia's energy transition is driven by overarching initiatives that focus on increasing and integrating more renewable energy sources into the electricity system

Northern Territory electricity outlook



- ☐ The Darwin-Katherine Electricity System (DKES) plan provides a pathway towards 50% renewable energy by 2030, with a focus on the development of new solar projects, as well as storage.
- ☐ The Alice Springs Roadmap to 2030 sets out 3 phases for a 50% renewable energy power system in Alice Springs.
- ☐ In 2023, only 7% of electricity generation was from renewable sources.

2024 NT Generation (GWh)

Whole of System Plan (WOSP)

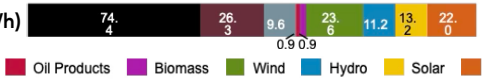
- ☐ The WOSP considers four different scenarios of the energy transition to 2040, each with varying renewables uptake and economic conditions. It sees wind, solar and battery storage playing a role in the transition.
- ☐ In 2024, 52% of electricity generation was from renewable sources.

2024 WEM Generation (GWh)

Integrated System Plan (ISP)

- ☐ The Integrated System Plan (ISP) provides a roadmap for the energy transition in the NEM over the next 20 years and beyond. Given that the current coal-fired plants are set to retire due to age, substantial volumes of new renewable energy is required.
- ☐ The ISP is updated regularly every 2 years to adapt to the changing energy landscape.
- ☐ It models 3 different scenarios which reflect the rate of transition to renewable energy.
- ☐ In 2024, 46% of electricity generation was from renewable sources.

2024 NEM Generation (GWh)



NSW energy plans

New South Wales is committed to the development of large renewable energy projects and has a strong policy framework to support the delivery

The Electricity Infrastructure Roadmap and underpinning Electricity Infrastructure Investment Act provide NSW's energy policy framework

- ☐ The Electricity Infrastructure Roadmap introduces the concept of Renewable Energy Zones (REZs), which combine renewable energy infrastructure, storage and transmission to mimic a green power station, thereby reducing costs through proximity and economies of scale. Long-Term Energy Service Agreements (LTESA) for generation and storage were also introduced.
- ☐ Section 4 of the *Electricity Infrastructure Investment Act 2020* outlines the requirement for First Nations Guidelines which set expectations for consultation and negotiation with local First Nations communities for the purpose of increasing employment and income opportunities in new energy infrastructure projects.
- ☐ A clear focus on broader social licence for local communities and supply chain initiatives was also developed and prioritised under the framework.

Long-Term Energy Service Agreements provide financial certainty for new renewables

- ☐ Long-Term Energy Service Agreements (LTESAs) provide eligible renewable energy projects with the option to sell electricity at an agreed fixed price and are highly coordinated with the rollout of REZs.
- ☐ They offer generation and storage (both long duration and short duration) projects minimum cash flows for periods within a 20-year contract term.
- ☐ LTESAs are incentivising investment in NSW by providing a protection mechanism against low wholesale electricity prices.

The Climate Change (Net Zero Future) Act 2023 sets out the state's climate change goals and reporting

- ☐ The Act 2023 establishes guiding principles for action to tackle climate change. It also sets an accountability process for achieving the targets with the establishment of a new independent body, the Net Zero Commission that reports to the Government.
- ☐ The Net Zero Commission will provide advice, monitor, and give accountability for meeting targets and enacting the guiding principles.

NSW has storage goals of 16 GWh by 2030 and 28 GWh by 2034. However, the latter has yet to be enacted in legislation. NSW's storage target is specific to long duration storage, whereas Victoria's target covers the aggregate of short, medium and long duration storage.

VIC energy plans

Victoria has ambitious renewable energy targets, a dedicated government arm for REZ transmission build-out, and leading policy on offshore wind

Victoria's renewable energy targets are legislated in the *Renewable Energy (Jobs and Investment) Act 2017*

- ☐ The Act supports the development of renewable energy projects, enhancing the reliability of Victoria's electricity supply.
- ☐ The state aims for 40% renewable energy generation by 2025, 65% by 2030 and 95% by 2035.

The Victorian Transmission Investment Framework enables REZ planning, tailored access arrangements, and a focus on community-minded planning

- ☐ The Victorian Transmission Investment Framework (VTIF) is a framework for how major electricity transmission infrastructure and REZs will be planned and developed.
- ☐ It has five core elements: incorporating environmental objectives, publishing a Victorian Transmission Plan every four years, specific procurement approaches, new access scheme arrangements for easier connection processes, and engagement with impacted Traditional Owners, local communities and landowners.
- ☐ VicGrid will lead the planning and development of REZs (including offshore wind) under VTIF.

The Victorian Government has a framework supporting the development of offshore wind energy

- ☐ Offshore wind farms will be located in Commonwealth waters (which start 3 nautical miles from the coast). These wind farms will generate more electricity as winds are usually stronger and more constant over water than land.
- ☐ Offshore Wind Energy Implementation Statements will guide the development of the sector. It will includes updates on procurement approach, legislative and regulatory reform, supply chain and local supply, and transmission and ports.
- ☐ VicGrid is developing the onshore substation and coordinated transmission to connect the offshore projects, which is expected to be complete by 2030.

Victoria has a renewable energy storage target of 2.6 GW by 2030.

Victoria has an offshore wind target of 2 GW by 2032, 4 GW by 2035, 9 GW by 2040.

QLD energy plans

Queensland's government has chosen to put a focus on energy reliability and affordability at the forefront of their key policies

The details of the new government's key policies are uncertain, particularly on how they will align and differ from the previous government's major policies

- ☐ There remains uncertainty on the key energy policy objectives. Recent announcements indicate there will be a comprehensive divergence from the previous government's major policy priorities and strategic frameworks for the state's energy transition.
- ☐ A new Renewables Regulatory Framework is being considered in place of the previous government's Energy and Jobs Plan. The Queensland Energy Roadmap is expected to be released by close of 2025.
- ☐ The state's 80% renewable energy generation target by 2035 is expected to be repealed while the government remains committed to net zero by 2050.
- ☐ The Government's announced project priorities so far include extending end-of-life coal generators operating beyond 2035, investing in new gas peaker plants, and committing to smaller pumped hydro projects. Queensland Investment Corporation has been engaged to deliver CopperString 2.0.

Currently legislated Renewable Energy Targets are being repealed

- ☐ The State government has chosen to only support the Commonwealth government's 2050 net zero emissions target.
- ☐ The focus has shifted to utilising coal-generation as a baseload whilst having renewables support generation. To this end, an investment of $1.4B AUD into a 5-year, Electricity Maintenance Guarantee for the state's coal-plants for their maintenance and management, ensuring they remain operational until at least 2030.

SA energy plans

South Australia has set a target of net 100% renewable electricity generation by 2027, supported by existing investments

The Hydrogen and Renewable Energy Act facilitates and regulates hydrogen and renewable energy generation within the state

- ☐ *The Hydrogen and Renewable Energy Act (2023)* introduces a 'one window to government' licensing system, streamlining the process for large-scale projects and providing clarity on operational requirements.
- ☐ Key aspects of the Act include provisions for: preliminary investigation of renewable energy resources, declaration of release areas for project development, various licensing categories, including hydrogen generation, renewable energy infrastructure, and research, and environmental impact considerations and compliance with Native Title rights.

Initially installed in 2017, the Hornsdale Power Reserve was the world's largest lithium-ion battery with a capacity of 100 MW | 129 MWh

- ☐ Procured by the South Australian Government, the battery has saved state consumers over $150 million in its first two years by providing essential grid-support services.

TAS energy plans

Tasmania's existing hydro generation and storage position it as the 'battery' for the NEM, with projects being built to increase renewables

The Tasmanian Government has laid out a suite of actions in the Tasmanian Renewable Energy Action Plan to grow the renewable energy sector

- ☐ The government has legislated the Tasmania Renewable Energy Target, an ambitious goal to double its renewable energy production by 2040, aiming for a 200% renewable energy target.
- ☐ Tasmania had achieved 100% self-sufficiency in renewable electricity generation, becoming one of the few places globally to reach this milestone in 2022.

The Tasmanian Green Hydrogen Hub is a pivotal project aimed at initiating a hydrogen economy

- ☐ The Tasmanian Green Hydrogen Hub (TGHH) is a Government led initiative with the intent to develop a green hydrogen industry in Tasmania. It has received $70 million in grant funding from the Commonwealth, with an additional $11 million from the Tasmanian State Budget.
- ☐ It aims to produce up to 45,000 tonnes of green hydrogen per annum, alongside the manufacturing of green metals and alloys which will support the state's transition to a low-emission economy.

ACT energy plans

The ACT's progress serves as a leading example of state government action in climate change mitigation and renewable energy adoption

The ACT Government's commitment to renewable energy is part of a broader strategy under the Climate Change and Greenhouse Gas Reduction Act

- ☐ The ACT achieved its goal of sourcing 100% of its electricity from renewable sources by 2020, primarily through solar and wind energy.
- ☐ This milestone made the ACT the first jurisdiction outside Europe to be powered entirely by renewable energy.
- ☐ Following the achievement of 100% renewable electricity, the ACT is now focusing on complete decarbonisation, aiming to transition away from fossil fuel gas by 2045.

The Integrated Energy Plan sets out a roadmap for the ACT to achieve net zero emissions by 2045

- ☐ The Integrated Energy Plan (IEP) aims to deliver on the legislated net zero emissions target by planning and supporting the electrification of all sectors, phasing out fossil fuels.
- ☐ It will focus on reducing emissions through two primary sectors which make up the majority of emissions:
  - Fossil fuel gas use
  - Transportation
- ☐ This *Climate Change and Greenhouse Gas Reduction Act 2010* builds upon previous and current zero-emissions strategies, such as the Zero Emission Plan for Transport Canberra and the Zero Emissions Vehicles Strategy to accelerate the move towards net zero emissions by 2045, which will also provide cost-savings to the ACT.

WA energy plans

The policy framework has undergone reform and renewable support policies have been introduced by the Western Australia Government

The Clean Energy Future Fund supports the development of projects that can significantly reduce carbon emissions

- ☐ The Clean Energy Future Fund supports the development of clean energy projects, providing grants for projects that can deliver emissions reductions whilst also providing community benefits.
- ☐ The State Government has invested an additional $18 million to 2030 to extend the Fund and provide more support for emerging clean energy projects.

Western Australia Coal Retirement Plan

- ☐ The State Government has committed to ensure the closure of all state-owned coal plants by 2030 and to provide financial support to communities adversely affected.

The Western Australia Renewable Hydrogen Strategy sets out the State Government's plan to become Australia's largest exporter of renewable hydrogen

- ☐ The Whole of System Plan (WOSP) is a long-term plan of the Wholesale Electricity Market developed by the State Government, for the next 20 years of operation. The last WOSP was released in 2020, with an update expected by September 2025.

NT energy plans

The Northern Territory has developed high level strategies to improve electricity reliability

The Darwin-Katherine Electricity System plan aims to centralise and streamline investment into renewable energy to meet the state's Renewable Energy Target

- ☐ The Darwin-Katherine Electricity System plan (DKES) establishes a renewable energy hub (similar to REZs) to attract investment in renewable energy by providing clear signals for development.
- ☐ Three different consumer demand-based scenarios have been modelled to guide investments in the energy transition to meet future needs. It aims to:
  - Primarily invest in solar energy through large-scale solar in the renewable energy hub
  - Invest in batteries for storage and system stability.
  - Retire ageing coal plants and build hydrogen-ready thermal generators.
- ☐ The government is also extending the operating gas plant, the primary source of electricity for the DKIS, past its planned retirement date of 2030.

The Alice Springs Roadmap to 2030 is a part of a larger project that aims to increase the amount of renewable energy in Alice Springs

- ☐ The Alice Springs Roadmap sets out potential pathways for Alice Springs to reach 50% renewable energy generation by 2030, modelling multiple scenarios to ensure it can adapt to a range of circumstances. A focus on large-scale solar and household solar forms the majority of the system's generation.
- ☐ It is a part of the Alice Springs Future Grid initiative which focused on improving the development of renewable energy technology in the Alice Springs power system.

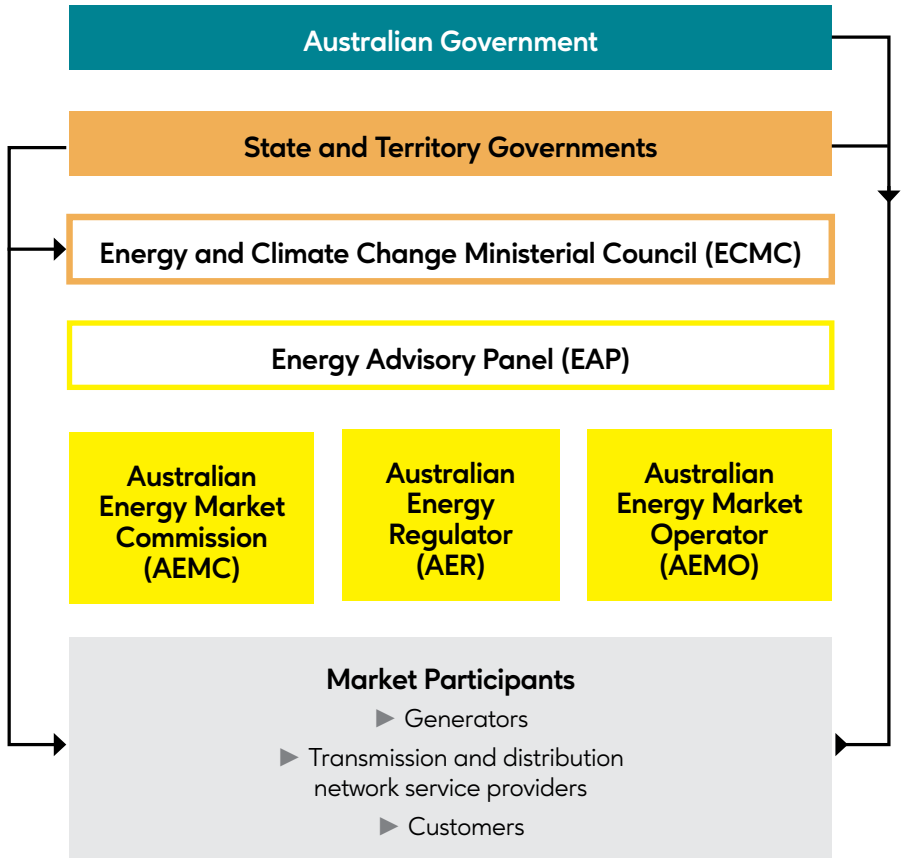
2 Governance of the energy system

Australia's energy governance involves a complex framework that includes national and state legislation, regulatory bodies, and market institutions

Australian energy governance structure

- ☐ The National Electricity Market (NEM) is led by the Energy and Climate Change Ministerial Council (**ECMC**), which is chaired by the Commonwealth and includes all state and territory Ministers.
  - The **Commonwealth** is responsible for shaping energy policy at a national level.
  - The **States and Territories** are responsible for managing and overseeing energy policy within their own jurisdiction but are not mandated by Federal policy.
- ☐ In addition to coordinating national and jurisdictional policies, the ECMC provides direction to the NEM market bodies, who are:
  - **Energy Advisory Panel (EAP)**: Provides oversight and guidance of the entire electricity and gas system to support the clean energy transition.
  - **Australian Energy Market Commission (AEMC)**: Develops and amends rules that govern the operation of energy markets, transmission and distribution to ensure electricity is affordable, reliable and sustainable.
  - **Australian Energy Regulator (AER)**: The economic regulator and rule enforcer, which ensures energy prices are fair and electricity system operates in consumers' best interests.
  - **Australian Energy Market Operator (AEMO)**: The operator that manages gas and electricity systems across Australia. It involves real-time operation to maintain the security and reliability of Australia's energy systems.
  - **Market Participants**: A mix of generators, network operators as well as consumers that partake in the generation, distribution and transmission, and usage of electricity.

Governance overview



3 What are the key steps in project development?

A lot of time and work goes into developing a renewable energy project before a shovel hits the ground or electricity is produced

Typical Renewable Energy Project Development Timeline

Pre-Development
15 - 18 months

- Land Access Discussions
- Environmental Assessment
- Feasibility Studies
- Community Consultation

Development
24 - 30 months

- Project Financing
- Offtake Agreements
- Procurement
- AEMO Registration
- Connection Agreement
- Technical Design

Construction
8 - 10 months

- Regulatory condition monitoring

Commission
15 - 18 months

- Large-scale generation (LGC) Accreditation
- Grid connection testing

Operation
25 - 40 years

- Operations & Maintenance

Pre-Development
15 - 18 months

The Pre-Development stage involves feasibility studies to ensure the project is environmentally sustainable and has community approval

1. Land Access Discussions

- ☐ Identifying suitable locations.
- ☐ Engagement with First Nations and ensuring free, prior and informed consent (FPIC) and strong agreements.
- ☐ Considering technical, cultural and environmental requirements. This is usually done through leases or purchases with the landowners, only where technical and environmental constraints can be best managed.
- ☐ Regulatory barriers such as planning & zoning laws, environmental regulations and transmission infrastructure must also be managed before full land access is granted.

2. Community Consultation

- ☐ Community engagement is crucial, and ongoing activity is required throughout the lifecycle of the project to continually build and maintain social license.
- ☐ Often reference groups will be formed as representatives of the community who engage in discussions with the developers.
- ☐ Successful Capacity Investment Scheme projects have strict First Nations and community consultation requirements. For other projects, it is still important for community consultation to take place.

3. Environmental Assessment

- ☐ A range of assessments are conducted to understand the potential impacts of the project on the surrounding area.
- ☐ For example, biodiversity studies are used to understand the impact of the project on local ecosystems and to ensure they are developed sustainably, with minimal impact to the environment.
- ☐ Monitoring studies such as temperature monitoring for solar projects, or wind speed monitoring is used to assess the conditions to maximise the project value.

4. Feasibility Studies

- [ ] The viability of a project is ensured through two studies:
  - **Technical & Environmental Feasibility**: Conducted using previous environmental assessments combined with determining infrastructure needs.
  - **Economic Feasibility**: Cost estimates for the project lifecycle is calculated, in addition to developing financial projections.

5. Network Connection

- [ ] Consultation with the local network is required to ensure there is enough capacity for the project to be built. (Capacity refers to the maximum amount of electricity that a network (or specific part of it) can handle.)

Development
24 - 30 months

The Development stage sets the project in motion, securing financing, procurement, and passing crucial regulatory steps

1. Project Financing

- [ ] Project developers will seek to secure funds to build and operate the project. This can be achieved through commercial loans, project financing or government grants.
- [ ] See Chapter 4 for more information on this.

2. Procurement

- [ ] Once financing has been secured, the project moves to sourcing and purchasing equipment, services, and materials for the project.

3. Offtake Agreements

- [ ] These are also known as power purchase agreements (PPA).
- [ ] An additional form of financing is when projects choose to enter a contract with a buyer, generally utilities or large energy consumers (raw material manufacturing or commercial) which guarantees a buyer for the project's generated electricity.

4. AEMO Registration

- [ ] The project must be registered with the Australian Energy Market Operator (AEMO) through an application process.

5. Connection Agreement

- [ ] Following on from network connection in the pre-development stage, the project developer and the local electricity network service provider signs a contract to connect the project to the grid.
- [ ] A technical study is performed to determine the optimal way to connect to the grid.

6. Technical Design

- [ ] Development of technical specification, and relevant designs to set the implementation and construction stage following initial designs.

Construction
8-10 months

Commission
15-18 months

Operation
25-40 years

The Construction and Commissioning phase marks when the shovel hits the ground and eventually leads to project Operation

1. Construction

- [ ] The site commences construction of the renewable energy project.

2. Regulatory condition monitoring

- [ ] The project is monitored over the lifecycle to ensure it adheres to safety standards and environmental laws and regulations.

3. Commissioning

- [ ] The project is tested and verified such that all systems are functioning correctly and adhere to regulations and standards.
- [ ] Network connection tests are also performed, ensuring the project can reliably and safely connect to the grid, leading to a smooth integration and start to operations.

4. Large-scale generation (LGC) Accreditation

- [ ] As part of the Renewable Energy Target (RET) program, Large Scale Generation Certificates (LGCs) are certificates that represent 1 MWh of electricity generated and fed into the grid by accredited large-scale renewable power stations.
- [ ] Project developers look to get their projects accredited with LGCs as these certificates are tradable and can provide revenue to the project.

5. Operation

- [ ] The site commences operation of the renewable power plant, generating electricity and feeding it into the grid.
- [ ] Routine maintenance will be conducted over the project's operating period.

4 How are projects financed?

Large scale projects are expensive to build so they require financial support in the form of loans and/or investment from external stakeholders

Project developers usually use a mix of two or even three types of finance to pay for a new renewable energy project

Project Financing

- ☐ **Loans (debt)** provide money that needs to be paid back plus interest.
- ☐ **The advantage of debt financing is** that developers do not give up any control of the project or any future profits.
- ☐ **The downside of debt financing is** that the loan plus interest must be paid back, which can really add up.

Equity Financing

- ☐ **Investment, also called equity,** gives investors ownership of a percentage of the project and allows them to share in its profits.
- ☐ **The advantage of equity financing** is that investors/developers do not have to pay back any of the money that was invested.
- ☐ **The downside of equity financing** is that some control of the project is given up, and developers must share profits based on the percentage ownership of the project.

Grants

- ☐ **Grants** are free funds provided by governments or philanthropic organisations used to support initiatives.
- ☐ The advantage of grants are that they do not need to be paid back.
- ☐ However, obtaining grants can be competitive and there are multiple criteria that need to be satisfied.

To pay back loans and make profit, projects are required to earn revenue whilst potentially contributing to grid stability

There are three primary ways in which projects can earn money and/or generate revenue in order to pay back loans and make profit

Electricity market revenue

Electricity market revenue can be earned by selling electricity into what is known as the **'spot market'.**

- ☐ Active 24/7, it ensures that electricity supply and demand are equal at every minute of the day.
- ☐ However, relying on revenue from the spot market can be very risky, as sometimes there is too much electricity being produced – this either means:
  - You don't have a chance to sell yours
  - You sell it at a very low price.

- [ ] This happens a lot with solar electricity, because lots of it gets produced in the middle of the day when it's sunny, but people aren't often at home during the day using lots of electricity like they are in the morning and evening.

Contract revenue

Long term contracts between electricity producers and buyers, known as **power purchase agreements (PPAs).**

- [ ] Buyers are usually:
  - Large companies that use a lot of electricity (tech giants or factories)
  - Energy retailers that sell electricity to homes and businesses
  - Industrial companies that need reliable and affordable power.
- [ ] In a PPA, an agreement is made where the producer agrees to supply electricity to the buyer for a certain period at a fixed price.
- [ ] Signing contracts also help the producer secure financing as it is a guaranteed income stream.

Electricity services revenue

Known as **ancillary services revenue**, which provides backup power in case of emergencies and keeps the grid running at the right speed.

- [ ] Projects with batteries have the potential to generate revenue by ensuring the grid works reliably and efficiently.
- [ ] A contract can be made with the network operator AEMO, where they will pay you to provide electricity to the grid at any given moment.

Governments have an important role to play in making sure enough new renewables are financed and built

We need a lot of new renewables to transition away from fossil fuels. Building new renewable projects can be risky, so it's very unlikely that developers and investors will build all the renewables we need without government support.

Capacity Investment Scheme

- [ ] In Australia, the federal government has started to provide major support in the energy transition through the Capacity Investment Scheme (CIS).
- [ ] It aims to increase investment in renewables by providing greater financial certainty to project developers.
- [ ] Renewable energy projects require a large amount of initial investment and revenues can fluctuate based on market conditions; the CIS acts as a safety net which guarantees a minimum amount of revenue for the project via a Capacity Incentive Scheme Agreement (CISA).
  - If energy prices are below a certain amount, the government will 'top up' the earnings up to the guaranteed amount.
  - If energy prices are high, the government will share the profits.

NSW Long-Term Energy Service Agreement

- [ ] In NSW, Long-Term Energy Service Agreements (LTESAs) serve the same purpose as the CIS, but through a different financial safety net.
- [ ] Like CIS contracts, LTESAs are promises from the government to pay project developers a minimum price for the electricity they produce.
  - If energy prices are below a certain amount, the government will 'top up' the earnings up to the guaranteed amount.
  - If energy prices are high, the government will share the profits.

- [ ] However, the only difference is that LTESAs are options, meaning the project developer has the right to use the agreement, but is not obligated to do so.

- [ ] This means if the project is performing well, the project developer will choose not to use the agreement and keep the profits to themselves.

Winning a Capacity Investment Scheme Agreement (CISA) or Long-term Energy Service Agreement (LTESA) is competitive – not everyone who applies will succeed.

- [ ] There are certain criteria that projects must meet, e.g. proof of a clear development plan and a financing plan.

- [ ] Importantly, CIS merit criteria includes requirements around consulting and benefit sharing with local First Nations communities.

5 Who develops projects?

Renewable energy project developers encompass various entities, often drawing on loans and investments from a range of other sources to get projects built

Innovative / unique First Nations-led entities

- ☐ First Nations people, communities and groups that are increasingly looking to co-design, lead and partner or own renewable energy systems.
- ☐ These may include special purpose vehicles, co-ops, Prescribed Body Corporates (PBCs), charities, not-for-profits, Aboriginal community controlled organisations, Traditional Owner groups, and body corporates.

Vertically Integrated retailers (gentailers)

- ☐ Large organisations who are active in both generating electricity and retail (hence being named gentailers) typically with a large capacity of coal or gas-powered stations.
- ☐ Development costs and project equity is provided through internal financing.
- ☐ Some have in-house specialised project development teams.

Government owned corporations (GOCs)

- ☐ Large government owned, vertically integrated organisations. They are very similar to gentailers.
- ☐ They have mandates to secure clean energy for the states to achieve their Renewable Energy Targets (RETs) and have access to capital through their respective state governments.

Independent Power Producers (IPPs)

- ☐ Medium to large sized developers with in-house capability of originating, developing and flexibly delivering projects.
- ☐ Development and construction finance is generally through project finance or commercial partnerships with equity investors.

Fund Managers

- ☐ Investment managers with access to funds, with mandates to invest in renewable energy projects.
- ☐ They traditionally have purchased assets pre financial close or post commissioning but are now entering earlier in the life cycle.
- ☐ They mainly participate in operation and capital deployment.

Unregulated network businesses

- ☐ These consist of businesses who are increasingly looking to invest in renewable technology.
- ☐ Their value drivers are around cost of capital and optimising network connection, generally through access to high quality connection points.
- ☐ They are limited to their low understanding of wholesale market risk and project management.

6 How can First Nations groups engage with projects?

Benefits of engagement as a First Nations group

Economic opportunities for renewable projects can come in different forms, often with multiple benefits able to be realised for a single project

Financial

- ☐ **Equity Ownership:** The First Nations community/group has some level of ownership of either the project itself or a corporation involved in the development of the project.
- ☐ **Revenue Sharing:** The First Nations community/group will benefit financially from the project via a benefit sharing fund or payments (could include rent for lease of land, revenue through royalties, share options, a PPA).

Non-financial

- ☐ **Employment & training opportunities:** There is direct employment of, and training for, First Nations people as part of the development, construction, operation or maintenance of the project.
- ☐ **Procurement opportunities:** The project requires or includes specific involvement of First Nations owned businesses in the supply chain.
- ☐ **Key decision-making roles:** There are First Nations people from the relevant community/group in management, leadership or executive positions for the project.
- ☐ **Engagement in project design:** The project design process enables genuine public participation consistent with best practice engagement frameworks to inform place-based design.

- ☐ **Cultural heritage protection:** Design surveys, strong protection and monitoring built in, including robust cultural awareness training.
- ☐ **Community specific issues:** The specific issues raised by or relevant to a given First Nations community/group are addressed by the project (such as low-cost, clean, reliable power).

How can First Nations groups engage with projects?

First Nations groups can take a proactive approach in engaging with clean energy projects to maximise ownership and community benefit

Create an energy plan ▶ **Building a case** ▶ **Explore financing**

Note these steps can precede or occur during the Pre-development phase of the project lifecycle.

Create an energy plan

1. Understand the need

- ☐ The first step to engaging in clean energy projects is to take a proactive approach towards it.
- ☐ Understanding why a clean energy project is being considered for development is key.
- ☐ What are the potential benefits from the project?

2. Conduct community energy planning

- ☐ Review the opportunities for clean energy and the benefits it offers with community members, including any barriers that may arise.
- ☐ Explore the community's appetite for participation and inclusion in energy projects.

3. Agree on engagement protocols

- [ ] Review the opportunities for clean energy and the benefits it offers with community members, including any barriers that may arise.
- [ ] Explore the community's appetite for participation and inclusion in energy projects.

Building a case

1. Assess technical requirements

- [ ] Consider current and future energy needs when exploring the scope of a project.
- [ ] Explore which stakeholders are required and the technical support necessary to develop a project.
- [ ] Ensure a community team is formed to oversee a project from conception to end.

2. Address regulatory barriers

- [ ] Consider any regulatory barriers by the state or federal government for building clean energy projects.
- [ ] Strong social license can support in navigating this barrier.

3. Explore feasibility of projects

- [ ] Community consultations should be held to align the community with the rationale and benefits of a project.
- [ ] Aim to gather social license for the development of the clean energy project to ensure project development phases are smooth.

Explore financing

1. Identify probable project financiers

- [ ] It is important to form a business case to seek financial support from developers or investors, alternatively looking into state or federal grants.
- [ ] Potential arrangements range from creating a company for ownership or entering a partnership for equity, joint ventures or alliances.

2. Considerations

- [ ] Before engaging in stakeholder and financial negotiations, it's vital that First Nations communities have the right to **Free, Prior and Informed Consent (FPIC).**
- [ ] This means First Nations communities impacted can exercise the right to FPIC before decisions are made, with all the information available and the freedom to decide without pressure.

Opportunities for clean energy for First Nations and the benefits it offers

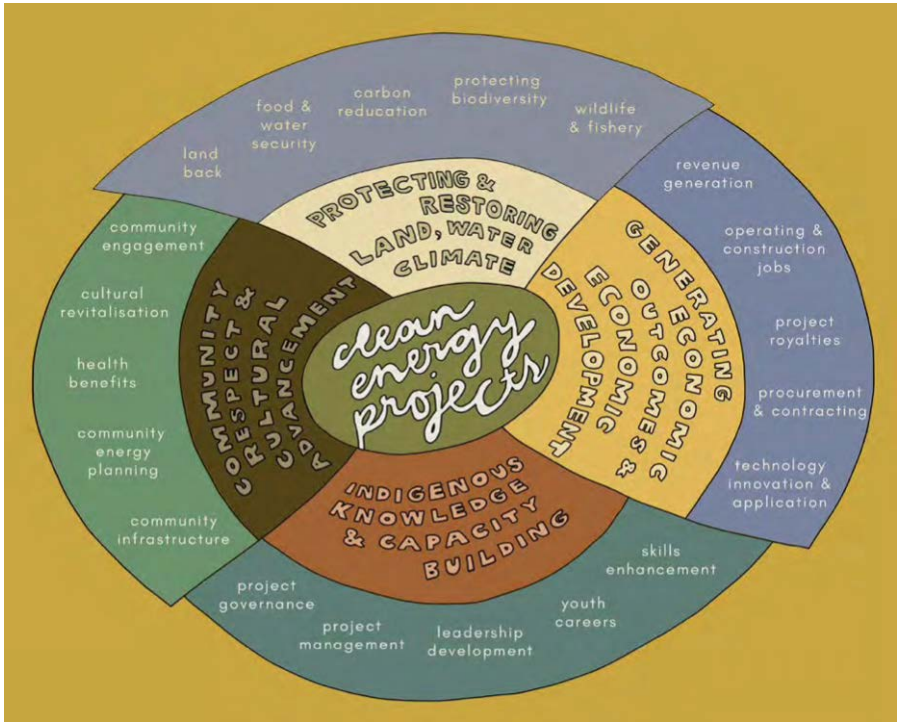
Over the last decade the pace and scale of renewable energy development in Australia has increased dramatically.

To date, most of the large-scale renewable energy projects have been developed on freehold land where Aboriginal Land Rights or Native Title rights haven't been determined or have been extinguished.

As development of renewable energy expands across the continent, First Nations communities will increasingly ensure that industry proponents exercise meaningful engagement enabling free, prior and informed consent, and negotiate strong agreements with First Nations groups impacted towards equity, a seat at the table, and ongoing participation.

First Nations will benefit from the use of lands and seas for these projects, and/or from the energy they generate, to continue to:

- ☐ Protect and restore land, water and climate
- ☐ Generate economic outcomes and economic development
- ☐ Utilise Indigenous knowledge and build capacity
- ☐ Embed community respect and culture.



Glossary

Acronym	Meaning
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
CIS	Capacity Investment Scheme
CISA	Capacity Investment Scheme Agreement
DKES	Darwin-Katherine Electricity System
EAP	Energy Advisory Panel
ECMC	Energy and Climate Change Ministerial Council
FPIC	Free, Prior and Informed Consent
GOC	Government Owned Corporation
IEP	ACT Integrated Energy Plan
IPP	Independent Power Producer
ISP	Integrated System Plan
LGC	Large-scale Generation Accreditation
LTESA	Long-Term Energy Service Agreement
MC	Merit Criteria
NEM	National Electricity Market
NTESMO	Northern Territory Electricity System and Market Operator
PPA	Power Purchase Agreement
RET	Renewable Energy Target
REZ	Renewable Energy Zone
TGHH	Tasmanian Green Hydrogen Hub
VTIF	Victorian Transmission Investment Framework
WEM	Wholesale Electricity Market
WOSP	Whole of System Plan

Disclaimer

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