



Australian Government

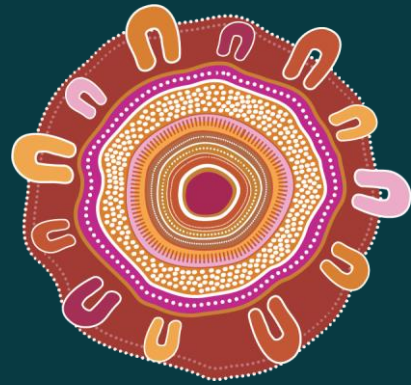
Department of Climate Change, Energy,
the Environment and Water

Electricity and Energy Sector Plan

*Adam McKissack |
Chief Energy
Economist*

September 2024

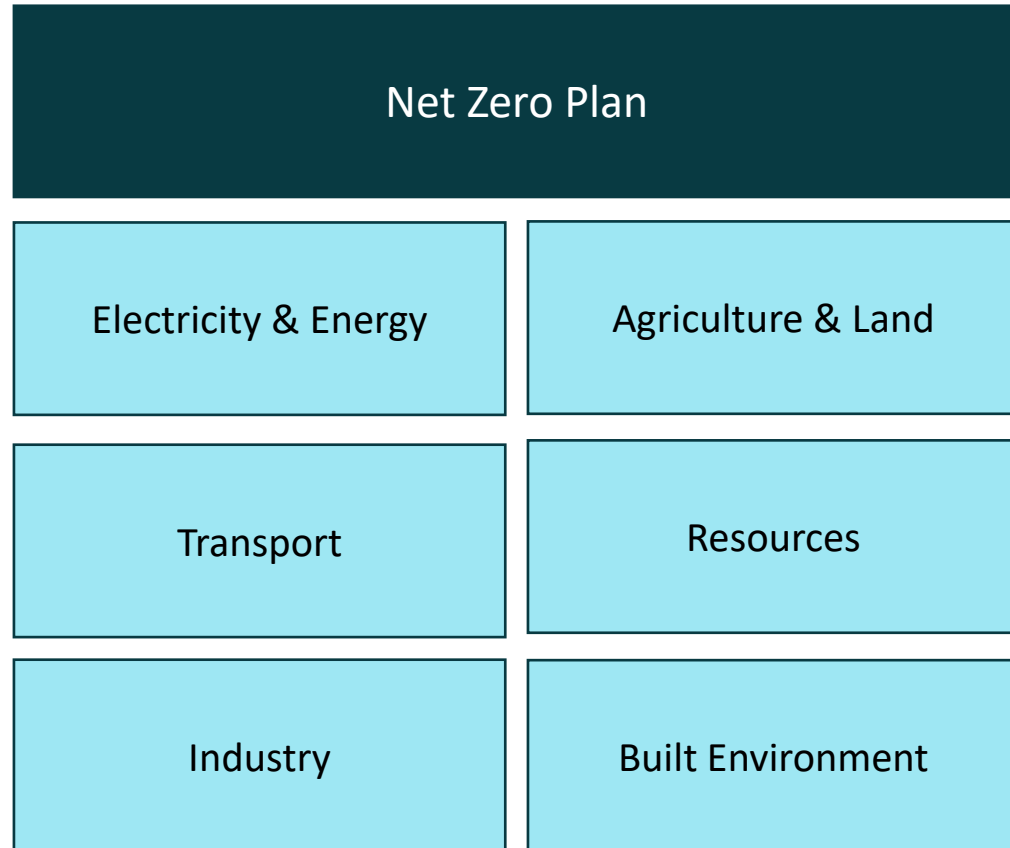




We acknowledge the Traditional Owners of Country throughout Australia and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past and present.

The Government is developing a national plan to achieve net zero

The Net Zero Plan will be underpinned by 6 sectoral decarbonisation plans



The Net Zero Plan will guide our transition to the legislated 2030 emissions reduction target and 2050 net zero target.

- The sectoral plans will map out the pathways to decarbonise each sector by 2050.

As part of developing the Net Zero Plan, the Government will also set Australia's 2035 targets.

- Australia must update its Nationally Determined Contribution (NDC) every 5 years under the terms of the Paris Agreement.
- The NDC is due by the end of February 2025 and will include the 2035 target.

The plans will be informed by advice from the Climate Change Authority (CCA).

- This includes advice on sectoral technology pathways and the 2035 emissions reduction target.

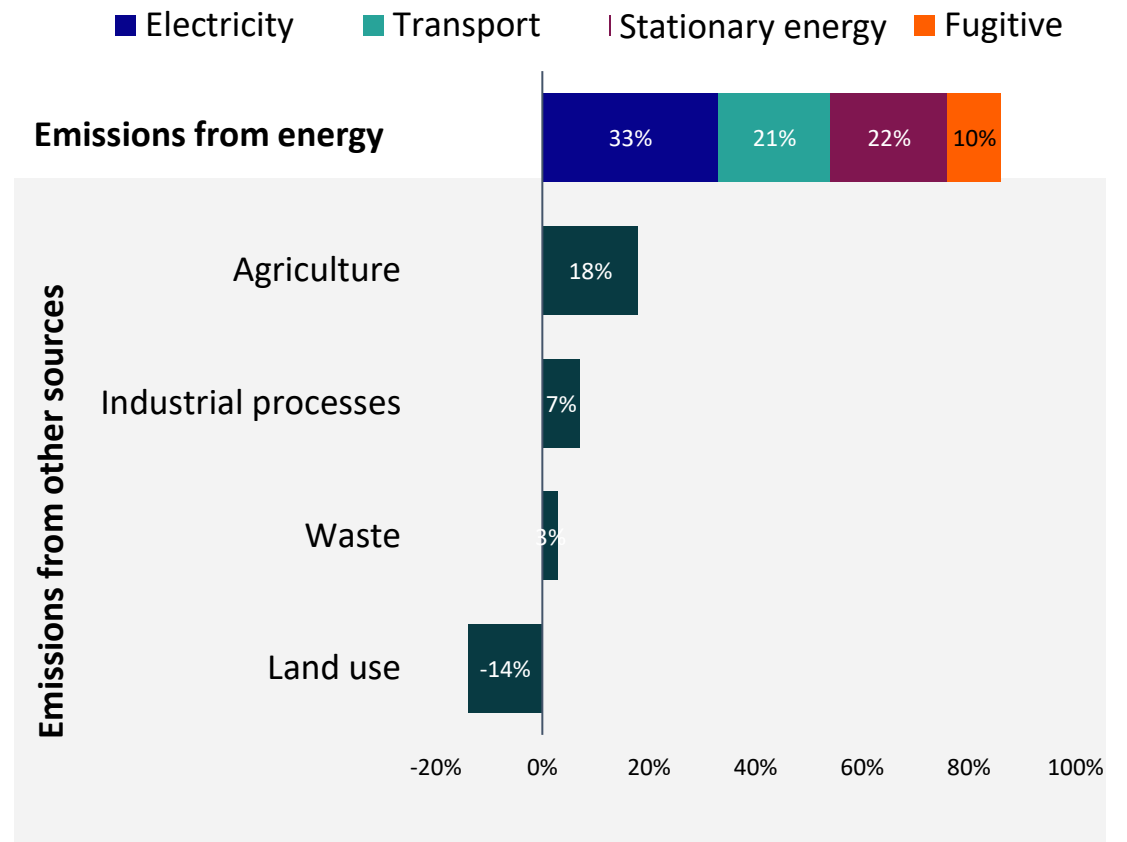
The role of the energy sector in Australia's net zero transformation

Decarbonising electricity and energy supply is critical to achieve a net zero economy

- **Australia cannot decarbonise without enough clean energy to power our economy.**
 - **Energy accounts for most of Australia's emissions** – accounting for around 85% of net emissions in FY2023, with electricity alone accounting for around a third of emissions.
 - **The electricity sector has been a significant source of abatement** – responsible for 91% (43Mt CO₂-e) of emissions reductions since 2016 outside of the land sector.
 - **The shift to renewable electricity has driven this abatement** – more than a quarter of electricity generated in Australia has shifted from fossil fuels (primarily coal) to renewable sources such as wind and solar over the past 15 years.

Sources:
DCCEEW (2023), *Australia's emissions projections 2023*

Australia's emission by source, % total



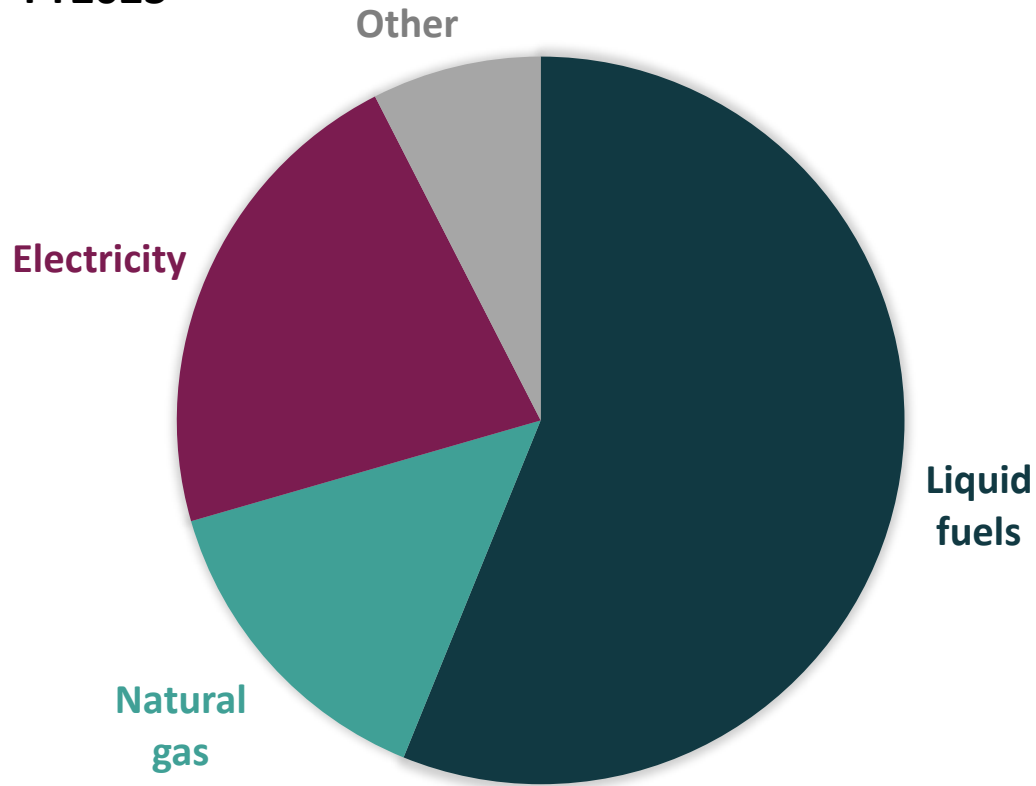
DCCEEW (2023), *Australian Energy Statistics 2023*

DCCEEW (2023), *National Greenhouse Gas Inventory Quarterly Update: June 2023*

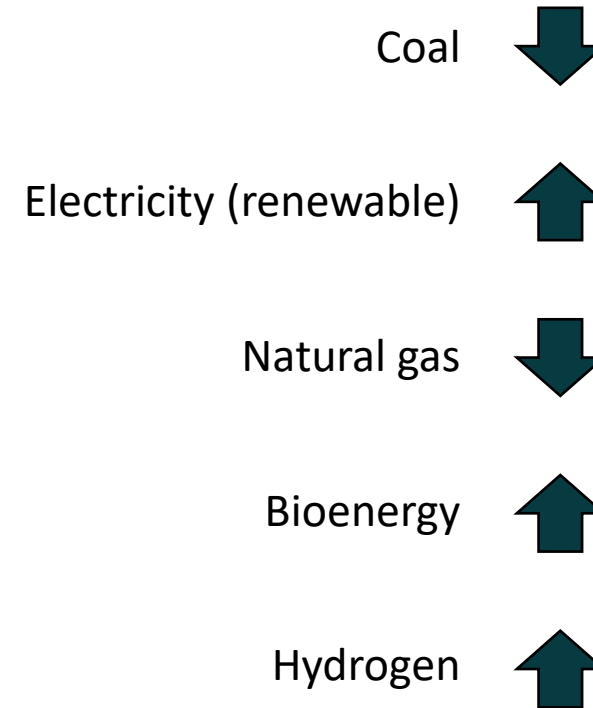
Australia's energy mix

The electricity and energy sector sits at the heart of Australia's economy

Australian final energy consumption, by fuel type, FY2023



Future energy mix



Source: DCCEEW (2024) Australian Energy Statistics, Table H

The pathway to 2050

4 decarbonisation actions for the electricity and energy sector

To deliver a future of affordable, reliable, clean, secure and equitable energy supply, Australia must:



Decarbonise and grow the **electricity system**



Improve **energy performance, electrify** and manage system impacts



Transition to **low carbon gases** while maintaining supply security



Decarbonise the **liquid fuel mix** while maintaining supply security

Significant steps have already been taken to put Australia on this pathway:

82% renewable electricity target
Capacity Investment Scheme
Rewiring the Nation

National Energy Performance Strategy
COP 28 energy efficiency pledge
CEFC Household Energy Upgrades Fund

Hydrogen Production Tax incentive
Hydrogen Headstart
Guarantee of Origin Scheme for renewable hydrogen

Sustainable Aviation Fuel Funding initiative
Future Made in Australia Innovation Fund
Vehicle Efficiency Standard

The Electricity and Energy Sector Plan will consider future directions:

Decarbonisation of the electricity system post 2030

Meeting the COP 28 energy efficiency pledge
Enabling electrification

Growing low carbon gases
Managing supply and demand of gas

Building the market for low carbon liquid fuels

The global energy transformation will change the structure of Australia's economy

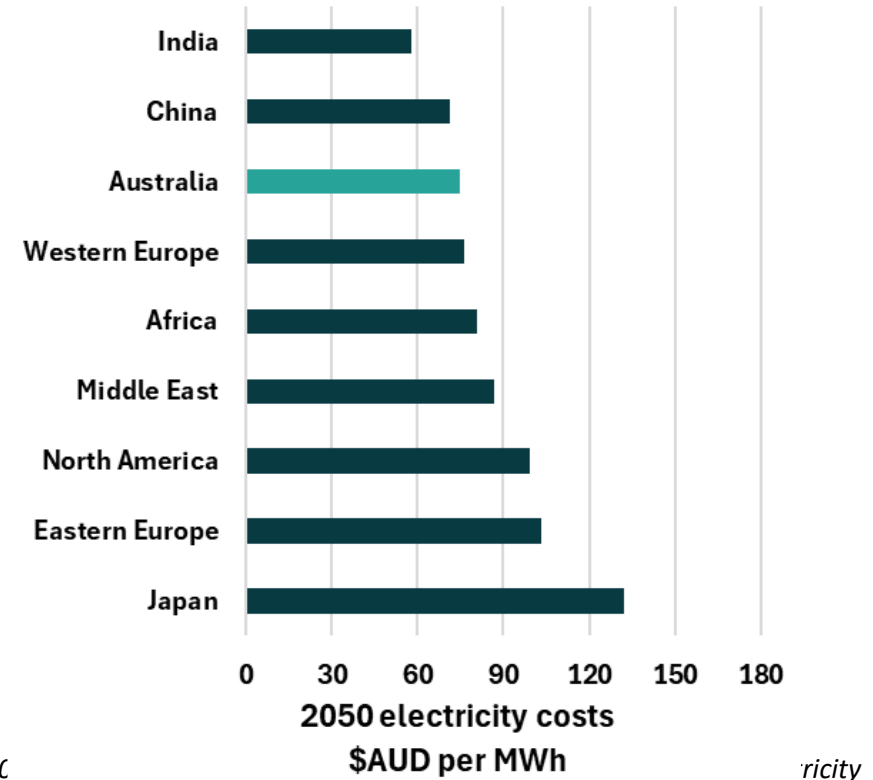
The energy transformation will lay the foundations for Australia's economic future

The Australian economy is highly fossil fuel intensive.

- **Fossil fuels support our domestic economy**, providing 90% of Australia's energy – above the global average.
- **Australia is a major energy exporter** – one of the world's largest exporters of fossil fuels and producing 3x as much energy as we consume.
- **The energy sector has been a major source of growth and productivity for the economy** – providing almost 8% of Australia's national income.
- **The export sector is exposed to changes in energy demand** – 32% of our export income comes from coal and natural gas.

Australia is rich in renewable energy resources and has a comparative advantage in the production of cheap renewable energy.

Australia's renewable electricity price compared to international competitors, 2050



Sources: IEA – 2021 data

DCCEE (2024), Australian Energy Update 2024

Oxford Economics, Australian Bureau of Statistics

DFAT (2024), Australia's Top 25 Exports, Goods & Services 2022-23

CSIRO 2C

Contact us

Energy Sector Plan Taskforce

EnergyandElectricitySectorPlan@dcceew.gov.au