



Australian Government

Australian Office of Financial Management

AOFM

Australian Government Climate Change commitments, policies and programs

A guide for AGS investors

January 2022

Australian Government Statements

Australia has set a target to achieve net Zero emissions by 2050

All Australian States have stated or made commitments to reach Net Zero by 2050.*

This will be achieved via both Renewable Energy Commitments as well as a Net Zero Carbon Commitment.

Central to the Australian Government policy is to reduce emissions through technology development and application, and build resilience and adaptation to climate change.

* Source: [Australian Government Climate Change Authority](#)

International Climate Framework

Australia is a member of many international working parties on climate change, partnerships and related agreements:

- **Paris Agreement (joined in 2016)**, Kyoto Protocol (signed 1998, ratified in 2007) & Cancun Pledge (2010)
 - United Nations Framework Convention on Climate Change (UNFCCC)
 - [Latest submission to UNFCCC NDC Registry](#) October 2021
 - Intergovernmental Panel on Climate Change (IPCC)
- [Asia-Pacific Rainforest Partnership](#)
- [International Partnership for Blue Carbon](#)
- [International Coral Reef Initiative](#)
- [Global Oceans Alliance](#)
- [Mission Innovation](#) (global clean energy initiative)
- [Leadership Group for Industry Transition](#) (committed to achieve the Paris Agreement)
- [International Solar Alliance](#)
- At the G7 Summit in June 2021, Australia joined the High Ambition Coalition for Nature and People.

Australia's Bilateral Technology Agreements

Recently finalised:

- Australia - Japan Partnership on Decarbonisation
- Australia - Germany Hydrogen Accord
- Australia - Singapore Establishment of a \$30million partnership to accelerate the deployment of low emissions technology fuels and technologies.
- Australia-UK partnership to drive low emissions solutions
- Australia-Republic of Korea Low and Zero Emissions Technology Partnership
- Australia - Fiji partnership on high integrity carbon offsets to reduce emissions
- Australia - Indonesia Joint Statement on Cooperation on the Green Economy and Energy Transition
- Australia - Papua New Guinea work together on carbon offsets
- Australia - Vietnam Joint Statement on Commitment to Practical Climate Action and Enhanced Economic Engagement Strategy.

Australia's Climate and Emissions Strategies and Plans

Recent releases and updates

The Australian Government has recently released and updated its Plans and Strategies around COP 26 to achieve its aims:

- [Australia's Long-term Emissions Reduction Plan](#) (DISER)
 - [Modelling analysis](#)
- [Investment Technology Roadmap](#) which provides annual updates via
- [First Low Emissions Technology Statement 2020](#)
- [Second Low Emissions Technology Statement 2021](#)
- [National Climate Resilience and Adaption Strategy 2021-25](#) (DAWE)
- [Affirming Australia's net zero emissions by 2050 target](#)
 - ❖ The Australian Government communicated an updated and enhanced [Nationally Determined Contribution](#) (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC) secretariat.

Australia's key strategies

Australia's major strategies and plans are supported by a further range of plans or policies providing greater detail in specific areas. These are implemented and administered by various government bodies and include amongst others:

- [Australia's National Hydrogen Strategy](#)
- [Future Fuels and Vehicle Strategy](#)
- [National Soil Strategy](#)
- [Global Resources Strategy](#)
- [Critical Minerals Strategy](#)
- [The Modern Manufacturing Strategy](#)
- [The Australia Electrical Market Operators Integrated System Plan](#)

Australia's Long Term Emissions Reduction Plan

The [Long Term Emissions Reduction Plan](#) is Australia's central platform in understanding what how and why Australia plans to achieve its 2050 net zero goal.

The **Plan** is based on five principles:

- Widespread adoption of related technology
- Expand business and household choices
- Reduce the cost of new energy technologies, prioritised as well as emerging
- Maintaining access to affordable/reliable power
- Be accountable for progress.

The **Plan** outlines how the Government will do this:

- Reduce the cost of low emissions technologies
- Deploy these technologies at scale
- Facilitate transition opportunities in new and traditional markets
- Foster global collaboration.

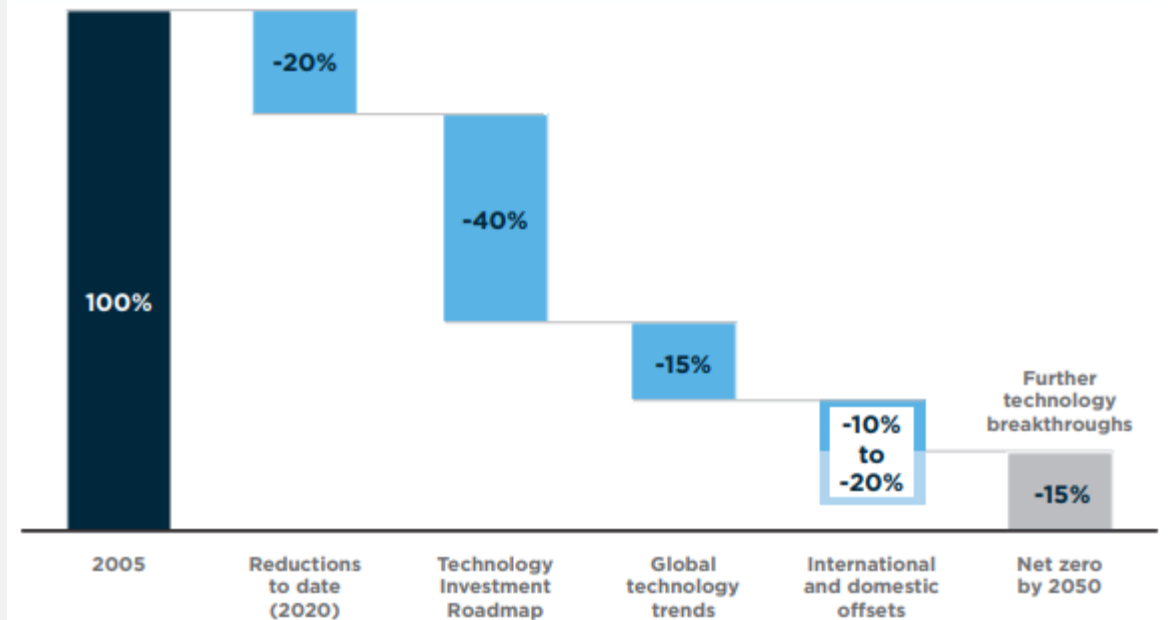
How Australia expects to achieve emissions reductions

Australia has reduced its emissions by more than 21% since 2005

Australia policy is to reach its net zero target by 2050 through harnessing priority technologies already in place and benefiting from global trends in technologies and further technological breakthroughs.

- The [Technology Investment Roadmap](#) provides a strategy to develop and deploy low emissions technologies.
- The annual [Low Emissions Technology Statements](#) review, refine and evaluate the government's investments in low emission technologies.

Priority technology contribution to meeting Australia's net zero by 2050 goal



Source: [Department of Industry, Science, Energy and Resources](#)

Progress towards Climate Change Commitments

The Government's climate change commitments include:

The Paris Agreement.

Australia submitted its revised [National Determined Contribution](#) (NDC) to the UNFCCC in October 2021.

This included:

- Adopting a target of net zero emissions by 2050.
- Reaffirming its target to reduce Greenhouse gas emissions by 26-28% from 2005 levels.
- Committing to seven low emissions technology goals.

Paris Agreement Emissions Reduction Target:

- Under the Paris Agreement, Australia set its target to reduce emissions by 26-28% below 2005 Levels by 2030.
- To reduce emissions by the above levels Australia will need to reduce emissions to 455-443mt CO₂-e.

Progress to date

Emissions Reduction Target:

- The [National Greenhouse Gas Inventory](#) Quarterly Update June 2021 shows Australia's annual emissions at 499mt CO₂-e, 20.4% lower than 2005 levels.
- Under a scenario aligned with the [National Technology Investment Roadmap](#), Australia's emissions are on track to be up to 35 per cent below 2005 levels by 2030.

Progress towards Climate Change Commitments cont

Domestic programs:

The [Clean Energy Regulator](#) manages a number of programs aimed at accelerating carbon abatement. These include:

The Emissions reduction Fund (ERF):

- Invests in projects reducing emissions by incentivising organisations and individuals to adopt practices/technologies that reduce emissions. Done through issue of [Australian Carbon Credit Units](#) (ACCUs). Entities buy ACCUs eligible carbon abatement schemes. ACCUs can be traded in the market or sold back to the government.
- ERF currently has 1,000 projects delivering carbon abatements

The large scale Renewable Energy Target (LRET)

- Encourages investment in large scale renewable power stations. CER hit its 2020-2030 target of 33000 GWh in Jan 2021.
- The CER continues to support large scale renewable projects.

The small scale renewable energy scheme (SRES):

Encourages the adoption of small scale renewables such household PV and solar water heaters.

Australia has the highest uptake in the world of rooftop solar, with 3 million solar systems (1 in 4 households) installed across Australia.

Progress to date

- In the [Quarterly Carbon Market Report – September 2021](#), the CER forecast that that Australia is on track to reduce carbon emissions by 56.8 million tonnes CO₂-e in 2021. This is driven by:
 - ERF – issuance of 17 million ACCUs will reduce CO₂-e by 17 million tonnes.
 - LRET – will reduce CO₂-e by 24.3 million tonnes
 - SRES - will reduce CO₂-e by 15.5 million tonnes
- A record 32% of electricity generated in the National Electricity Market (NEM) in 2021 Q3 came from renewable energy sources.
- [IRENA's Renewable Capacity Statistics 2021](#) report indicates that, in total across 2018, 2019 and 2020, Australia has added the highest wind and solar capacity per capita of any developed nation at 578 watts per person.

Australia's Technology and Innovation focus

Australia's investment in innovation and technology is conducted by several government agencies and funds:

- The [Clean Energy Finance Corporation \(CEFC\)](#) is the world's largest government owned 'green bank' and has mobilised over \$9.5 billion for clean energy projects with a total value of around \$33 billion.
- In November 2021, the Australian Government announced it would provide CEFC with \$500 million in additional capital as part of the planned creation of a \$1 billion Technology Commercialisation Fund.
- [Australian Renewable Energy Agency \(ARENA\)](#) has contributed \$1.8 billion in funding to 612 renewable energy projects with a total value of almost \$7.9 billion since 2012.
- In November 2021, the Australian Government announced it was expanding the [Future Fuels Fund](#) to \$250 million. The expanded fund will include more support for business fleets, new technologies for long-distance and heavy vehicles and public charging of electric vehicles and hydrogen refuelling stations.

Pathway to a lower emissions future through technology and innovation:

- [National Hydrogen Strategy](#)
- [Future Fuels and Vehicles Strategy](#)
- Developing a [Long Term Greenhouse Gas Emissions Reduction Strategy](#)
- [ARENA Bioenergy Roadmap](#)
- [Climate Change Action Strategy for international development investments](#)
- [Australia Pacific Climate Partnership](#)

Technology Investment Roadmap

Australia produced its Technology Investment Roadmap in May 2020

- [The first Low Emissions Technology Statement](#) (released Sept 2020) undertaken by a ministerial reference panel chaired by former Australian Chief Scientist, Dr Alan Finkel and including industry, private investment, government and research leaders.
- [The Second Low Emissions Technology Statement](#) (LETS 21) was released in November 2021. DISER will provide annual statements.
- LETS 21 highlights the (now) [seven priority technology goals](#) and stretch price targets Australia will focus on.
 - **Clean hydrogen:** production under \$2 per kg
 - **Ultra low cost solar:** electricity generation as another priority technology. Price target is \$15 per MWh (a third of today's costs).
 - **Energy storage:** electricity from storage for firming under \$100 per MWh
 - **Low emission steel:** production under \$700 per tonne
 - **Low emissions aluminium:** production \$2200 per tonne
 - **Carbon capture and storage:** CO2 compression, Hub transport and storage under \$20 per tonne.
 - **Soil carbon:** soil carbon measurement under \$3 per hectare

Over the next decade, the Government will invest around \$20 billion in low emissions technology and leverage another \$80 billion from the private sector and governments.

Key Government Agencies

- [Department of Industry, Science, Energy and Resources](#)

The following agencies report to the Dept. of Industry et al.:

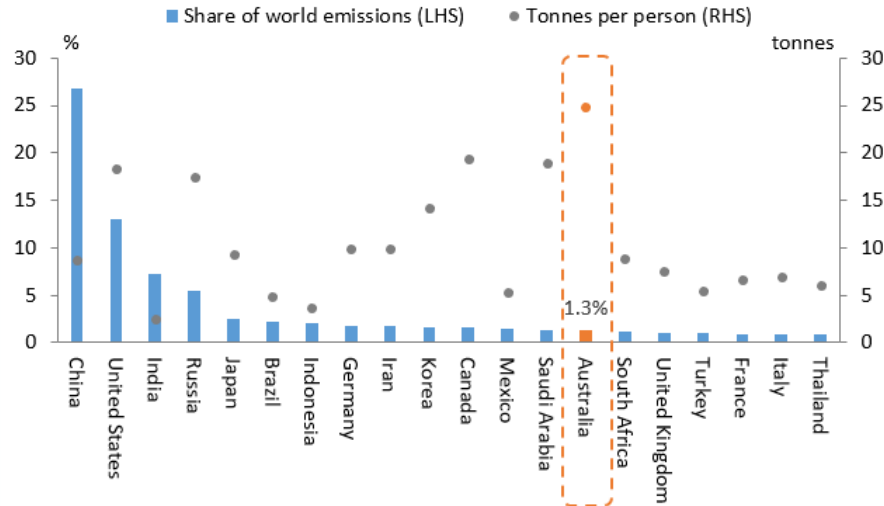
- [Clean Energy Regulator](#)
- [Clean Energy Finance Corporation](#) (world's biggest 'green bank'). [Clean Energy Innovation Fund](#)
- [Australian Renewable Energy Agency](#)
- [The Climate Change Authority](#)
- [CSIRO Climate Science Centre](#)
- [National Climate Science Advisory Committee](#)
- [Department of Agriculture, Water and the Environment](#)
 - [Bureau Of Meteorology](#)
 - [National Environmental Science Program](#)
- [Department of Foreign Affairs and Trade](#)

Tracking and Reporting

- [National Greenhouse Accounts – Inventory](#) (Department of Industry, Science, Energy and Resources)
 - [Quarterly Update of Australia's National Greenhouse Gas Inventory](#)
 - [Australian Greenhouse Emissions Information System](#)
 - [State and Territory Greenhouse Gas Inventories](#)
 - [National Inventory by Economic Sector](#)
 - [Australia's National Inventory Report](#)
 - [Land Sector Reporting](#)
- [National Greenhouse and Energy Reporting Scheme \(NGERS\)](#) (Clean Energy Regulator)
- [Quarterly Carbon Market Report](#) (Clean Energy Regulator)

Australia's Progress towards Climate Change Commitments

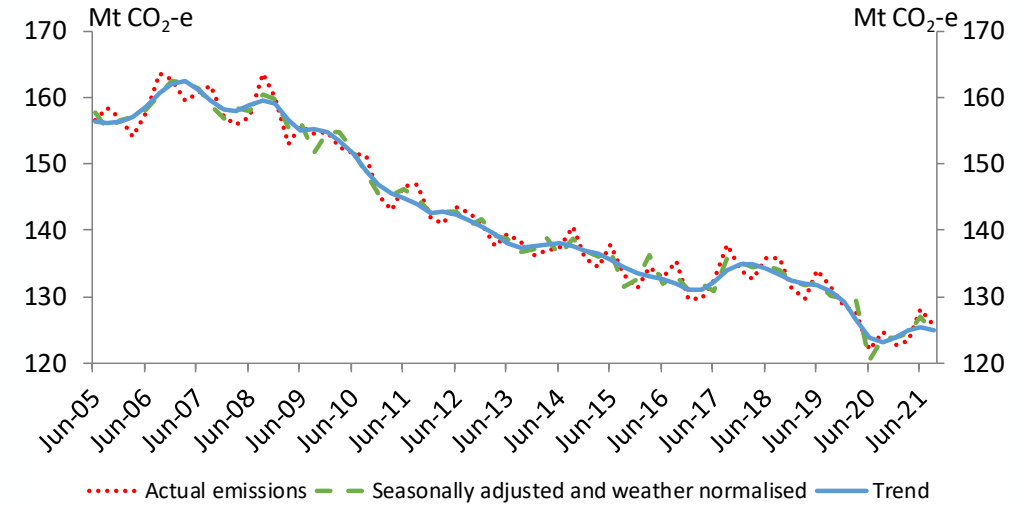
20 largest greenhouse gas emitting countries (ex LULUC)



- Australia produces around 1.3% of global greenhouse gas emission on an annual basis.
- Australia is on track to achieve its target of reducing emissions by 26 to 28 per cent below 2005 levels by 2030.
- Australia's quarterly emissions have fallen by over 20% since 2005. Australia has reduced its emissions at a faster rate than many similar developed countries.

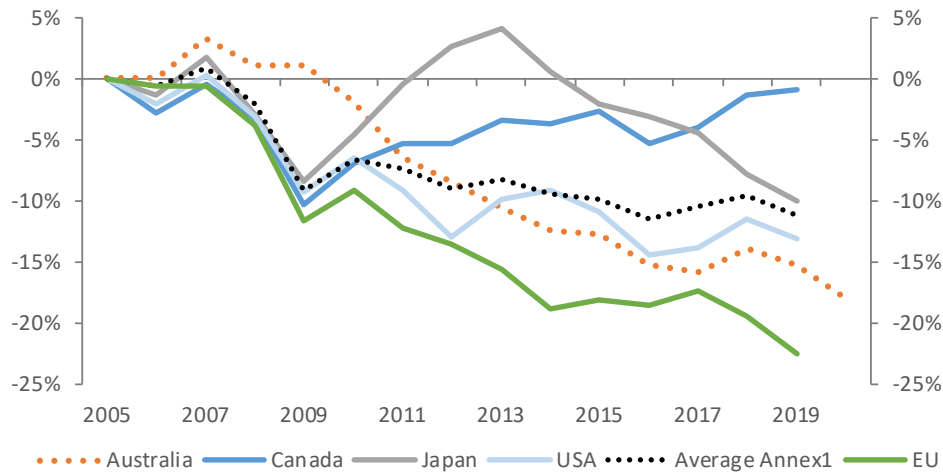
Source: www.climatewatchdata.org; World Bank population (2018)

Australia's decline in quarterly GHG emissions



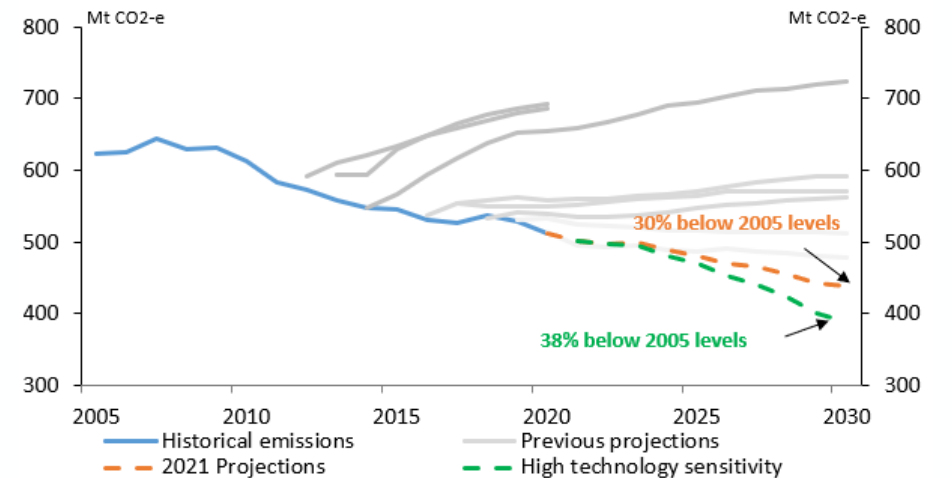
Source: Department of Industry, Science, Energy and Resources

Australia's decline in GHG emissions since 2005



Source: UNFCCC Annex1 parties

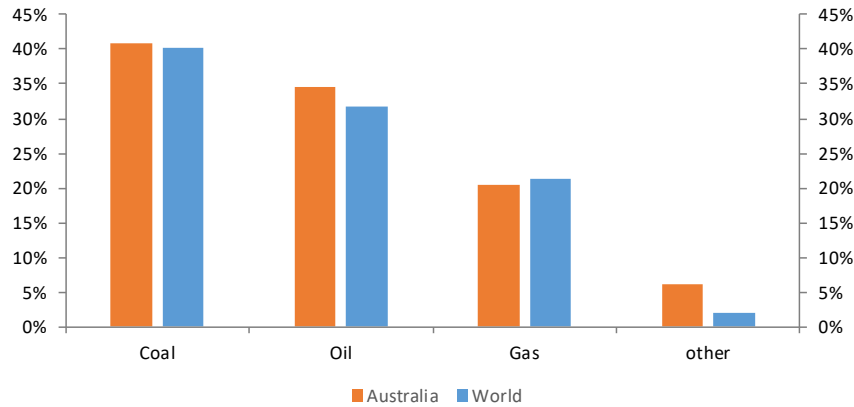
Australia's emissions per person and emissions intensity of GDP



Source: Department of Industry, Science, Energy and Resources

Australia's Progress towards Climate Change Commitments

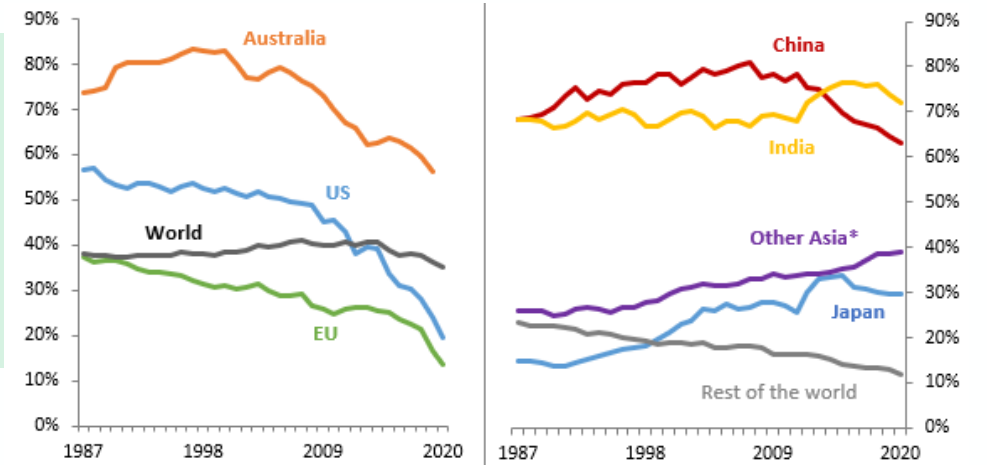
Carbon emissions by fuel source



Source: CAIT Climate Data Explorer via. Climate Watch

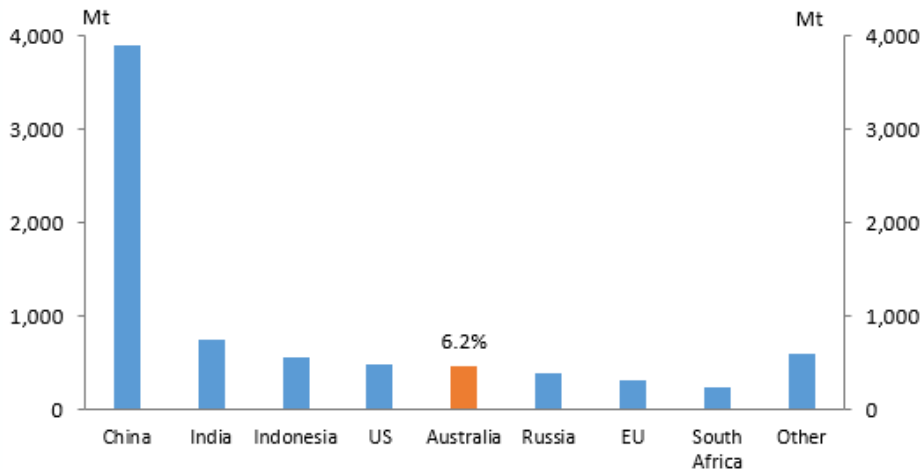
- Australia's overall emissions by fuel source profile is similar to the world average.
- Australia currently generates just over 50% of its electricity from coal, however this proportion is decreasing as the share of renewables increases.

Coal-fired electricity generation as a share of region's total electricity generation



Source: BP statistical review of world energy, June 2021

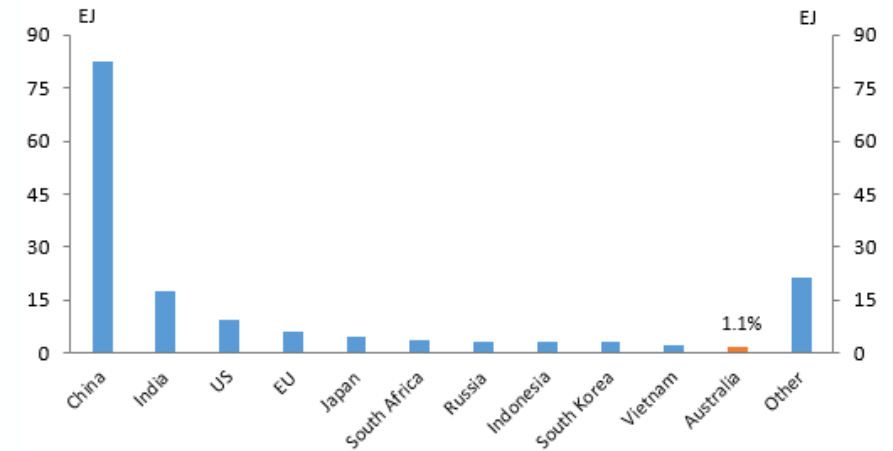
Global coal production (2020)



Source: BP statistical review of world energy, June 2021

- Australia accounts for around 6% of global coal production and around 1% of coal consumption.
- Coal exports comprise a relatively small proportion of global coal production.
- Australia is a significant exporter of coal. It contributes around 20% of thermal coal exports and 50% of metallurgical coal exports.

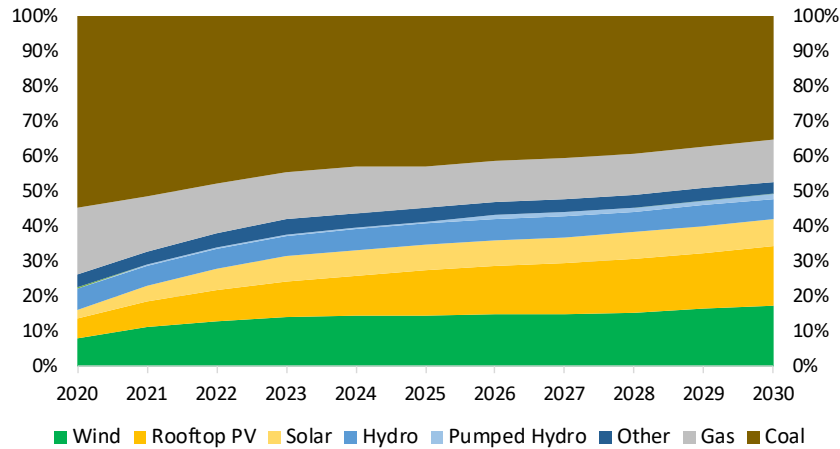
Global coal consumption (2020)



Source: BP statistical review of world energy, June 2021

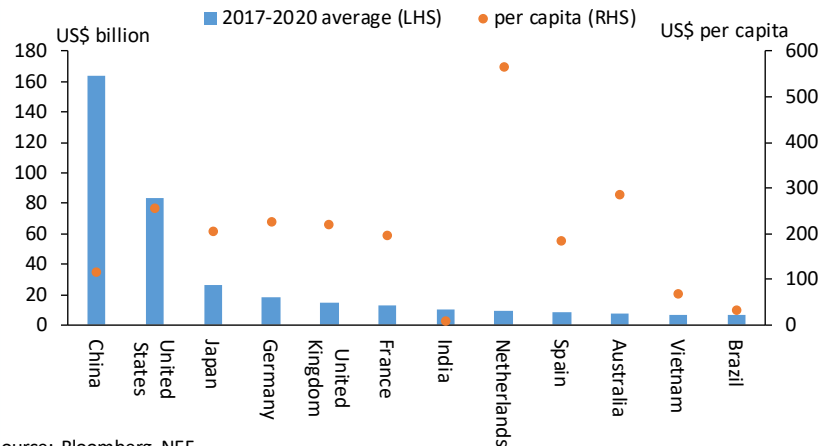
Australia's Technology and Innovation focus on Climate Change

Australia's electricity projections by fuel type



Source: Department of Industry, Science, Energy and Resources

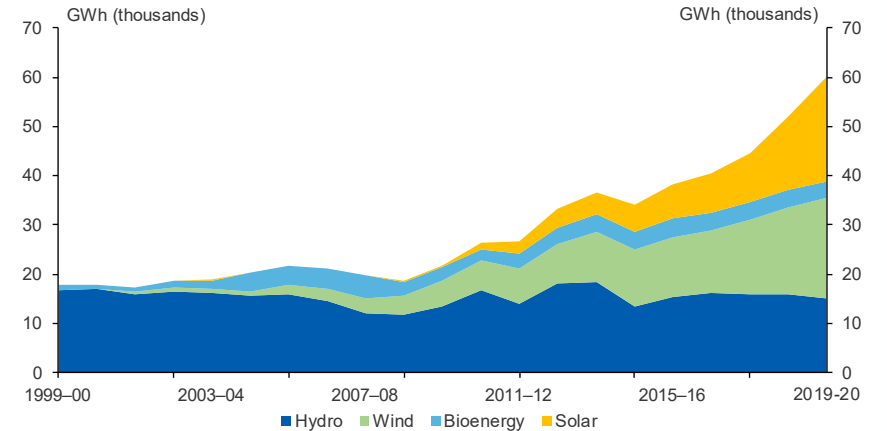
New renewable energy investment 2017-2020



Source: Bloomberg NEF

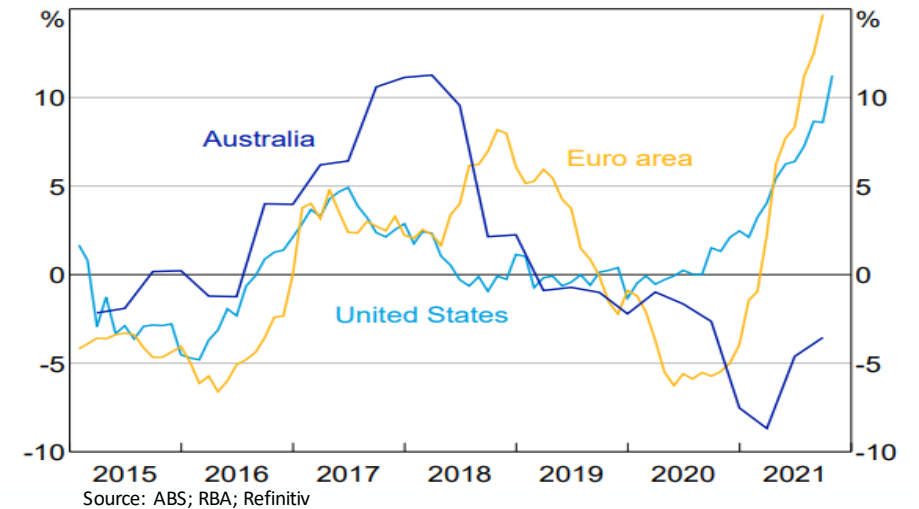
- The share of electricity generated in Australia by renewables is forecast to increase from around 22% in 2020 to 50% in 2030.
- Australia is one of the largest overall and per capita investors in renewable energy.
- Declining renewable energy costs, especially solar is contributing to high investment and uptake rates.
- Australia has the highest uptake of solar globally, with more than 25% of homes with rooftop solar PV.
- The high uptake of renewable energy in Australia is contributing to declining household energy costs, while many other countries are experiencing rising energy costs.

Australia electricity generation from renewable sources



Source: Department of Industry, Science, Energy and Resources

Household Energy Price Inflation



Source: ABS; RBA; Refinitiv