



Sustainable Fuels

[Australia's Economic Accelerator](#) (AEA) is a \$1.6 billion Australian Government investment aimed at transforming Australia's research translation and commercialisation landscape. AEA grants support the Australian Government identified priority areas for the economy (outlined in the [National Reconstruction Fund Corporation \(Priority Areas\) Declaration 2023](#)). Within these priorities, the first round of grants will prioritise projects that align with one or more of 6 focus areas, including advanced manufacturing, artificial intelligence, digital agriculture, quantum, sustainable fuels, and critical and strategic minerals processing.

Sustainable fuels are renewable energy carriers and fuels for transport and industrial uses which present sustainability benefits (primarily, quantifiable emissions reductions) when compared to traditional sources. This includes particular focus on the production of renewable hydrogen and low carbon liquid fuels (including synthetic fuels such as drop-in sustainable aviation fuel (SAF) and production using existing waste streams). As well as innovations in the transport, storage, and industrial applications of these fuels, including in the processing of green metals.



> National priority

Strong policy priority that aligns with Australia's resource advantage and feeds into other priority sectors. Sustainable fuels align with the national priority areas as an opportunity to capitalise on domestic and global energy trends and support realisation of net zero emissions targets.

- [National Hydrogen Strategy](#)
- [List of Critical Technologies in the National Interest](#)
- [Hydrogen Headstart program](#)

Advantage

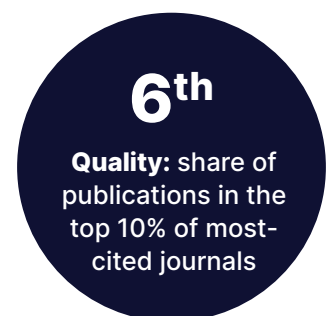
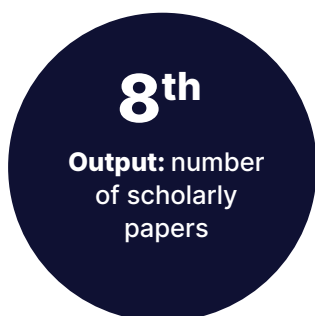
Australia possesses strong renewable energy resources and a wide range of feedstocks for alternative fuel chemistries alongside existing conventional infrastructure and industry capability.

Opportunity

Build domestic sustainable fuel and hydrogen industries which can support decarbonisation of hard-to-abate sectors while capturing value from the global energy transition.

> Research strength

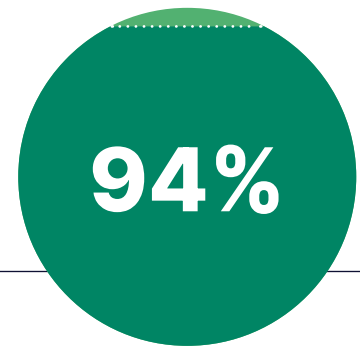
Australia's rank in the OECD calculated using 2018-2022 bibliometric data from Elsevier's SciVal. Sustainable fuels was defined using custom search terms.



> IP potential

Australia's share of publications cited in patent applications compared to the OECD average expressed as a percentage.

Refers to 2018-2022 patent and publication data in the Lens database.



> Market opportunity assessment

- Australian market size of **AU\$1.6 billion** in 2022¹
- Projected compound annual market growth of **23%** from 2022-2030²
- Global market size of **AU\$476 billion** in 2023³
- Projected global compound annual market growth of **9.1%** from 2023-2028⁴

> Example industry problems

AEA aims to provide developmental support for promising research commercialisation projects at the proof-of-concept or proof-of-scale level (TRL stages 3-7). Successful projects will scale up to meet emerging industry needs.

Industry problem	Opportunity	Impact
Industrial transport (long-range aviation, heavy road transport, shipping and rail) comprises 44% of total Australian transport emissions. They require power and range capabilities that are not attainable through electrification in the short term.	Produce cost-competitive drop-in biofuels and synthetic fuels at a scale that can reduce emissions trajectories from these sectors in the medium term.	Immediate emissions reduction in long-range industrial transport (including aviation) and opportunity to grow an industry from waste.
Australia has a limited supply of biofuel and synthetic fuel feedstocks, which may increase their cost. However, to be viable, biofuels must sell at parity or less than fossil fuels.	Develop novel conversion processes or feedstock enhancements that optimise the energy density of clean biofuels, whilst reducing costs and achieving commercial viability at scale.	Support scale up and sustainability (lower emissions and commercial viability) of a new biorefining industry.
The storage, transport and handling of hydrogen requires infrastructural renewal, components and novel interoperability solutions.	Pioneer commercially viable systems to safely store, transport and handle renewable hydrogen at scale.	Improve the commercial viability of renewable hydrogen to accelerate scaleup.
Generating 1 kilogram of green hydrogen through electrolysis uses 15 to 20 kilograms of clean water.	Develop solutions to reduce the demand for clean water, such as through advanced electrolysis and fuel cells and processing alternate water inputs.	Improve social licence and commercial viability of renewable hydrogen to accelerate uptake.

> Other public investment options

- [ARENA and the Future Made in Australia Innovation Fund](#)
- [Industry Growth Program](#)
- [Clean Energy Finance Corporation](#)
- [The National Reconstruction Fund](#)
- [Hydrogen Headstart Program](#)
- [Future Made in Australia Hydrogen Production Tax Incentive](#)
- [Rural Research and Development Corporations](#)

1 [DCCEEW 2022, State of Hydrogen 2022](#)

2 [DCCEEW 2022, State of Hydrogen 2022](#)

3 [International Energy Agency 2023, Renewables 2023](#)

4 [International Energy Agency 2023, Renewables 2023](#)