

# Growing Australia's hydrogen industry

## Australia's clean hydrogen opportunity

Australia has an ambition to be a global hydrogen leader. Alongside renewable electricity, hydrogen will play a significant role in decarbonising our economy. It will support the export of hydrogen embodied locally manufactured products.

We can use hydrogen:

- as a source of heat or chemical for producing green metals
- as a fuel for hydrogen fuel cell electric vehicles, buses, trucks, planes and shipping
- as a source of energy storage and generation
- as a chemical feedstock to make zero carbon chemicals, such as clean ammonia methanol, and low carbon liquid fuels
- as a source of tradeable clean energy that other countries will need to decarbonise their own economies.

The global hydrogen market has been forecast to reach US\$1.4 trillion in 2050. Australia has a range of comparative advantages in this market. These include vast renewable energy resources, space and land. These advantages allow us to competitively manufacture clean hydrogen and its derivative products for our own use, and to supply the world.

Australia has the largest pipeline of hydrogen projects of any country in the world. It has an estimated value over \$225 billion. There are more green hydrogen projects under development in Australia than in any other country.

Hydrogen is central to the Australian Government's vision for a Future Made in Australia. There is an opportunity to grow the Australian hydrogen industry sector. This will capture the significant economic, trade, export and investment opportunities that are becoming available.

## National Hydrogen Strategy 2024

The Australian Government has released its 2024 National Hydrogen Strategy. The strategy provides the framework to position Australia as a global hydrogen leader by 2030 with four overarching objectives and 34 specific actions.

The new 2024 National Hydrogen Strategy sets a growth trajectory through production and export targets with progress milestones. It identifies the most prospective hydrogen use cases that will be the focus for ongoing government economic incentives and policy support.

The new 2024 National Hydrogen Strategy represents a comprehensive [formal review](https://consult.dcceew.gov.au/review-of-the-national-hydrogen-strategy) (https://consult.dcceew.gov.au/review-of-the-national-hydrogen-strategy) and update of the [2019 National Hydrogen Strategy](#) (/energy/publications/australias-national-hydrogen-strategy#2019-nhs). The new strategy focusses on accelerating clean hydrogen industry growth. This will be achieved through increasing global cost competitiveness by supporting industry development at scale.

Find out more about the [2024 National Hydrogen Strategy](#). (/energy/publications/australias-national-hydrogen-strategy).

# Improving cost competitiveness

Hydrogen is still an emerging industry. It will become more efficient as it learns from the first wave of hydrogen projects. The Australian Government is delivering a range of policy initiatives that aim to support these early projects.

## Hydrogen Production Tax Incentive

The government will establish a [Hydrogen Production Tax Incentive](https://www.ato.gov.au/about-ato/new-legislation/in-detail/businesses/hydrogen-production-and-critical-minerals-tax-incentives) (https://www.ato.gov.au/about-ato/new-legislation/in-detail/businesses/hydrogen-production-and-critical-minerals-tax-incentives) . This will encourage renewable hydrogen production for eligible Australian resident corporations with a time-limited and uncapped refundable tax offset.

The incentive will provide a \$2 incentive per kilogram of renewable hydrogen produced for up to 10 years, between 1 July 2027 and 30 June 2040.

## Hydrogen Headstart Program

The \$4 billion Hydrogen Headstart Program will support large-scale renewable hydrogen production projects. These large-scale projects will accelerate scaling of Australia's hydrogen industry. They will assist industry learning and experience by successfully delivering and operating large scale clean hydrogen projects.

Find out more about the [Hydrogen Headstart Program](/energy/hydrogen/hydrogen-headstart-program) (/energy/hydrogen/hydrogen-headstart-program).

Building regional hydrogen hubs

The Australian Government has invested more than \$500 million to support and co-fund common infrastructure investments and the formation of hydrogen hubs in regional Australia. The hubs will co-host producers, users and potential exporters of hydrogen across industrial, transport, export and energy markets.

Funding allocated under the Hubs Implementation scheme has been announced for the following areas:

- the [Pilbara](https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-pilbara-hydrogen-hub-boost-australias-hydrogen-industry) (https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-pilbara-hydrogen-hub-boost-australias-hydrogen-industry) and [Kwinana](https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-70-million-investment-kwinana-hydrogen-hub-enables-major-step-forward-wa-hydrogen-industry) (https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-70-million-investment-kwinana-hydrogen-hub-enables-major-step-forward-wa-hydrogen-industry) in Western Australia
- the [Hunter Valley](https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-huge-hydrogen-hub-be-housed-hunter) (https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-huge-hydrogen-hub-be-housed-hunter) in NSW
- [Bell Bay](https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-70-million-boost-tasmanias-renewable-hydrogen-industry) (https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-70-million-boost-tasmanias-renewable-hydrogen-industry) in Tasmania
- [Central Queensland](https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-69-million-boost-central-queenslands-renewable-hydrogen-industry) (https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-69-million-boost-central-queenslands-renewable-hydrogen-industry) and [Townsville](https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-renewable-hydrogen-hub-north-queensland) (https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-renewable-hydrogen-hub-north-queensland) in Queensland
- [Port Bonython](https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-port-bonython-hydrogen-hub-boost-australias-hydrogen-industry) (https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-port-bonython-hydrogen-hub-boost-australias-hydrogen-industry) in South Australia.

Find out more about the [Hydrogen Hubs program](/energy/hydrogen/building-regional-hydrogen-hubs) (/energy/hydrogen/building-regional-hydrogen-hubs).

## Concessional Finance

Concessional finance can play an important role in:

- enabling large scale projects to proceed

- prove new commercial models
- provide confidence to capital markets.

Concessional finance is provided through government special investment vehicles such as the [National Reconstruction Fund](https://www.nrf.gov.au/) (https://www.nrf.gov.au/) (\$15 billion allocated) and the [Clean Energy Finance Corporation](https://www.cefc.com.au/document?file=/media/bnqfczbg/cefc_investmentinsights_hydrogenfund.pdf) (https://www.cefc.com.au/document?file=/media/bnqfczbg/cefc\_investmentinsights\_hydrogenfund.pdf) (CEFC).

The [CEFC invests in hydrogen](https://www.cefc.com.au/document?file=/media/bnqfczbg/cefc_investmentinsights_hydrogenfund.pdf) (https://www.cefc.com.au/document?file=/media/bnqfczbg/cefc\_investmentinsights\_hydrogenfund.pdf) through its dedicated AUD\$300 million Advancing Hydrogen Fund, as well as in hydrogen-related climate technology opportunities. Equity and debt finance are used to support projects that align with the National Hydrogen Strategy. CEFC financing for hydrogen projects has totalled more than AUD\$40 million. This includes the CEFC investment of AUD\$15 million in [Hysata's most recent Series B financing round](https://www.cefc.com.au/media/media-release/cefc-backed-hysata-raises-us-111-million-in-series-b-round/) (https://www.cefc.com.au/media/media-release/cefc-backed-hysata-raises-us-111-million-in-series-b-round/).

## Grant funding

Under its own funding programs, the Australian Renewable Energy Agency (ARENA) has committed over AUD\$300 million to:

- hydrogen R&D projects
- feasibility studies
- pilot and demonstration plants.

This includes grant funding allocated to 21 research and innovation projects as part of its [2024 Renewable Hydrogen Deployment Funding Round](https://arena.gov.au/news/funding-boost-for-hydrogen-and-low-emissions-iron-steel-research/) (https://arena.gov.au/news/funding-boost-for-hydrogen-and-low-emissions-iron-steel-research/).

ARENA administered the Australian portion of the German-Australian Hydrogen Innovation and Technology Incubator (HyGATE) initiative. Australia and Germany have respectively committed up to AUD\$50 million and €50 million to establish HyGATE. In January 2023, [ARENA announced funding for four jointly funded projects under the HyGATE initiative](https://arena.gov.au/news/recipients-announced-for-australia-germany-hygate-initiative/) (https://arena.gov.au/news/recipients-announced-for-australia-germany-hygate-initiative/).

The Australian Government has announced the establishment of a AUD\$1.7 billion [Future Made in Australia Innovation Fund](https://budget.gov.au/content/factsheets/download/factsheet-fmia.pdf) (https://budget.gov.au/content/factsheets/download/factsheet-fmia.pdf). This will fund the deployment of innovative technologies and facilities linked directly to priority industries, including:

- renewable hydrogen
- hydrogen derivative industries (such as low carbon liquid fuels, low carbon metals such as green iron and green alumina).

The fund is to be administered by ARENA.

[]

## Guarantee of Origin Scheme

We are working to design and develop an internationally consistent Guarantee of Origin scheme for Australia.

The scheme will issue digital certificates that allow producers, exporters and users to prove where a product was made, and the emissions associated with its production and transport.

The scheme will commence with hydrogen and will then expand to include low carbon liquid fuels such as:

- sustainable aviation fuel
- green metals like steel and aluminium

- biomethane and biogas.

Find out more about the [Guarantee of Origin scheme](/energy/renewable/guarantee-of-origin-scheme) (/energy/renewable/guarantee-of-origin-scheme).

[]

## Improving Australia's hydrogen regulation

Commonwealth, state and territory governments are working together to make regulations clearer for the hydrogen industry. The National Hydrogen Regulatory Review will help grow the hydrogen industry by making regulations more consistent and easier to understand.

Governments have committed to delivering National Hydrogen Codes of Best Practice. These will address barriers to regulatory transparency and efficient approval pathways for emerging hydrogen industry applications. They will also assist regulators and industry to understand and manage regulatory frameworks for new hydrogen and ammonia projects. These codes will support:

- safety
- national consistency
- transparent regulatory pathways
- efficient regulatory approvals.

The National Hydrogen Regulatory Review, and the development of the National Hydrogen Codes of Best Practice, relies on broad stakeholder engagement and consultation and ongoing co-design. Previous and upcoming consultation and co-design workshop information is available at [Review of Hydrogen Regulation: Hydrogen Industry Consultation](https://consult.dcceew.gov.au/review-of-hydrogen-regulation) (https://consult.dcceew.gov.au/review-of-hydrogen-regulation) .

We are engaged on wider processes relevant to regulatory frameworks for hydrogen, including relating to the use of hydrogen in the transport sector and Australian and international standards development processes.

We have published the [lists of legislation, and relevant regulators for 6 hypothetical hydrogen projects](/energy/hydrogen/regulatory-lists) (/energy/hydrogen/regulatory-lists). It is anticipated that states and territories will publish their own legislation lists.

## Contact

Email [nationalhydrogenregulatoryreview@dcceew.gov.au](mailto:nationalhydrogenregulatoryreview@dcceew.gov.au) (mailto:nationalhydrogenregulatoryreview@dcceew.gov.au)

[]

## Building international partnerships

We are setting the foundations for Australia to be a major hydrogen exporter. We are doing this by partnering with other countries:

- to attract investment
- build supply chains
- advance research and development.

## Annual State of Hydrogen

The Australian Government has committed to review progress and publish an annual State of Hydrogen report.

The most recent [State of Hydrogen 2022](/energy/publications/state-of-hydrogen-2022) (/energy/publications/state-of-hydrogen-2022) report found Australia has the resources, technical skills, and track record with international partners to seize the opportunity to become a global hydrogen powerhouse.

Read the [State of Hydrogen 2021](/energy/publications/state-of-hydrogen-2021) (/energy/publications/state-of-hydrogen-2021) report.



## Connect with us

Subscribe to [Australian hydrogen news](/energy/hydrogen/subscribe-to-australian-hydrogen-news) (/energy/hydrogen/subscribe-to-australian-hydrogen-news)

Email [hydrogen@dcceew.gov.au](mailto:hydrogen@dcceew.gov.au) (mailto:hydrogen@dcceew.gov.au)



## Read more

### HyResource and HyLearning

The Australian Government funded CSIRO to develop its [Hydrogen Knowledge Centre](https://research.csiro.au/hydrogenknowledge/) (https://research.csiro.au/hydrogenknowledge/), as a source of information about Australia's hydrogen project pipeline, hydrogen FAQs and educational resources and the latest in hydrogen research.