



Australian Government

Department of Industry,
Science and Resources

Inquiry into Australia's transition to a green energy superpower

Department of Industry, Science and Resources
Submission

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Introduction

Thank you for the opportunity for the Department of Industry, Science and Resources (the Department) to respond to the Joint Standing Committee on Trade and Investment Growth's Inquiry into Australia's transition to a green energy superpower.

Australian industry has an important role to play in growing Australia's economic prosperity while supporting decarbonisation to reach net zero emissions by 2050. This includes the resources industry which will supply many of the minerals needed for low emissions and renewable energy technologies. Manufacturers, including for metals and chemicals, have an opportunity to produce essential inputs for a green economy.

The Department is supporting Australian industries to transition to net zero emissions by investing in science, technology and commercialisation; growing innovative and competitive businesses, industries and regions; and supporting a strong resources sector. We work to:

- Take advantage of, and build on, Australia's strengths;
- Help businesses invest and create jobs; and
- Drive long-term productivity, growth and sustainability.

This submission outlines how the Department is supporting Australian industries that will be essential in the global energy transition. This includes through the National Reconstruction Fund and sector specific programs for critical minerals, manufacturing and the space sector. The Department also provides enabling support services through the Major Projects Facilitation Agency and international engagement with our key trading partners.

Opportunities for Australian industry

A range of Australian industries will be important enablers in the global energy transition and achieving net zero emissions. The resources sector will extract many of the minerals required for low emissions technologies. Heavy industries such as steel, aluminium and concrete manufacturing will play a key role in the construction of infrastructure, vehicles and other products.

Recent analysis from the Department's *Resources and Energy Quarterly* (REQ) publication shows Australia is becoming increasingly important to the global energy transition, with exports of key 'green' energy commodities (copper, nickel, lithium) expected to increase by a third over the next two years, to reach more than \$31 billion by 2024. Australia currently produces almost half of the world's lithium and over the next 5 years, is forecast to produce up to one-fifth of the world's battery grade lithium hydroxide. As a major producer of critical minerals, Australia is well placed to supply the US and other global electric vehicle producers with key inputs. Australian lithium and nickel producers already have links with US automakers including Tesla, General Motors and Ford. Australia is fast developing major downstream processing capacity.

To support the global energy transition and net zero emissions, the resources sector will need to extract more minerals while at the same time needing to bring its carbon emissions down. Future policy settings will need to balance emissions reduction goals with the ongoing and future need to mine Australia's minerals so that the pipeline of projects needed for a net zero future can be delivered. The Department will continue to work with agencies such as the Department of Climate Change, Energy, the Environment and Water (DCCEEW) to inform the development of emissions reductions policies so that both of these goals can be realised.

Exploration for new resources

Ongoing industry investment in Australian resources exploration is needed to drive the discovery of new, bigger and higher quality resources, including in new minerals and energy frontiers. But exploration at the frontiers carries high levels of uncertainty and risk. The Government is helping to reduce that risk and encourage investment in new mineral exploration through the *Junior Minerals Exploration Incentive* (JMEI). The JMEI encourages investment in small minerals exploration companies that carry out greenfields mineral exploration in Australia. Under the JMEI, eligible exploration companies can generate tax credits by choosing to give up a portion of their losses from greenfields mineral exploration expenditure.

The Government is also helping to de-risk early stage exploration through the \$225 million *Exploring for the Future* program. The program uses cutting-edge technologies and approaches to deliver world-leading data about the mineral, energy and groundwater resources in underexplored areas of Australia.

This publicly funded geoscience helps to pinpoint new mineral deposits, identify potential locations for hydrogen and carbon storage, and discover naturally occurring sources of hydrogen. It is made freely available to all Australians. In doing so, this data drives exploration and helps to create the pipeline of new energy and resource projects required to support Australia's transition to net zero and grow the green economy.

As well as helping to de-risk new exploration, the Government's investment in geoscience establishes fundamental information about Australia that helps us to sustainably manage and harness the full potential of our natural resources, and make informed decisions on how we utilise our land.

Beyond the resources and energy sectors, public geoscience also enhances our understanding of our groundwater resources, helping to strengthen climate resilience, grow Australia's regions, increase our agricultural output, and support water security for communities.

The National Reconstruction Fund

In order to support, diversify and transform Australia's industry and economy, the Australian Government is establishing the \$15 billion National Reconstruction Fund (NRF). The NRF will also help create secure, well-paid jobs, secure future prosperity, and drive sustainable economic growth.

The NRF will provide finance (including loans, guarantees and equity) to drive investments that add value and develop capability in seven priority areas of the Australian economy. These priority areas focus on value adding and capability development to leverage Australia's natural and competitive strengths. The seven priority areas are: value-add in resources; value-add in agriculture, forestry and fisheries; renewables and low emission technologies; medical science; transport; defence capability and enabling capabilities.

The Government has announced target investment levels for specific priority areas, including:

- up to \$3 billion for renewables and low emissions technologies;
- \$1 billion for value-adding in resources;
- \$1 billion for critical technologies, and;
- \$1 billion for advanced manufacturing.

Through its investment in renewables and low emissions technologies, the NRF will support Australian industry to harness opportunities created by the transition to net zero.

Enabling legislation for the NRF was introduced to Parliament on 30 November 2022. The Government is now consulting with industry to help inform the design of the NRF and its role as a financier.

The Government will develop Co-investment Plans with industry over the course of 2023, which will outline investment opportunities in priority areas and actions for Government and industry to build Australia's industrial capabilities. The Co-investment Plans will complement the Government's establishment of the NRF.

Critical Minerals

Clean energy technologies will need to be deployed widely in order for the world to achieve the goals under the Paris Agreement. These technologies are manufactured using a wide range of Australian resources including critical minerals which are essential inputs to the production of storage batteries, electric vehicles, solar panels and wind turbines. The demand for Australia's lithium, graphite, rare earths elements and many other critical minerals is expected to rise rapidly as the world transitions to net zero.

The Government is committed to the development of Australia's critical minerals industry and is working with international partners to position Australia as a world leader in exploration, extraction, production, and processing.

The Government has a number of initiatives currently underway to support the critical minerals sector and to help de-risk projects and crowd in private investment. These initiatives are either currently available or in development and are designed to encourage investment, incentivise adding value and moving into downstream manufacturing. Current initiatives include:

- The development of a new *Critical Minerals Strategy* which aims to:
 - Create economic opportunity – including for regional Australian communities;
 - Develop new sovereign capabilities and industries – including growing our downstream processing and manufacturing capacity;
 - Build reliable, competitive and diverse supply chains – including through international partnerships and investment;
 - Support clean energy technologies, and;
 - Support sustainable critical minerals development, including genuine partnerships with First Nations Peoples.
- The *Australian Critical Minerals Research and Development Hub* (The Hub)
 - The 2022-23 Budget includes \$50.5 million over four years to the Hub which will combine expertise from Geoscience Australia, CSIRO and the Australian Nuclear Science and Technology Organisation to work with Australia's research sector and industry to address technical challenges and support international research and development collaborations.
- The *Critical Minerals Development Program* (the Program)
 - The Government has allocated \$50 million over three years to the Program for competitive grants to support early and mid-stage critical minerals projects to enable them to overcome market and technical barriers to development. This grant funding builds on a further investment of around \$50 million recently committed to six key projects across Australia in September 2022.

- The program will help projects to create more jobs and economic opportunity in regional communities, grow new skills, industries and IP in Australia by capturing more value on shore from Australia's world-class geological deposits and assist supply chains for key technologies in clean energy, communications, and defence.
- Critical Minerals Facility
 - The Australian Government has committed \$1.5 billion in loans to critical minerals companies through the Critical Minerals Facility under the Export Finance Australia's (EFA) National Interest Account.
 - The first two loans will support two companies, Renascor and EcoGraf, that will process and produce purified graphite for lithium ion batteries.
 - A third loan will support Iluka Resources to develop Australia's first integrated rare earths refinery in Western Australia. The refinery will produce separated rare earth oxide products, which are used in permanent magnets in a wide range of technologies, including electric vehicles, clean energy generation and defence.
- Loans from the Northern Australia Infrastructure Facility
 - The Australian Government has also committed up to \$250 million in loans from Northern Australia Infrastructure Facility (NAIF) and Export Finance Australia (EFA) to support the expansion of Pilbara Minerals Limited's Pilgangoora Operations in Western Australia.
 - The operations will produce lithium containing spodumene concentrates which are essential components of batteries used in electric vehicles and portable electronics.
 - Through this support, Australia will continue to solidify its offering as a globally trusted supplier of critical minerals and support the world's transition away from non-renewable energy sources.

Battery Manufacturing

Australia can build on its strengths and competitive advantages in critical minerals and R&D to diversify and grow its battery industry. Australia has a unique opportunity to be a world leader in a future industry that will create jobs and attract investment. Analysis carried out in 2021 outlined this effort could create 34,700 jobs.¹

Batteries are pivotal in the transformation of the global energy system, the transport sector, and to achieve our net zero emissions by 2050. According to the Future Battery Industries Cooperative Research Centre (FBICRC), global demand for batteries is expected to increase by 9- to 10- fold over the next decade. Energy storage is forecast to grow to 1,028GWh by 2030. This is up from 34GWh in 2020 and is expected to attract USD\$262 billion in investment between 2021 and 2030.²

To harness these opportunities, the Government is delivering the *Australian Made Battery Plan* (the Plan). This will create jobs, advance regional development, and capture more value by manufacturing batteries end-to-end onshore.

Under the Plan, the Government will:

- develop Australia's first *National Battery Strategy* (the Strategy);

¹ Accenture, 2021, *Future Charge: Building Australia's Battery Industries*, Future Battery Industries Cooperative Research Centre

² Bloomberg New Energy Finance, 2021, *Global Energy Storage Outlook 2021*.

- partner with the Queensland state government to establish an Australian-made Battery Manufacturing Precinct, including up to \$100 million to boost Australia's battery manufacturing industry;
- establish a Powering Australia Industry Growth Centre with industry to convert Australia's competitive advantages in renewables into local jobs and investment; and
- support 10,000 New Energy Apprenticeships.

The Strategy will align with the Government's broader policies, including the *National Reconstruction Fund*, *Powering Australia* and *Buy Australian Plan*.

Business support

The Department also works to ensure Australian industry has opportunities to compete for work in major public and private sector projects in Australia and helps project developers navigate major project regulatory approvals. This supports economic growth and creates Australian jobs.

Major Projects Facilitation Agency

The Department's Major Projects Facilitation Agency (MPFA) provides facilitation services to help project proponents navigate Australian Government regulatory approvals.

The MPFA also administers the Major Project Status (MPS) initiative for projects that are strategically significant and challenged by complex regulatory approvals. The MPFA provides additional support to these projects, including coordinating with state and territory facilitation offices to assist project proponents with navigating state and territory government approvals.

MPS projects tend to be projects within emerging industries focusing on developing new capabilities and facing complex regulatory approvals pathways. The majority of projects in the pipeline are within industries that support the transition to a green energy superpower, including offshore wind, renewable electricity generation and export, hydrogen and ammonia production and export, and carbon capture, use and storage.

Through its facilitation services, the MPFA not only supports projects in the green economy space to navigate their regulatory approvals requirements, it also facilitates business intelligence capture and feeds this into relevant policy areas to support evidence-based policy development, including initiatives within DCCEEW and DFAT portfolios.

Australian Industry Participation plans

The Department, through the *Australian Jobs Act 2013*, also provides opportunities for local businesses to benefit from the sizeable investments expected to be made through Australia's energy transformation. This is through the requirement for *Australian Industry Participation* plans to be developed for eligible major public and private projects with an expenditure of \$500 million or more, or for projects receiving Australian Government funding of \$20 million or more. These plans detail how Australian industry will be given a full, fair and reasonable opportunity to participate in these projects.

International partnerships

International partnerships will be important to enable technology transfer and to open up new markets for Australia. The Department plays an active role to secure ambitious trade agreements with strategic economic partners to promote trade and investment.

Recent and important agreements that the Department supported includes the Australia-India Economic Cooperation and Trade Agreement (AI-ECTA). AI-ECTA will promote growth in Australian minerals exports to India by eliminating and reducing customs duties on key products, improving access to a growing and diversified market for the Australian critical minerals sector. AI-ECTA will assist in realising the potential of the Australia-India economic relationship and provide certainty in the supply of high quality and competitively priced critical minerals.

Similarly, the Department is engaged in negotiations with the European Union to liberalise tariffs on goods that support the uptake of low and zero emission technologies and the transition towards climate neutrality. The Department also supported negotiations under the Australia – United Kingdom FTA which contains Australia's first ever chapter dedicated to innovation.

The role of measurement

Trusted and accurate measurement underpins trade, the adoption of new technologies, compliance with international requirements and the safe and effective operations of industry.

Through the National Measurement Institute (NMI), the Department engages closely with industry to support emerging technologies and opportunities, support international harmonisation, reduce technical barriers to trade, and to increase consumer confidence in measurements of quantity and quality.

This includes working with industry to establish a framework to support confidence in new green energy products including hydrogen, ammonia and electric vehicles.

Conclusion

Through these programs and services, the Department is contributing to broader Government initiatives that will help Australian industries to seize the opportunities of the global energy transition.

The decarbonisation of heavy and energy intensive industries will both reduce emissions and create significant demand for domestic green energy. This will in turn create demand for large-scale electricity generation infrastructure, creating additional opportunities for Australian businesses.

Another significant opportunity is the increased competitiveness of Australia's industries through the deployment of cheap renewable energy. With increased renewable power generation and use, Australia's energy intensive industries can become more cost-competitive globally. Additionally, by using renewable energy, Australia can increase its level of green exports as demand for low emissions goods increases around the world.

It is vital that Australia's industries can transform and adapt alongside the global energy transition so that they remain sustainable and globally competitive. This will ensure they continue to add to Australia's wealth and create employment opportunities all across Australia.