

## Input to Low Emissions Technology Statement 2022

4 February 2022

Thank you for the opportunity to provide input to the Low Emissions Technology Statement 2022.

Science & Technology Australia (STA) is the peak body representing more than 90,000 scientists and technologists in Australia. Our member organisations include industry and commercialisation experts, specialist scientific societies, research institutes, and research strategy bodies such as councils of deans.

Technology development and innovation will be pivotal to a zero-emissions future – and to Australia’s ability to meet our COP26 commitments.

Science & Technology Australia commends the Government’s iterative approach to support the development of clean and low-emission technologies through the Technology Investment Roadmap and annual Low Emissions Technology Statements. Given the urgency of the challenges and the rapid pace of advances in this area, it is imperative to monitor progress and remain adaptable and agile.

Rather than honing in on the particular technology pathways identified as priorities in the 2021 Low Emissions Statement, this submission focusses on complementary policy measures that would accelerate progress towards a technology-enabled low- or zero-emissions future.

## Expanding the Patent Box scheme to clean energy technologies

The Patent Box initiative, announced in the 2021–22 Budget, enables concessional tax rates to be applied to profits derived from eligible IP. This will incentivise Australian companies to develop and commercialise products derived from Australian research.

Extending this initiative to clean and low-emissions technologies would support Australian companies to capitalise on our wealth of innovative research and raw resources – to Australia’s strong economic benefit.

It would powerfully stimulate onshore manufacturing of new clean energy technologies. Australia has the potential to play a leading role in the new global market for low-emissions energy products. Our country is rich in the mineral resources needed to produce solar cells, lithium batteries and has a burgeoning hydrogen fuel production capability.

Expanding the Patent Box to include these technologies would bolster the conditions to commercialise Australian innovations onshore – capitalising on our rich resource base as well as our advanced research expertise. We produce many critical minerals and materials needed for energy technologies. The ability to manufacture in Australia will value-add to our resources for export and secure our independent and sovereign supply chain.

## Supporting research commercialisation

The Australian Government has a strong focus on bolstering Australia’s research commercialisation success. Australia’s universities and research institutes produce world-leading research. Yet we are not yet as strong at translating or commercialising as much of that breakthrough research as our economic competitors. Science & Technology Australia welcomes the Prime Minister’s 1 February announcement of the [Australia’s Economic Accelerator](#) fund – this will be a major advance in scaling up Australian research commercialisation.

This new fund and \$2.2 billion package of initiatives will be aligned with the six National Manufacturing Priorities – which include clean energy technologies<sup>1</sup>. However, given the urgency and scale of the challenges climate change poses to our national prosperity, economy and wellbeing, consideration should be given to establishing a dedicated commercialisation fund for clean and low-emissions technologies.

Science & Technology Australia also recognises the important role the Australian Renewable Energy Agency (ARENA) plays in supporting renewable and low-emissions technologies, from research through to deployment. Providing a significant boost to ARENA funding would be another option to accelerate progress towards large scale deployment of clean technologies – both domestically and into potential export markets.

Another initiative Science & Technology Australia has proposed – ‘bench-to-boardroom scientists’ – aims to turbo-charge the research commercialisation skills of Australian scientists and technologists. This scheme would train a targeted cohort of Australian scientists and technologists in the advanced skills needed to take their research all the way along the pathway to commercialisation. This

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<sup>1</sup> The six National Manufacturing Priorities are: 1. Resources Technology & Critical Minerals Processing, 2. Food & Beverage, 3. Medical Products, 4. Recycling & Clean Energy, 5. Defence, and 6. Space.

<https://www.industry.gov.au/news/modern-manufacturing-initiative-and-national-manufacturing-priorities-announced>

enhanced capability would encourage investors to support Australian innovations and keep Australian research and innovation in Australia.

There is obvious application for such a scheme in the low-emissions technologies sector. Australia has led the world in research and development of solar and battery technologies – but not commercialised all of those breakthroughs onshore. The pioneering Australian work on photovoltaic solar cells, for instance, laid the groundwork for commercialisation offshore. By building the skills, networks and capabilities of our technologists and scientists to commercialise more of our own breakthroughs, we will lay the foundations to produce and manufacture more technologies onshore.

This suite of complementary policy measures has the potential to make Australia a global leader in clean energy technology. They can deliver vast benefits to our economy and ensure Australia can meet our pledged emissions targets.

## Climate science capability

A focus on technology and innovation to address climate challenges must be coupled with deeper and strategic investment in our climate science capabilities. Australia plays a key role in our region to lead work with a southern hemisphere focus. It is critical we understand how changes in climate regimes and extreme weather will affect our lives and livelihoods, as well as those of our regional neighbours.

A deeper understanding of potential future climate conditions and tipping points will also be essential for practical and effective planning, and ensuring we have crucial infrastructure. This includes development of clean and low-emission energy solutions. While we work towards a net-zero emissions future, it is imperative that we continue to refine our modelling and predictive capabilities to inform effective approaches to future challenges.

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