

21 June 2020

Technology Investment Roadmap Taskforce
Department of Industry, Science, Energy and Resources
GPO 2013
Canberra, ACT, 2601

Submitted via the Consultation Hub

Australia's Technology Investment Roadmap

Dear Sir/Madam,

As the voice of private capital in Australia, the Australian Investment Council is pleased to present its submission to the Department of Industry, Innovation, Energy and Resources' discussion paper, Technology Investment Roadmap: a framework to accelerate low emissions technology.

Private capital investment has played a central role in the growth and expansion of thousands of businesses and represents a multi-billion-dollar contribution to the Australian economy. Our members are the standard-bearers of professional investment and include: private equity (**PE**), venture capital (**VC**) and private credit (**PC**) funds, alongside institutional investors such as superannuation and sovereign wealth funds, as well as leading financial, legal and operational advisers. Our members include both Australian domestic and offshore-based firms.

Private capital fund managers invest billions of dollars into Australian companies across every industry sector of the economy every year. Australian-based PE and VC assets under management reached \$33 billion in 2019 and with an additional \$13 billion in equity capital available to be invested in the short-term.

The Australian Investment Council is supportive of policy initiatives and reforms that help ensure our economy is competitive, innovative and able to support Australia now and into the future. In particular, we encourage initiatives that help expand entrepreneurship, increase productivity and support investment to drive the development of skills and talent, productive capacity and innovation through technology.

Given the impact of COVID-19 and the uncertain times that lay ahead, it is critical that the right policies for growth are in place for the nation's prosperity in the medium and long term. In this context, the Australian Investment Council is supportive of the acceleration and development of our domestic clean energy technology (**Cleantech**) capability as an enabler of businesses across many sectors of our economy.

We look forward to participating in any future discussion about the themes set out in this submission as part of the government's work on Australia's Technology Investment Roadmap. If you have any questions about specific points made in our submission, please do not hesitate to contact me or Brendon Harper, the Australian Investment Council's Head of Policy and Research, on 02 8243 7000.

Yours sincerely



Yasser El-Ansary
Chief Executive



Introduction

As part of the 'first-mover' group of nations emerging from the COVID-19 crisis, there is a unique opportunity for Australia to meet the challenges of reshaping the Australia's economy for the future by implementing a visionary plan which serves as the foundation for the next phase of prosperity and growth for our nation.

A cornerstone of our national plan to secure Australia's future economic, employment and productivity growth should be to support the acceleration and development of our domestic technology, including Cleantech, as an enabler of businesses across all sectors of our economy. The technology industry has the ability to directly make a significant contribution to high-value economic output¹ and to lift productivity, global competitiveness and create jobs and new industries across the entire economy. A stronger technology capability would represent a significant new building block in designing a future-proof Australia that generates sustainable economic and incomes growth for all and positions our market to capitalise on its competitive advantages against other developed economies around the world.

The Australian Investment Council believes that we should aim to double the size and output of Australia's technology industry by 2030.²

The Council supports the government's objective to lower emissions through Cleantech innovation as a practical way to help achieve Australia's economic recovery in the medium to long-term. This can be done through the development and commercialisation of new technologies, which can come with the added benefits of employment creation, economic stimulus and the generation of new domestic industries.

This objective can be achieved through fostering deeper and more meaningful partnerships between industry, government and academic institutions, and increasing the skills of our workforce. Additionally, the role of Cleantech should be central in any relevant new regulation and legislation to help create an environment that incentivises investment and removes regulatory burdens.

Australia needs to adapt to such [global] shifts and position our next generation of industries to exploit Australia's emerging comparative advantages.³

Australia is at the global forefront of energy transition. As a nation, we have the highest rooftop solar penetration in the world, are a global leader in distributed energy assets, and in areas such as repurposing of batteries for new technologies. Our country also has a geographical advantage which provides an abundance of natural resources for renewable energy and access to wind and sun on vast tracts of otherwise unused or sparsely populated land.

As a result of our high level of solar generation, for example, Australia has been at the forefront of addressing the transition from the old model of central electricity generation to the new model of distributed generation and the challenge that applies to grid reliability and stability. The change will ultimately be replicated globally, but Australia already has the knowledge and experience to become a leader in how to manage the transition and to develop the tools and technologies required to achieve this. Further, as traditional fossil fuels are phased out, there is considerable potential for Australia to develop a hydrogen economy as a future export market with nearby nations.

Recommendation 1: *Make Australia attractive as a destination for Cleantech investment*

The Australian Investment Council recommends government work with Austrade to connect external investors and companies with Australia's Cleantech ecosystems to develop Australia as a global centre for Cleantech and support initiatives to attract investment into the sector.

Along with Australia's comparative advantage in terms of geography and development of new Cleantech, the timing is right to pursue a National Technology Roadmap as a foundation for economic and jobs growth. VC investment into early stage businesses will play a critical role in the acceleration of technology as part of this process.

¹ The technology industry directly employs around 580,000 people (5% of Australia's workforce) and contributes more than \$144 billion to the economy each year, representing 6.6% of GDP. [Australia's Digital Opportunity](#), Alphabeta September 2019.

² [Roadmap to Recovery: Creating a stronger and more dynamic economy](#) Australian Investment Council, June 2020

³ Minister for Trade, Tourism and Investment, Simon Birmingham, [Speech to the National Press Club](#), 17 June 2020



Cleantech is well-positioned to follow healthcare and software in attracting the next wave of VC investment opportunities and to become a significant industry for Australia both domestically and internationally. While domestic firms such as Southern Cross Ventures and the Clean Energy Finance Corporation (CEFC) have led the way in investment in Cleantech, there is tremendous scope for expanded investment into the sector due to significant potential in areas such as software-backed electricity distribution.

Government can play an important role in working with private capital investors and the clean energy sector to achieve long-term economic and productivity benefits, for example, through partnering with Australian VC managers to drive Australia into a leading position in the global transition towards lower a low emissions economy. This would be a cost effective – through leveraging private sector capital – and efficient – through selection of professional investment managers – way of pursuing this ambition.

Recommendation 2: *Work with the private capital sector for the long-term*

The Australian Investment Council recommends government works closely with the private capital sector to develop a long-term action plan for Cleantech investment.

Short list of technologies

The key elements to Australia's success in new and emerging technologies will be prioritising industries where we already are, or could be, world leaders and 'going narrow and deep' in developing these industries. Cleantech and associated emissions reduction technologies represent both a global opportunity, and a challenge – one where Australia could be a world leader. This would require combining the acceleration of home-grown innovation with technology and talent from overseas.

In a recent address⁴ to the National Press Club, the Industry, Science and Technology Minister, the Hon Karen Andrews MP, highlighted the need to align manufacturing with science and research efforts in areas where Australia is best placed to excel. For Cleantech, this will mean focusing on areas that can succeed and meet our nation's future needs with recent initiatives such as those outlined in the \$1 billion Grid Reliability Fund, and the development of a National Hydrogen Strategy.

Broader issues, including infrastructure, skills, regulation and planning, need to be worked through to enable Australia to:

- adopt priority technologies at scale;
- maintain local community support, including in regional communities;
- be well-placed to take advantage of future demand for low emissions technologies; and
- support global emissions reductions by helping to deepen trade, markets and global supply chains.

Consideration should also be given to setting priorities where Australia has a natural advantage and where we are seeing opportunities evolve, such as in environmental and low emissions technology partnerships in the European Union.

Recommendation 3: *Go narrow and deep in areas where Australia has strength*

The Australian Investment Council recommends the development of new clean energy technologies focus on areas where Australia has a comparative advantage.

Recommendation 4: *Align enhanced manufacturing with Cleantech*

The Australian Investment Council recommends the enhancement of Australia's manufacturing capability, including alignment with science and research developments for Cleantech.

For Australia to make material gains in innovation and technology, government policies need to encourage businesses to take risks, to develop new ideas, new products and to find new markets. *The Australia 2030: Prosperity through Innovation*⁵ by Innovation and Science Australia (ISA) set out 30 key reform initiatives across five key strategic pillars: education, industry, government, research and development, and culture and ambition. The recommendations are targeted at creating a more knowledge intensive innovative economy that is capable of delivering a higher standard of

⁴ [National Press Club Address May 2020](#), Karen Andrews, Minister for Industry, Science and Technology.

⁵ [Australia 2030: Prosperity through Innovation](#), Department of Industry, Science, Energy and Resources, November 2017



living for Australians. Increasing business investment in research and development, more impactful collaboration between universities and businesses to commercialise research discoveries, and lifting STEM capabilities within our workforce are central to achieving a more advanced economy in years to come.

Recommendation 5: *Implement recommendations in ISA's 2030 report*

The Australian Investment Council recommends government implements the recommendations in ISA's *Australia 2030: Prosperity through Innovation* report that will facilitate the development of new clean energy technologies.

Infrastructure

The lead time for investment returns in Cleantech is generally longer than for other investments. A key reason for this is the need for a large capital outlay for infrastructure investments, such as large scale storage facilities, which usually occurs when the start-up company is in the growth stage. There is tremendous scope for government and investors such as superannuation funds, to invest in clean energy infrastructure to support a higher standard of Australia's VC entities in Cleantech. This patient capital investment would bring long-term returns for investors and economic benefits to our nation.

Recommendation 6: *Invest in cleantech infrastructure*

The Australian Investment Council recommends government establishes incentives for long-term patient capital investment in infrastructure for Cleantech.

Research and Development

The Research and Development (R&D) Tax Incentive is a critically important policy that drives large parts of Australia's innovation ecosystem. The R&D Tax Incentive encourages considerable investment into the development of new products and services across sectors of the economy, which is essential for the economic transition that Australia needs to make towards a more knowledge-based high value-add market. The R&D Tax Incentive regime is a strong and compelling commercial driver for attracting offshore R&D programs to relocate to Australia and undertake their activities here. This has the effect of helping transfer knowledge and skills into the local market.

On 5 December 2019, the Research and Development Tax Incentive Bill was tabled in parliament. While it marked an important step forward in providing certainty to businesses about the future direction of Australia's R&D tax incentive regime, certain definitions used in the legislation are likely to continue to create uncertainty on the eligibility criteria for R&D tax incentives. One area of concern for early stage businesses is the proposed introduction of a \$4 million cap on R&D refundable credits for businesses with turnovers of up to \$20 million. It is likely to be the case that the introduction of a cap in this way will have significant consequences for the capacity of early stage ventures to continue to invest large amounts of capital into R&D activities in Australia.

Recommendation 7: *No further changes to R&D tax incentive*

The Australian Investment Council recommends government commits to and supports earlier innovation reforms and measures that have had a net benefit to the innovation and early stage ecosystem, including making no further cuts to the R&D Tax Incentive regime.

Recommendation 8: *Clarify definitions in R&D legislation*

The Australian Investment Council recommends government addresses recent uncertainty around the future settings of the R&D scheme to broaden the definition of "experiments" to encompass businesses that innovate on top of existing infrastructure and to provide clarity on which R&D claims are eligible to avoid potential disputes with the ATO.

Recommendation 9: *Establish quarterly R&D payments*

The Australian Investment Council recommends government consider moving R&D tax credits to a quarterly timeframe to help the cash flow of all early stage businesses that satisfy the sub \$20 million revenue test.

Recommendation 10: *Introduce R&D tax incentives for Cleantech*

The Australian Investment Council recommends government introduces new R&D tax policy that provides a benefit to investment Cleantech. This could be in the form of a bonus or tax credit.



Recommendation 11: *Commit to long-term investment in infrastructure for clean energy technology*

The Australian Investment Council recommends government establishes a long-term action plan to lift Australia's innovation capability through significant improvements in the translation and commercialisation of research discoveries.

Investment

One of the best recognised methods of targeting investment in new technologies is through VC which has created significant benefits to industries such as healthcare and technology. Some of the most promising developments for high value add, future economic growth are within the VC sector. This includes companies at the early startup stage, as well as high-growth companies – those that have graduated from the startup phase and are now expanding their workforce, increasing sales growth and investing in significant R&D.

Recommendation 12: *Encourage equity co-investment*

The Australian Investment Council recommends that government give renewed consideration to equity co-investment programs, as well as regulatory changes that unlock private sources of capital, in order to boost investment into high growth Australian companies.

An extension of government equity co-investment initiatives into the Cleantech sector could continue to foster local talent and nurture the growth of startups and scaleups. This type of co-investment could be modelled on the success of the Biomedical Translation Fund (BTF)⁶ and could be achieved through expanding the mandate of the Australian Renewable Energy Agency (ARENA) and CEFC (who have previously supported the ARENA REVC Fund and the CEFC Innovation Fund respectively, both providing VC investment to cleantech companies).

Such a fund would need to be managed by specialists who understand the complexities of the new energy technology sector. To this extent, the roles of the CEFC and ARENA could be extended to assess and select investment into low emissions technology from start-ups to SMEs to ensure there is a pipeline of new, low emissions technologies that are strategic for the future of our nation. This would leverage established government capabilities and avoid costly duplication.

Recommendation 12: *Establish a fund for Cleantech modelled on the BTF*

The Australian Investment Council recommends renewed consideration be given to government equity co-investment programs for clean technology, modelled on the \$500 million BTF. Such programs should be tailored to address partial market failures and be established to support the attraction of long-term potential capital from institutional investors.

Australia has seen a substantial growth in the number of corporates that have launched corporate venture capital (CVC) arms or innovation labs, marking the important role that large organisations can play in driving and nurturing Australia's innovation economy.

The Council believes that clean technology startups and SMEs would greatly benefit from increased support from corporates and government through partnerships, grants and procurement. Government equity co-investment through the introduction of new programs to attract greater public-private investment into high growth Australian companies would have a positive impact on productivity, jobs and economic growth.

Recommendation 13: *Provide Cleantech startups and SMEs with support through partnerships, grants and procurement*

The Australian Investment Council recommends an acceleration of the growth in the number of CVC arms and innovation labs by incentivising more corporates to play a role as investors and customers.

Recommendation 14: *Support innovation and government procurement for Cleantech startups*

The Australian Investment Council recommends government entities engage with start-ups and SMEs via targeted grants or other incentives such as partnerships or procurement agreements.

⁶ The BTF resulted in an additional \$500m of healthcare VC funding becoming available in Australia with consequent industry development and stimulus effects for decades to come.



Australia is a test-bed for innovation and proof of concept trials for new technologies. A stable and supportive framework to encourage the testing of new ideas and innovation is essential for the rapidly evolving Cleantech sector. The development of a regulatory sandbox program, similar to those used in other sectors, could reduce some of the barriers to achieving an effective transition to new technologies.

Recommendation 15: *Support advanced regulatory sandboxes*

The Australian Investment Council recommends government supports advanced regulatory sandboxes that adapt to rapid changes in the clean energy sector and facilitate the development of new, Cleantech that are strategic to our national interest.

Export Market Development Grants are essential for assisting emerging Australian businesses leverage offshore capital and export markets to fund growth and expansion. The grants are important for assisting small businesses to test new markets and can play an important role in supporting VC entities in the clean energy sector.

Recommendation 16: *Export Market Development Grants*

The Australian Investment Council recommends government improves the scope and funding pipeline for Export Market Development Grants.

Australia already has world leading primary research lead by Australian universities (including in the broadly defined Cleantech sector) but this needs to be complemented by investment to take research through to commercialised products.

Recommendation 17: *Work with academic institutions to commercialise research*

The Australian Investment Council recommends government encourages academic researchers to partner with businesses to commercialise their work into new Cleantech.

Skills and Talent

Core features of a more advanced economy in the years to come include:

- increasing business investment in R&D;
- more impactful collaboration between universities and businesses to commercialise research discoveries; and
- lifting STEM capabilities within our workforce.

Recommendations in the *Australia 2030: Prosperity through Innovation* report support developing a more advanced economy, as they are targeted at creating a more knowledge intensive innovative economy that is capable of delivering a higher standard of prosperity for Australians.

Recommendation 18: *Fast-track the establishment of 'STEM Schools'*

The Australian Investment Council recommends government more fully embed STEM skills into the Australian school curriculum from primary school years through to tertiary education and fast-tracks the establishment of 'STEM Schools' modelled on Sydney Science college in Epping to expand accessibility for all Australians.

Skilled migration is a key feature of Australia's migration system, playing an important role in supporting and generating economic growth. Australia also has a long history of supportive policies to attract business entrepreneurs. However, the rising global mobility of workers and heightened competition for talent means that it is important for Australia to have policy settings that are attractive in the global labour marketplace and effective in attracting a critical mass of "new economy" skilled workers. These skilled workers and entrepreneurs will help generate new and sustainable business opportunities within the Australian economy into the future and consideration needs to be given to allowing VC entities access to more than the five entrepreneurs in the start-up stream.

A positive step in supporting Australia acquire world class talent is the government's Global Talent – Sponsored and Independent Programs. The Council supports these programs and while they are still relatively new, they represent the kind of policies Australia should be pursuing. The recently announced, Department of Employment, Skills, Small and Family Business, consultation on skilled migration occupations lists, is also worth noting as it will play an important supporting role in identifying those specific niche skills that our national economy should prioritise in order to build



our future growth. The government's recent announcement⁷ on prioritising university places (and fees) for 'jobs for the future' is a step in the right direction.

Recommendation 19: *Talent Visas*

The Australian Investment Council believes government should extend the talent visa program to enable employers to sponsor more than the current level of five entrepreneurs in the start-up stream.

Recommendation 19: *Address future labour shortages*

The Australian Investment Council believes government should address current labour shortages by funding institutions that can develop and deliver courses for tertiary students aimed at fostering entrepreneurship and teaching digital STEM skills.

⁷ [National Press Club Address June 2020](#), Dan Tehan, Minister for Education.