24 June 2020

Department of Industry, Science, Energy and Resources
Canberra ACT 2600

Submission via https://consult.industry.gov.au/

Dear Sir/Madam

Technology Investment Roadmap Discussion Paper

As the representatives of over 200,000 current and future professional accountants in Australia, the two major Australian accounting bodies CPA Australia and Chartered Accountants Australia and New Zealand (Chartered Accountants ANZ) (together 'the Major Accounting Bodies') thank you for the opportunity to comment on The Department of Industry, Science, Energy and Resources *Technology Investment Roadmap Discussion Paper* (The "Roadmap"). We would be keen to participate in any further consultations or meetings with the Department; contact details are included at the conclusion of this submission. More information about the Major Accounting Bodies is included in Appendix A to this submission.

We commend the Government on the development of the *Technology Investment Roadmap* which points to a sound and evolving fiscal and policy response to the technological challenges and opportunities presented by the imperatives of emissions reduction and broader climate change mitigation and adaptation. The *Roadmap* presents a significant step in putting Australia on the pathway of emissions reduction-based economic transformation and points to significant measures for both marshalling the resources of major public institutions and the potential for early engagement with the business community. Our submission sets out relevant parts of the Major Accounting Bodies' long-term positioning on climate change policy which we have applied to our interpretation of the underlying policy drivers and broader contexts of the *Roadmap's* development.

The Major Accounting Bodies' public policy position in relation to climate change

The Major Accounting Bodies recognise the ongoing debate and controversy surrounding Australia's Paris Agreement emissions reduction targets including effectiveness in arresting anthropogenic global warming; equity in terms of contrasting global and per capita contribution; appropriate developed economy burden; and capacity to drive economic transformation. However, the Major Accounting Bodies also note the statements from Government that it will not strengthen these targets and that it will continue to pursue non-market-based drivers of emissions reduction. With these factors in mind, our submission focuses on how best the Australian business community might work within, and towards improving outcomes from, Government's stated policy preferences. Should the Government decide to ratchet up its emissions reduction targets under its Paris Agreement reporting obligations, we would be pleased to engage with the Department to discuss how the accounting profession can contribute to meeting these revised targets.

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The Major Accounting Bodies highlight the growing scientific evidence of the scale and severity of the impacts of climate change, particularly for Australia. The Intergovernmental Panel on Climate Change's (IPCC) special report *Global Warming of 1.5 °C*[1] compares the impacts of global warming between 1.5 °C and 2 °C. The report notes:

> *The risks of climate-induced impacts are projected to be higher at 2°C than those at global warming of 1.5°C (*high confidence*). Coral reefs, for example, are projected to decline by a further 70–90% at 1.5°C (*high confidence*) with larger losses (>99%) at 2ºC (*very high confidence*).*

Deloitte Access Economics has valued the economic, social and icon value of the Great Barrier Reef at $56 billion[2]. This is just one example of the potential economic and social losses Australia is likely to experience from climate change. Therefore, the Major Accounting Bodies consider Australia has a vested interest to work towards the aspirational target in the Paris Agreement to limit global warming to 1.5°C.

Two 2019 reports further highlight the scale and urgency of national and coordinated international efforts to address the threat of climate change. These are the IPCC *Special Report on climate change, desertification, land degradation, sustainable land management, food scarcity, and greenhouse fluxes in terrestrial systems* (August 2019)[3] and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) *Regional Assessment Reports* (May 2019)[4]. In terms of reviewing Australia's climate change 'policy toolkit', these latest assessments from key international agencies point to the need in Australia for a substantially strengthened emissions reduction plan and a suite of climate change adjustment policies, which traverse State/Territory and Commonwealth responsibilities, and which better reflect sectoral interdependencies.

One policy approach which the Major Accounting Bodies believe is worth investigating is that adopted by the New Zealand Government. This is most recently addressed in the New Zealand Government response to the New Zealand Productivity Commission's report *Transitioning to a low-emissions future*.[5] Its approach is characterised by strong emphasis on economic transformation opportunities driven by government multi-agency responsibility and a high degree of sectoral sensitivity. The New Zealand approach does, however, favour market and carbon pricing mechanisms, not only in the energy sector but also in other high emissions activities such as waste management and agriculture.

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1 https://www.ipcc.ch/sr15/
2 https://www2.deloitte.com/au/en/pages/economics/articles/great-barrier-reef.html
3 https://www.ipcc.ch/report/srccl/
4 https://www.ipbes.net/system/tdf/ipbes_7_10_add-1-_advance_0.pdf?file=1&type=node&id=35245
5 https://www.mfe.govt.nz/sites/default/files/media/Climate%20Change/transitioning-to-a-low-emissions- future.pdf

The New Zealand Productivity Commission's report and the Government's response also consider a number of institutional matters under the heading *Law and Institutions.* In particular, the New Zealand Government notes that it has used the United Kingdom's Climate Change Act as a basis for some of its legislation:

> *The Climate Response (Zero Carbon) Amendment Bill [NZ] incorporates key aspects of UK framework including: a legislated target, a series of national emissions budgets, a system of adaptation planning, and an arm's-length body to advise government and report independently on progress (the Climate Change Commission).*

The Major Accounting Bodies believe this approach is worthy of serious consideration as a model for Australia. It gives clear legislative intent to emissions reduction, places adaptation centre-stage and shifts reporting on progress against targets into a fully independent setting.

Achieving a net zero emissions economy in the long term

We recommend that the Government provides a clear direction for Australia's pathway to a net zero emissions economy at the earliest possible time between 2050 and 2100. Climate change policy should not be subject to political changes and should provide certainty for the future to enable business and households to transition to a low carbon economy. In this regard we note that the Major Accounting Bodies were amongst a diverse group making submissions to the 2019 Climate Change Authority review of Australia's Paris Agreement Policy Toolkit, seeking a clear long-term signal, such as a mid-century target, which is seen as critical for investment and in ensuring a smooth transition to a low-emissions economy. In this context, the Major Accounting Bodies believe that a parallel and complementary measure to the Roadmap, should be that close regard is given by Government to the five-year interval 'review, refine and rachet' mechanisms within Australia's Paris Agreement Nationally Determined Contribution (NDC). This would be an important signal to investors, and the broader market, of the expected trajectory of economic transitioning.

Measures complementary to the *Technology Investment Roadmap*

It is important for the Government to ensure that it does not seek to reduce emissions in isolation from sectoral, wider economic, and social and environmental factors. This would be both costly and risk unintended negative consequences in other areas. Long-term emissions strategy, budgets and targets will provide greater certainty for business and encourage investment in low-emissions technology and innovation.

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6 https://www.apra.gov.au/sites/default/files/climate_change_awareness_to_action_march_2019.pdf

7 https://www.rba.gov.au/speeches/2019/sp-dg-2019-03-12.html

8 See for example work undertaken by the Commonwealth Climate Law Initiative analysing the impact on climate-related risk on corporate and director liability in Australia, the United Kingdom, Canada and South Africa: https://ccli.ouce.ox.ac.uk/

9 https://cpd.org.au/wp-content/uploads/2016/10/Legal-Opinion-on-Climate-Change-and-Directors-Duties.pdf

10 See for example surveillance initiatives outlined in https://asic.gov.au/regulatory-resources/find-a- document/reports/rep-593-climate-risk-disclosure-by-australia-s-listed-companies/

11 https://asic.gov.au/about-asic/news-centre/find-a-media-release/2019-releases/19-208mr-asic-updates- guidance-on-climate-change-related-disclosure/

12 https://www.auasb.gov.au/admin/file/content102/c3/AASB_ASB_Joint_Bulletin_May2019.pdf

Government needs to provide this policy certainty to allow for investment in research, development, innovations and technology as they are critical to reducing Australia's emissions. Without clear direction and commitment from Government, business will be reluctant to dedicate resources in this area. This could also have a global impact. We recommend that the Government embed these policy commitments in other areas of the economy, to ensure a holistic approach to climate change. We suggest there is significant opportunity to use the R&D Tax Incentive as a lever to help create new industries and technologies in Australia that are fit for purpose in a carbon constrained world. Australia has the potential to transform its economy to one that offers innovative emissions reduction solutions and technologies, particularly to emerging markets with high energy demand such as China and India.

We recommend that consideration be given to how the R&D Tax Incentive could be enhanced to offer additional R&D tax incentives to attract world-leading innovation to Australia. Australia could become the hub or destination of choice for developing cutting-edge green technologies and associated intellectual property, from renewable energy inventions and energy efficiency, to carbon capture and storage technologies. Such an investment will also help Australia to meet the Government's pledge to double government clean energy research and development investment by 2020.

Australia has the opportunity to be a leader in the rapidly growing area of green finance by encouraging both local and global investment of ethical, green and sustainable money into our local economy. Government driven awareness raising, education for business and investors and incentives for investment (R&D tax incentives) could position Australia to be a global leader in the green economy. In the UK, the Green Finance strategy provides a comprehensive approach to "greening" finance systems, mobilising finance for clean and resilient growth and capturing the resulting opportunities for UK firms.

We also recommend that Government collaborate with groups and organisations locally who are already working towards building sustainable roadmaps, such as the Australian Sustainable Finance Initiative.

Further insights from the Climate Change Authority March 2020 report

Integrated and coordinated approach

The science, politics and economics of climate change and sustainable development have long dealt with the controversy of the relative merits and efficacy of adaptation versus mitigation policies. The consensus which has emerged over at least three decades of debate is that an integrated portfolio involving both trying to avoid greenhouse gas emissions (mitigation), whilst at the same time working towards coping with the impact of climate change (adaptation), is essential. It is in this context that the Major Accounting Bodies strongly urge the Department to consider—in depth—the recent report from the Climate Change Authority (CCA) *Prospering low emissions world updated climate policy toolkit* (March 2020). We highlight a number of elements of this report below.

The interconnected character of climate change risk has obvious and direct implications for numerous aspects of environmental policy including water resources, land management, biodiversity and other natural assets, waste and air quality. Moreover, sound environmental policy is directly linked to social and economic wellbeing such that climate change should increasingly become a pervasive element across a widening spectrum of public policy which are traditionally driven by economic ideas of market efficiency and transparency.

Improvements in Australia's climate change adaptation and mitigation strategies, along with broader environmental management and governance practices, is critically dependent on substantially greater collaboration between Federal, State and Local governments and across industrial sectors that are reliant on, or impacting on, natural assets and the environment. In these regards, the Major Accounting Bodies strongly urges pursuit of long-term outcomes that assist continuity across political cycles, and which embrace the business community which is both prone to disruption in continuity and an essential part of economic and social transformation.

The Government's proposed Roadmap, whilst reflecting many of these objectives, will likely have greatest impact through on going cross-referencing to a broad range of statutory and public policy responsibilities to which, we consider, the Department would be ideally placed. The Major Accounting Bodies suggest that insight into the broad framing of coordinated climate change and environmental policy can, to a significant degree, be directly deduced from the CCA March 2020 recommendations and accompanying analysis.

Role of government – policy leadership and funding

C***limate-related risks***

A large part of the value of the CCA report relates to both its breadth and comprehensiveness in terms of addressing interrelated policies and wider economic, environmental and social factors. The Major Accounting Bodies commend to the Department Chapter 15 (Finance and investment) as a key element in achieving the Government's intentions via the Roadmap. This involves leveraging private investment towards rapid upscaling of emerging technologies. Chapter 15 is prefaced with the following remark:

> *Currently, markets tend not to adequately recognize and price climate-related risk because of lack of information and short-termism in investment decision-making. However, this is changing quickly as relevant tools become available and financial regulators divert more attention to the issue*.

In its analysis the CCA recognises the significance of both the aforementioned Australian Sustainable Finance Initiative, of which the Major Accounting Bodies are participants. In particular, in relation to the development of sustainable or green finance, along with the policy insights emerging from such groups as the New Zealand Productivity Commission and the Financial Stability Board's Taskforce on Climate-related Financial Disclosures. The Major Accounting Bodies are primarily concerned with matters relating to the pricing of climateelated financial risks and the related aspects of prudential, corporate conduct and disclosure regulation. In this regard we highlight the following CCA recommendation:

> *A major taskforce of the Council of Financial Regulators should [amongst two other related initiatives] together with the major accounting bodies, examine phasing-in and mandatory reporting of climate-related risks and mainstream climate-related disclosures in companies audited financial statements*.

Both CPA Australia and Chartered Accountants ANZ, separately and collectively, are engaged in advancing these developments which we believe can give vital underpinning to the Roadmap in terms of facilitating flows of capital, providing an appropriately deep market and advancing sound governance. As such, we would be pleased to work with the Department, and of course the Australian Government more broadly, in achieving the associated capacity building. However, we emphasise that this is in addition to the critical role

that will be played by professional accountants in such matters as capital investment appraisal, debt/equity raisings and impact measurements essential to the rollout of the Roadmap.

Adaptation and the growing cost of inaction

As noted earlier, there is an imperative to have a blend of climate change policies which suitably prioritise mitigation through progressive reduction in greenhouse gas emissions towards a net-zero position within the terms of the United Nations Framework Convention on Climate Change (2015 Paris Agreement). The CCA's March 2020 report provides the following salient, and indeed alarming, assessment (page 48):

> *Based on the remaining global carbon budget, implementing current unconditional Nationally Determined Contributions (NDCs) would lead to a global mean temperature rise of 3.2°C by the end of the century relative to pre-industrial levels and a continued rise thereafter (UNEP 2018). The current level of NDC ambition needs to roughly triple for emissions reductions to be in line with the 2°C temperature goal and increase fivefold for the 1.5°C goal (WMO et al. 2019)*.

These facts prove unequivocally that resilience and adaptation must develop in lockstep with climate change mitigation through effective policies of greenhouse gas emissions reduction.

Two matters stemming from the above assessments, both addressed by the CCA, which the Major Accounting Bodies believe are highly significant to the Department's wider deliberations are: the perennial argument around the cost of action versus inaction; and the risk of tipping points.

On the first of these matters the CCA observes (page 25):

> *In the 2016 Special Review, the Authority noted the work of the Garnaut Climate Change Review (Garnaut 2008) which drew on a wide range of expertise and models and found that the measurable costs of climate change were considerably more than the cost of strong action to reduce emissions. Other studies since then have also reached this conclusion (IRENA 2019a; UNEP Finance Initiative 2019). A study by the University of Melbourne has estimated the cost of climate change across the Australian economy in the hundreds of billions of dollars in 2030 and at more than A$ trillion in cumulative damages by 2100, even excluding many costs of flood, fire and environmental losses (Kompas et al. 2019).*

The analysis undertaken by the CCA confirms the compressed timeframe for action, the cost of which will only rise further in the absence of deliberate, coordinated and long-term policy and investment action across all tiers of government, and in which there is deep engagement with the Australian community, the business sector included.

Addressing the notion of climate tipping points, the CCA observes (Box 3 page 23):

> *The higher the concentration of greenhouse gases in the atmosphere, the greater the risk of non-linear changes in the climate, including passing 'tipping points' in climate systems. 'Tipping points' can lead to large changes in the state of the climate and ecosystems from which it can take thousands of years to millions of years for the Earth to return. Some tipping points, such as species extinctions, are irreversible*.

McKinsey research relating to technology options

We make several observations based, in part, on a short, though highly valuable, McKinsey Quarterly *Climate Math: What a 1.5-degree pathway would take* (April 2020) (McKinsey), which, similar to the above extracts from the CCA report, stresses the urgency and scale of the challenges ahead.

McKinsey has identified five 'shifts' in business, economic and societal behavior critical to a transition to a 1.5-degree pathway:

- Shift 1: Reforming food and forestry
- Shift 2: Electrifying our lives
- Shift 3: Adapting industrial operations
- Shift 4: Decarbonizing power and fuel
- Shift 5: Ramping up carbon capture and carbon sequestration activity.

Aside from giving clarity to the scale of the needed changes, the underlying complex interdependencies highlight the challenges, through the imperative for coherent, consistent, far-reaching, and adaptive, government policy. The Major Accounting Bodies suggest the McKinsey analysis could form a template for Government to evaluate the short-term impact and longer-term effectiveness of the Roadmap.

Without drawing definitive conclusions, the prominence given in the McKinsey analysis to reforming food and agriculture (noting that agriculture/livestock contribute an estimated 20 per cent of anthropogenic greenhouse-gas emissions, second behind industry – 33 per cent – and ahead of power – 17 per cent) potentially points, in our view, to either an imbalance in the Roadmap's emphasis, or a need for greater articulation of where and how Government policy drives emission reduction, and associated competitive opportunities, in this significant sector of the Australian economy and wider society. Similar observations can be made in relation to the role of reforestation as a fundamental component in carbon-sequestration.

The Major Accounting Bodies note the priority given to energy security, reliability and affordability and the overarching technology objectives of electricity grid stability in the Roadmap (page 24). This should not detract from a long-term technology-based objective where achieving net-zero emissions and electricity supply characteristics are no longer seen as mutually exclusive. The McKinsey analysis pays particular regard to the widespread impact of electrification (part of Shift 3) on the power sector, stating "*a fast migration to renewable energy would bring unique regional challenges, most notably the need to match supply and demand at times when the sun doesn't shine and the wind doesn't blow*." Over and above, the need for an estimated five- to eight-fold increase in solar and wind generating capacity, McKinsey places significant emphasis of the future importance of bioenergy and hydrogen; the opportunities for which, are identified in the Roadmap.

A further matter relating to technology preferencing, or balancing of options, which the Major Accounting Bodies would like to draw out, concerns approaches to decarbonisation. Without wishing to show a technological bias, we point to McKinsey's estimation within the required 1.5 degrees limiting decarbonisation scenario, of a required 125 times increase in carbon capture, use and storage (CCUS) capacity by 2050. This highlights the potential role, though challenges, of CCUS within the Roadmap's technology options, as well as the need to identify, and where appropriate pursue, alternative technology-based carbon-dioxide removal.

Finally, McKinsey acknowledges that there are 'no easy answers', though what is certain is that the regulatory environment needs to dramatically shift to incentivise companies to invest rapidly, and in which decarbonisation is central to capital formation. The Roadmap in an important step in these directions but should be one of a number of initiatives that need to evolve in the future, and in a coordinated and collaborative manner, which has often been absent in Australia's past and current climate change policy responses.

If you require further information on our views expressed in this submission, please contact either Dr John Purcell (CPA Australia) at john.purcell@cpaaustralia.com.au or Karen McWilliams (Chartered Accountants ANZ) at karen.mcwilliams@charteredaccountantsanz.com.

Yours sincerely

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Appendix A

About CPA Australia

CPA Australia is one of the world's largest accounting and finance bodies, representing over 166,000 accounting and business professionals globally.

Our aim is to enhance our members' professional knowledge and support their career development. We do this in many ways, starting with the world-class postgraduate CPA Program, recognised internationally as a benchmark of quality and employability. Thereafter, we deliver a range of continuous learning programs, utilising our international networks to source leading-edge content and presenters.

What sets us apart from other similar bodies is our focus on strategy, leadership and international business. CPA Australia is the global professional accountancy designation for strategic business leaders. We support our members and the profession internationally by advocating for change at the highest levels and contributing to leading networks worldwide in the finance, accounting and business arenas.

A strategic priority and commitment for CPA Australia is to not only advocate on behalf of members, but also to speak up on economic and political issues in the public interest. CPA Australia's members are bound by a strict professional code of conduct, including an obligation to undertake continuous professional development to ensure that the highest professional standards are maintained.

Our commitment to excellence, integrity and innovative thinking means that CPAs will remain at the forefront of business and public service now and in generations to come.

About Chartered Accountants Australia and New Zealand

Chartered Accountants Australia and New Zealand (CA ANZ) represents a network of more than 125,000 financial professionals, supporting them to build value and make a difference to the businesses, organisations and communities in which they work and live. Around the world, Chartered Accountants are known for their integrity, financial skills, adaptability and the rigour of their professional education and training.

CA ANZ promotes the Chartered Accountant (CA) designation and high ethical standards, delivers world-class services and life-long education to members and advocates for the public good. We protect the reputation of the designation by ensuring members continue to comply with a code of ethics, backed by a robust discipline process. We also monitor Chartered Accountants who offer services directly to the public. Our flagship CA Program, the pathway to becoming a Chartered Accountant, combines rigorous education with practical experience. Ongoing professional development helps members shape business decisions and remain relevant in a changing world. We actively engage with governments, regulators and standard-setters on behalf of members to advocate in the public interest. Our thought leadership promotes prosperity in Australia and New Zealand.

Our support of the profession extends to affiliations with international accounting organisations.

We are a member of the International Federation of Accountants and are connected globally through Chartered Accountants Worldwide and the Global Accounting Alliance. Chartered Accountants Worldwide brings together members of 13 chartered accounting institutes to create a community of more than 1.8 million Chartered Accountants and students in more than 190 countries. CA ANZ is a founding member of the Global Accounting Alliance which is made up of 10 leading accounting bodies that together promote quality services, share information and collaborate on important international issues.

We also have a strategic alliance with the Association of Chartered Certified Accountants. The alliance represents more than 870,000 current and next generation accounting professionals across 179 countries and is one of the largest accounting alliances in the world providing the full range of accounting qualifications.