



Law Council
OF AUSTRALIA

Legal Practice Section

17 June 2020

Mr D Fredericks PSM
Secretary
Department of Industry, Science, Energy and Resources
Industry House
10 Binara Street
CANBERRA ACT 2601

By email: technologyroadmap@industry.gov.au

Dear Mr Fredericks

2020 TECHNOLOGY INVESTMENT ROADMAP: DISCUSSION PAPER

1. This submission has been prepared by the Australian Environment and Planning Law Group (**AEPLG**)¹ of the Law Council of Australia's Legal Practice Section. The AEPLG welcomes the opportunity to make a submission to the Department of Industry, Science, Energy and Resources (**DISER**) in relation to the 2020 Technology Investment Roadmap Discussion Paper.
2. The AEPLG notes that the aim for any climate policy should be the reduction of emissions in line with Australia's 2030 Paris Agreement goals, at the lowest possible cost. The AEPLG also notes that for the last two decades, Australia's approach to emissions reduction policy has been inconsistent and subject to constant debate and uncertainty. If Australia is to meet its 2030 goals, and set more ambitious reduction goals as required by the Paris Agreement,² Australian governments of all persuasions must work together on an economy-wide approach to emissions reduction and support the long term investment required to deliver on our emissions reduction commitments in an environmentally responsible manner.
3. The AEPLG also notes that the original design of Australia's Emissions Reduction Fund (**ERF**) envisioned direct funding support from the Commonwealth Government for 'least cost' CO₂ emissions reduction projects and activities undertaken by business and industry. The ERF remains the key market-based driver of the Australian Government's emissions reduction policy, despite previous support for a nationwide and cross-border emissions permit trading scheme.³
4. The Emissions Technology Roadmap (**ETR**) constitutes an additional policy measure to the ERF and resembles the former Australian Government's 2004 Low Emissions

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² Opened for signature 22 April 2016 [2016] ATS 24 (entered into force 4 November 2016).

³ Prime Ministerial Task Group on Emissions Trading, *Report of the Task Group on Emissions Trading* (Commonwealth of Australia, 2007).

Technology Demonstration Fund, which was established to leverage private sector investment and support the commercial demonstration of technologies that had potential to deliver large-scale greenhouse gas emission reductions in the energy sector.

5. In April 2016, the Turnbull Government inaugurated the ETR, when it engaged the Commonwealth Scientific and Industrial Research Organisation (**CSIRO**) to examine technology options to further enable Australia's emissions abatement commitments under the Paris Agreement and to inform the 2017 Climate Policy review.⁴
6. The CSIRO reported on its findings in its Low Emissions Technology Roadmap Final Report 2017 (**LETR**), identifying key technologies that could be drawn on to address issues in energy security, affordability and environmental sustainability. In particular, it identified emission reduction technology options within the energy sector,⁵ which included:
 - (a) four distinct technology pathways in key areas of energy efficiency, low carbon electricity and electrification and fuel switching with clear identification of key technologies in each pathway (figure 4, p.32, LETR);
 - (b) an extensive technical report, which evaluated the potential use of specific technologies, based on their potential to deliver abatement and economic opportunities by reference to Technology Readiness Level (**TRL**) and Commercial Readiness Index (**CRI**) scales;
 - (c) specific and largely mature technologies within the buildings, industry and transport sectors that could enable significant improvements in energy productivity; and
 - (d) significant potential business-as-usual reductions (approx. 40%) in fugitive emissions from coal mining, and oil and gas production in 2030 through incentivised deployment of innovative technologies.
7. Although greenhouse gas abatement programmes continued to be administered by the Commonwealth through the administrative functions of the Department of the Environment and Energy and later DISER, the LETR was not further pursued by the responsible Minister until August 2019.⁶
8. Two independent reviews of the ERF conducted by the Australian National Audit Office (published 12 September 2016) and by the Climate Change Authority (published 11 December 2017) identified, that the ERF had not delivered significant volumes of abatement in certain industry sectors such as energy efficiency, industrial, agriculture and transport. Industry stakeholders in these sectors identified several barriers to participation in the ERF:

⁴ This was jointly announced on 20 May 2016 by the then Industry and Science Minister, the Hon Christopher Pyne MP, Environment Minister, the Hon Greg Hunt MP, and Energy Minister, the Hon Josh Frydenberg MP.

⁵ At that time, and still, the UNFCCC sector with the greatest percentage increase in emissions: Australian Government Department of Energy and Environment, *National Inventory Report 2014 (revised) Volume 1, The Australian Government Submission to the United Nations Framework Convention on Climate Change Australian National Greenhouse Accounts August 2016* (Commonwealth of Australia, 2016) xi.

⁶ Australian Government Department of Industry, Science, Energy and Resources, *Technology Investment Roadmap Discussion Paper* (Commonwealth of Australia, 2020) 4.

- (a) high upfront capital costs;
 - (b) a lack of operational control over the scale of abatement required (particularly for energy efficiency projects);
 - (c) incentives provided by Australian Carbon Credit Units compared to transaction costs and compared to the value of energy savings for common energy types; and
 - (d) uncertainty about likely abatement and credits from particular activities due to the operation of calculations within the method and uncertainty for proponents on outcomes from auctions.
9. On 15 October 2019, the Minister for Energy and Emissions Reduction, the Hon. Angus Taylor MP, appointed an expert panel to undertake targeted consultation with industry and other stakeholders about the potential to incentivise low cost carbon abatement, with a focus on Australia’s industrial, manufacturing, agricultural and transport sectors and increased energy efficiency (**King Review**).
10. In addition to its focus on improving the ERF and incentivising voluntary action, the Final Report of the King Review, published in May 2020, recommended a “goal-oriented technology co-investment program to accelerate the uptake of transformative, high abatement potential technologies that are not currently cost competitive”.⁷ It appears to have outlined what are currently key design parameters of the current Investment Roadmap, including its focus on:
- (a) government co-investment with industry in ‘hard-to-abate’ sectors, novel and ambitious technologies that are technically and commercially feasible, and federal collaboration (where possible);
 - (b) expanded support for Australian Renewable Energy Agency (**ARENA**) and Clean Energy Finance Corporation (**CEFC**) in the delivery of the goal-oriented co-investment program; and
 - (c) the establishment of a regular public statement of funding decisions for low emissions technologies, implementation progress and project outcomes.

The AEPLG notes that the Australian Government agreed, or agreed in-principle, with 21 of the recommendations, and noted five of the recommendations of the King Report in its official response.

11. The AEPLG observes however, that the current request for stakeholder input continues to display uncertainty about which pathways for cost-effective deployment of priority technologies ought to be preferred by DISER.⁸ Unless DISER itself continues to present the Minister with an uncertain position about such preferred pathways, it is also unclear why an additional Ministerial Reference Panel is required to provide ongoing support to the Minister in identifying commercially viable and efficient deployment pathways for priority technologies.⁹

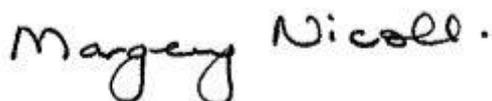
⁷ Australian Government Department of Industry, Science, Energy and Resources, *Report of the Expert Panel examining additional sources of low-cost abatement* (Commonwealth of Australia, 14 February 2020) 12.

⁸ Australian Government Department of Industry, Science, Energy and Resources, *Technology Investment Roadmap Discussion Paper* (Commonwealth of Australia, 2020) 44.

⁹ Ibid 34.

12. Having regard to the above matters, the AEPLG makes the following comments in relation to this public consultation:
- (a) while the ERF continues to demonstrate low industry up-take in the medium-to-long-term, all levers available to government must be utilised to encourage and support innovation in emissions reduction and, to this end, the AEPLG supports the Investment Roadmap as an important stimulus to innovation.
 - (b) The AEPLG supports urgent government action to fast-track the implementation of the Roadmap,¹⁰ particularly by focusing on technological efficiency pathways that:
 - (i) target domestic emissions reductions in energy and industrial process sectors, the two-key emitting United Nations Framework Convention on Climate Change sectors identified in the National Inventory Report 2018;¹¹
 - (ii) target export technologies with greatest potential to support global emissions reductions; and
 - (iii) avoid technologies closely associated with elastic demand, and are likely to increase rather than decrease additional energy consumption.¹²
13. The AEPLG would welcome the opportunity to discuss this submission with the Department. In the first instance, please contact the AEPLG Chair, Robyn Glindemann on robyn.glindemann@lantegy.com.au.

Yours sincerely



Margery Nicoll
Acting Chief Executive Officer

¹⁰ Gerdri, N., Vatananan, R. S., Dansamasatid, S., 'Dealing with the dynamics of technology roadmapping implementation: A case study' (2009) 76 *Technology Forecasting and Social Change* 50-60; Minshall, T., Mortara, L., Valli, R., and Probert, D., 'Making "asymmetric" partnerships work' (2010) 53(3) *Research Technology Management* 53-63.

¹¹ Australian Government Department of Industry, Science, Energy and Resources, *National Inventory Report Volume 1, Australian Government Submission to the United Nations Framework Convention on Climate Change Australian National Greenhouse Accounts*, Volume 1 (Commonwealth of Australia, 2020), xiv.

¹² Mathis, K., 'Sustainability Strategies and the Problem of the Rebound Effect' in Mathis, Klaus, Huber, Bruce R. (eds.), *Energy Law and Economics* (Springer International Publishing, 2018) 3-17; Hon Matt Canavan, 'Speech to the Centre for Strategic and International Studies: Washington DC' (Speech, Centre for Strategic and International Studies, 9 March 2018) <<https://www.minister.industry.gov.au/ministers/canavan/speeches/speech-centre-strategic-and-international-studies-0>>; Centre for International Economics, *What existing economic studies say about Australia's cost of abatement And what are the most fruitful areas for future modelling?* (The CIE Report, 31 July 2019) 38.