

19/06/2020

The Department of Industry, Science, Energy and Resources

Lodged online: <https://consult.industry.gov.au/>

Submission to consultation on the technology investment roadmap discussion paper

TransGrid welcomes the opportunity to respond to the Australian Government's consultation on its technology investment roadmap discussion paper.

TransGrid is the operator and manager of the high voltage transmission network connecting electricity generators, distributors and major end users in New South Wales and the Australian Capital Territory. Our network is also interconnected to Queensland and Victoria, and is instrumental to an electricity system that allows for interstate energy trading.

The roadmap sets out a plan to prioritise government funding for research, demonstration and commercialisation of emerging low-emissions technologies, to meet Australia's international emission reduction commitments and support the development of future export sectors.

In the short term, the focus will be on supporting electricity grid integration of renewables, including new generation, storage and transmission and energy efficiency. Medium and long-term investment priorities will include the electrification of industry and transport, and the development and scale-up of a new export sectors including hydrogen and carbon capture and storage.

TransGrid strongly supports the roadmap as a holistic national policy that will enable Australia to meet its international climate commitments through economy-wide emission reductions. A holistic national approach to emissions reduction will ensure that synergies across different work streams and industries are maximised. We also support the investment priorities broadly identified in the roadmap.

A decarbonised electricity sector facilitated by transmission can provide economy-wide emissions reductions

A low carbon electricity sector can play a significant role in reducing emissions throughout the whole economy. This can be achieved through the electrification of sectors such as industry and transport. TransGrid welcomes the acknowledgement of this in the discussion paper and the role that the transmission network will play in supporting the transition to low-cost renewable generation and reducing emissions from the electricity sector.

The energy system of the future will feature customer choice and control, enabled by an increasingly interconnected network. Generation will comprise a mix of large-scale generation and distributed energy resources and participants will be able to share resources and services, with the network providing the platform for energy transport and power system stability.

Transmission networks are pivotal to the energy system of the future and are in a unique position to underpin the achievement of energy security, affordability and reduced emissions. Development of transmission networks is required to integrate large-scale renewable energy whilst ensuring power system stability.

In summary, transmission networks:

- > maintain energy security through core expertise in power system security and stability, and a thorough understanding of the planning and operation of the power system.
- > deliver affordability for consumers as the platform on which the competitive wholesale electricity market operates and through the economies of scale that they provide.

- > are integral to reducing emissions in the electricity sector by transporting energy between areas with abundant renewable resources and areas where electricity is used.
- > provide geographic diversity of renewables across the National Electricity Market (**NEM**) to provide lowest cost intermittency firming. Ancillary services can also be shared across regions to provide system security and resilience.

The Australian Energy Market Operator's Integrated System Plan (**ISP**) provides a forward looking plan for the transmission investment required in the NEM. TransGrid considers the effective actioning of the ISP is critical. The ISP has the potential to facilitate the efficient and timely development of nationally strategic transmission infrastructure, resulting in significant market benefits and lower price outcomes for consumers. We welcome the acknowledgement in the roadmap discussion paper of the importance of the ISP.

Innovation and technology in network services can play an important role in lowering emissions and lowering the costs of electricity to consumers

We understand that the Minister for Energy and Emissions Reduction will assign goals and priorities for investment through annual 'Low Emissions Technology Statements' to be prepared with advice from an expert panel chaired by Chief Scientist Alan Finkel under the investment framework in the Australian Government's Roadmap. The Australian Government's existing funding agencies, Australian Renewable Energy Agency (**ARENA**) and the Clean Energy Finance Corporation, would be involved in disbursing public funds for the technologies.

TransGrid supports government funding towards research, demonstration and commercialisation of emerging low emissions technologies where this is necessary to support innovation. As a regulated transmission network service provider, we continuously strive to provide network services more efficiently. Innovation and technology can play a critical role in both lowering emissions from the sector and lowering the cost of network services for consumers through the use of new technologies to provide those services.

TransGrid supports the role of ARENA in funding research and trials of technologies to support the transition to renewable energy generation. We have recently been shortlisted for funding under the NSW Government's Emerging Energy Program to trial a grid scale battery in NSW to support the stability of the electricity system and renewable generation.¹ In 2016, we received funding from ARENA to carry out a feasibility study on the establishment of a connection hub for potential renewable energy operators in the New England region of New South Wales.²

The design of the regulatory framework could better facilitate innovation by electricity network service providers. TransGrid notes that the reforms currently underway in relation to regulatory sandboxing arrangements and the development of a demand management incentive allowance for transmission network service providers by the Australian Energy Regulator could bring forward innovation in network services if they were fast-tracked by regulators.

We appreciate the opportunity to comment on the Australian Government's discussion paper. If you would like to discuss this submission, please contact me or Catriona Webster, Head of Public Policy on 0447 124 726.

Yours faithfully

Eva Hanly
Executive Manager, Strategy Innovation and Technology

¹ See: <https://energy.nsw.gov.au/renewables/clean-energy-initiatives/emerging-energy-program>

² See: <https://arena.gov.au/projects/transgrid-new-england-renewable-rehub-feasibility-study/>