Select Committee on Energy Planning and Regulation in Australia

Question on Notice from Senator Van:

Dr Kuiper: Even though I have not been involved in this analysis, I would make two points. Firstly, the AER's own assessment shows that the productivity of the electricity networks has fallen relative to productivity in the Australian economy as a whole. You can find that graph on the AER website. Secondly—and this is an important point on governance, accountability and transparency—the AER's performance as an economic regulator has never been independently assessed. There was a National Audit Office report several years ago, but they did not look into issue like this.
CHAIR: Thank you. As a committee, we're incredibly interested in productivity and economic efficiency. I'll ask a question on notice. Do you know of any other models that might be able to price transmission with more economic efficiency? Cost recovery seems to be a very blunt way to do it. You probably don't have time to answer now, but if you could take that one on notice we'd be keen to see your response.

Answers due COB Thursday, 14 November 2024

The economic regulation of electricity distribution networks has a significant impact on electricity bills for households and businesses, and more broadly on Australia's economic productivity, but the current system has failed to deliver efficient costs for distribution network services.

The current system is based on the assumption that distribution networks are the monopoly providers of network services. However, increasingly, distributed energy resources (DER) owned by households and businesses can provide network services, including easing congestion to avoid augmentation or replacement of network infrastructure.

Internationally, momentum is growing towards reform of the economic regulation of electricity networks, with overseas jurisdictions introducing contestability and payments for DER to provide network services, totex regulation and performance incentives for decarbonisation.

My report for the Institute for Energy Economics and Financial Analysis (IEEFA) on 'Reforming the economic regulation of Australian electricity distribution networks' (available at: https://ieefa.org/resources/reforming-economic-regulation-australian-electricity-distribution-networks and attached) looks at international case studies of network revenue reform across three themes and what Australia can learn from them:

- Totex regulation (total expenditure, combining capex and opex – operating expenditure) is widespread in Europe as a way of mitigating the risk of capex bias, but has not been taken up in the US.
- Network services procurement through Distributed Energy Resources (DER) and otherwise. It is widely recognised that DER can and will provide a greater proportion of network support services. In Great Britain and Europe, network services provided by

third-party DER (and larger-scale assets) are called ‘flexibility services’, while in North America, they are called non-wires solutions (or non-wires alternatives (NWA)).

- Performance incentive mechanisms (PIMs), including to support DER integration. These incentives are aligned with decarbonisation in many EU and US jurisdictions, but not in Australia.

Great Britain’s RIIO (Revenue = Incentives + Innovation + Outputs) revenue regulation for electricity distribution network and the second RIIO distribution price control period (RIIO-ED2) offers a model which appears more economically efficient and more outcomes-focused. The RIIO regulation comprises a revenue cap plus performance incentives. Performance Incentive Mechanisms (PIMS) are available for six outcomes: safety, environment, customer satisfaction, connections, social obligations and reliability/availability. In addition, RIIO has allocated high levels of innovation funding to approved pilots through a Network Innovation Allowance (NIA) and an annual Electricity Network Innovation Competition (NIC).

The RIIO model is not perfect, especially as it sets revenue over a five year period which is too long to be efficient in a rapidly changing technological and commercial environment. However, it is worth exploring as it is has made the greatest changes to distribution network revenue regulation, especially in enabling the use of DER to provide network services. In 2016 research by Imperial College and the Carbon Trust estimated that flexibility markets could save Great Britain’s grid up to GBP40bn by 2050 compared with a system that adds no flexibility beyond the existing interconnectors and pumped hydro storage (available here: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/568982/An_analysis_of_electricity_flexibility_for_Great_Britain.pdf).