

11 August 2023

Energy Transition Green Paper Consultation  
Department for Energy and Mining, South Australia

Submitted to [DEMenergytransition@sa.gov.au](mailto:DEMenergytransition@sa.gov.au)

Dear Sir/Madam

### **AEC Submission to Green Paper on Energy Transition**

The Australian Energy Council (AEC) welcomes the opportunity to make a submission in response to the Green Paper on the Energy Transition (Green Paper).

The Australian Energy Council is the peak industry body for electricity and downstream natural gas businesses operating in the competitive wholesale and retail energy markets. AEC members generate and sell energy to over 10 million homes and businesses and are major investors in renewable energy generation. The AEC supports reaching net-zero by 2050 as well as a 55 per cent emissions reduction target by 2035 and is committed to delivering the energy transition for the benefit of consumers.

The AEC has published a compendium of eight papers discussing various aspects of the energy transition, "Australia's Energy Future: 55 by 35"<sup>1</sup>. These are all highly relevant to the Green Paper and the government is encouraged to consider them.

#### **South Australia's Energy Transition**

The AEC supports the South Australian government's broad reconsideration of the state's energy transition at this time. The Green Paper's scope is very broad, extending well beyond the AEC's remit of the electricity and gas industries. This submission is focused on the energy industry.

Nevertheless the AEC welcomes the government's recognition that the energy transition is much broader than the electricity industry, and that in order to achieve our carbon objectives, other sectors need to begin their journey now. Indeed in respect of the South Australian electricity system, it could be said that the transition has already been substantively achieved. South Australia leads the country, if not the world, in decarbonising a power system without hydro or nuclear.

As discussed in the Green Paper, the South Australian electricity system has certainly experienced challenges during this transition, however there are reasons to be optimistic that it has now overcome the most difficult period. This is particularly the case with respect to security and reliability. South Australia demonstrates that a privately-owned electricity system can be decarbonised without the major departures from the national electricity rules and frameworks being pursued in other National Electricity Market (NEM) jurisdictions.

Upon the completion of Project Energy Connect (PEC), South Australia will be, in relative terms, the most interconnected of all NEM jurisdictions. In the AEC's view, South Australia is best served by embracing the efficiencies and opportunities of national connectivity, and continuing to rely on the NEM's frameworks and institutions to provide South Australians with energy competition, investment and energy security.

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<sup>1</sup> The introductory paper is here: <https://www.energycouncil.com.au/media/2dubnvua/introductory-discussion-paper.pdf> All papers can all be found here: <https://www.energycouncil.com.au/reports/>

The AEC cautions South Australia against introducing mechanisms that substantially depart from these frameworks, particularly with respect to wholesale markets and network investment. South Australia's attention should instead continue to be focussed on removing barriers to, providing demonstration support to, and integrating into the energy market:

- Distributed Energy Resources, particularly in respect to controllable rooftop solar and small-scale batteries;
- Renewable hydrogen production for the purposes of large scale manufacture and export.

The government should also look to guide the progressive decarbonisation of the various forms of energy use that presently generate direct emissions.

The AEC welcomes the Green Paper's desire for "reasonable" energy prices to customers. The energy transition will have many costs that will need to be recovered, from the cost of building new generation and storage, to new networks and new operating systems. The AEC is disappointed that much of the political and media commentary around the energy transition incorrectly links the zero marginal cost of renewable energy to future customers prices. This has created unrealistic expectations in communities that will cause many future challenges for the industry and government.

### **The energy needs of South Australia**

The Green Paper makes significant reference to the Integrated System Plan (ISP) "Step Change" scenario. In late 2021 AEMO undertook a surveying process that determined it was the most likely of four scenarios. However, a slower rate of change scenario, "Progressive Change" was next ranked. The ISP calculations were actually based on a probability weighted average of the scenarios, which sat between these two.

This scenario weighting occurred before the full extent of the transition's delivery constraints had become apparent. This is driven by a shortage of skilled labour and equipment, and challenges with permitting and social licence. The AEC notes that most commentators are anticipating that the near-term rate of transition (i.e. pre 2030) as implied by step change seems now less likely to be realised.

The ISP scenarios anticipate electricity demand growth due to the electrification of heat and transport. The AEC welcomes this future as the next phase of decarbonising the economy. The AEC considers the electricity industry highly capable of meeting this new demand, which will emerge progressively and will, in many cases, be controllable such that it does not stress the power system.

The Green Paper floats options of a South Australian Energy Transition Roadmap, Strategy and/or Taskforce. Whilst the AEC is not opposed to such options, it recommends first considering what guidance is already available from the existing national market processes, such as the ISP and the existing AEMO South Australian advisory functions<sup>2</sup>. If South Australia wishes to progress with one or more of these options, it should structure the scope to primarily leverage South Australia's role in national energy markets, and seek to depart only where serious gaps emerge.

### **The current and future role of rooftop solar**

South Australia leads the world in rooftop solar penetration, to the point where it is periodically the dominant form of generation, and just like conventional generation, must be carefully managed to ensure the security of the grid. This is politically challenging because there are hundreds of thousands of generator owners, but is no less critical.

The AEC supports the South Australian Power Networks (SAPN)'s flexible export program, as well as the NEM export charges rule.

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<sup>2</sup> <https://aemo.com.au/en/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/south-australian-advisory-functions>

Dynamic, cost reflective network tariffs are often cited as a way to encourage load and/or small-scale storage to optimise consumption around solar outputs. The AEC supports this in principle, but notes that any network tariff for small customers must avoid complexity if it is going to be effective.

### **The current and future role of energy storage**

Battery energy storage, large and small-scale, is perhaps better suited to the characteristics of the South Australian electricity system than any other large system. The AEC strongly supports its progressive expansion in the NEM, and its own members are actively investing in all sizes.

With respect to large-scale batteries, the AEC considers the appropriate market incentives are now in place, and, thanks partly to South Australia's early support, the technology now has a well-understood role within a competitive energy portfolio. The AEC therefore does not consider large-scale batteries from this point onwards require further government support as is happening in some other jurisdictions, indeed this could be counter-productive by crowding out truly entrepreneurial investment.

For the same reasons, the AEC is concerned about the growth of battery development by monopoly networks. Whilst batteries certainly provide network benefits, an even playing field is more likely to be achieved if a batteries are developed by competitive providers who sell these benefits to networks along with other services to the NEM. The AEC has published material about this issue<sup>3</sup>.

The AEC supports the more active role the South Australian government has played in supporting the roll-out of small scale storage and expects this will continue for several years before it too will become self-sustaining.

### **The current and future role of Hydrogen gas**

The AEC sees hydrogen as playing a significant role in the energy transition over time. It welcomes government support to that role, but this support should be directed to those parts of the energy system where it is more promising than alternatives. One of the AEC's "Australia's Energy Future" papers is dedicated to exactly this matter<sup>4</sup>.

The AEC sees renewable hydrogen's potential as most immediate in the substitution of existing ammonia-based products, and then, in high intensity heat applications and in replacing fossil fuels in metal reduction. The AEC fully supports government assistance towards piloting these end uses.

The AEC is doubtful of hydrogen's relative practicality as a low intensity heat source compared to electric heat pumps, particularly for building and water heating. For this reason the AEC does not support schemes that require small customers to subsidise the blending of renewable hydrogen into the gas distribution network. In the presence of electricity as a more practical and economic alternative, most experts now doubt that anything greater than a trivial blend (in energy terms) of hydrogen in the gas distribution network is realistic.

### **The current and future role of natural gas**

The AEC has supported the Victorian Government's development of a "Gas Substitution Roadmap"<sup>5</sup>, which guides a long-term path away from the fuel. Whilst the AEC understands the South Australian government has no immediate plans to ban new connections as has occurred in Victoria and the Australian Capital

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<sup>3</sup> [https://www.energycouncil.com.au/media/5gul2n4l/ogw-report\\_wa-competitive-effects-of-network-provision-of-grid-scale-batteries\\_may2021.pdf](https://www.energycouncil.com.au/media/5gul2n4l/ogw-report_wa-competitive-effects-of-network-provision-of-grid-scale-batteries_may2021.pdf)

<sup>4</sup> <https://www.energycouncil.com.au/media/dm2dkjc3/aec045-hydrogen-discussion-paper.pdf>

<sup>5</sup> <https://www.energycouncil.com.au/media/3espt34d/20210806-aec-submission-vic-gas-substitution-roadmap-consultation-paper.pdf>

Territory, it would be appropriate for an energy planning process to consider when and how to begin this ultimately necessary part of the journey to net zero.

At the same time, the AEC considers natural gas fired and liquid fuel fired generation will continue to have a role in providing support to renewables and storage in the electricity system for decades to come, even after a net-zero 2050. In this role these generators will provide critical back up in extended renewable energy droughts, but in a role with only very short running durations and commensurately trivial emissions that can be readily offset. Hydrogen may also be an option for such peaking generators, but this can be left to a time when its cost can be compared with the total cost of emitting fuels with a commensurate carbon offset.

#### **Other matters**

South Australia has operated a Retailer Energy Productivity Scheme (REPS) for some time. Notwithstanding the merits of energy efficiency, the AEC's members note that REPS creates a significant retailing overhead for a relatively small energy market. The Green Paper is encouraged to consider whether it has achieved its goals, and if it is to remain, whether it can be adjusted to a certificate based scheme, ideally harmonised and linked to the larger white certificate schemes of either Victoria or New South Wales.

Any questions about this submission should be addressed to the writer, by e-mail to [ben.skinner@energycouncil.com.au](mailto:ben.skinner@energycouncil.com.au) or by telephone on (03) 9205 3116.

Yours sincerely,



**Ben Skinner**  
GM Policy  
Australian Energy Council