Post-2025 Market Design Consultation Paper

Energy Security Board

26 October 2020

About signatories

The signatories to this submission include national and state organisations that represent the voice of residential consumers, including people affected by poverty, disadvantage and inequity. Collectively we are part of a network of approximately 4000 organisations and individuals across Australia in metro, regional and remote areas.

Our broad vision is an end to poverty in all its forms; economies that are fair, sustainable and resilient; and communities that are just, peaceful and inclusive.

This includes reducing economy wide greenhouse gas emissions to net zero emissions before 2050 and a zero emissions electricity sector earlier. Based on the available evidence, delaying action now will require faster, more expensive and more disruptive change in the future, while heightening risks of more dangerous climate change.

Our vision for the energy system is for an inclusive, sustainable energy system that actively improves outcomes for people, the community and the environment.

We view energy as an essential service, and believe everyone has the right to access clean, affordable, dependable energy. It is critical to the health, wellbeing, economic participation and social inclusion of all people in Australia.

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Summary

Australia's electricity system is undergoing transformational change driven by the need to decarbonise, technology change and consumer preferences. It is transitioning from a highly centralised, fossil fuel dominated system, to an increasingly decentralised and decarbonized future.

The changes are creating opportunities and benefits. However, if we do not get the transition right, there are also risks and costs especially for people on low income or experiencing disadvantage who pay disproportionately more for energy and lack choice and control.

The Energy Security Board (ESB) has been tasked by the Energy Council (formerly COAG Energy Council) to advise on a long-term, fit-for-purpose market design for the National Energy Market (NEM).

Much of the post-2025 market design has focused on the technical and market challenges, which we agree are necessary to the transition. However, this focus has been at the expense of a focus on designing a market that works better for people, and ensuring that no-one is left behind in the transition.

Access to affordable, dependable, and clean energy services for everyone is critical. We need to ensure that energy continues to be valued as an essential service and to tackle serious design problems that disadvantage people most at risk without further delay. We need to create a more inclusive and sustainable system that delivers better outcomes for all.

This submission therefore focuses on key requirements needed to ensure people most at risk are at the centre of the transition and the new-market design, including:

19.1 People centred values and principles framework
19.2 Consumer co-design and engagement
19.3 Developing a better understanding of preference of consumers and preferences expressed through their behaviour.
19.4 Incorporation of equity and decarbonisation objectives
19.5 Workstream to look at market and non-market solutions to ensure no-one is left behind

We also encourage a more systems-wide and long-term perspective to avoid unnecessary costs, provide greater certainty, drive innovation and the right investment.

We note one of the greatest barriers to a smooth, affordable and equitable transition is the lack of a mechanism designed to integrate energy and emissions policy. This responsibility lies squarely on the shoulders of the Federal Government, and we urge progress to be made on this front.

Recommendations

Overarching considerations

Recommendation 1: ESB continues regular consumer engagement as it finalises its options paper, develops final market design recommendations, and as market bodies implement reforms

Recommendation 2: The ESB articulates a vision, and identifies values and principles to guide the post-2025 market design reform process and design options, in addition to evaluation. We recommend using the New Energy Compact as a starting point.

Recommendation 3: Each of the workstreams incorporates a funded consumer representative in the team and articulates the problem to be solved, the vision, principles and objectives in order to help inform options and final recommendations.

Recommendation 4: The ESB recommends to The Energy Council that the National Energy Objective (NEO) be expanded to include social equity.

Recommendation 5: The ESB recommends to The Energy Council that the NEO be expanded to include an environmental or decarbonisation objective.

Recommendation 6: The ESB includes consideration of electricity system resilience in developing options and recommendations for the post-2025 market design.

Recommendation 7: The ESB extend its work program to include consideration and analysis of systems architecture and explore a number of system architecture models, including a decentralised or bottom up model, and test workstream options against interactive and future systems architecture.

Recommendation 8: The ESB should establish another workstream to identify market and non-market solutions to deal with the limitations of rules and regulations post-2025 market design, to ensure no-one is left behind in the transition.

Recommendation 9: The ESB should merge the Distributed Energy Resource (DER) Integration workstream and the two-sided market workstreams.

Recommendation 10: The ESB request from The Energy Council an extension of at least 6 months on the delivery of the Options Paper and the final Market Design Recommendations.

Recommendation 11: Regular independent reviews be put in place to review whether the recommended legislative and rule changes are still appropriate.

Two-sided Market and DER Integration workstreams

Recommendation 12: The ESB undertakes further work to incorporate consumer design requirements into the DER Integration and Two-sided Market workstreams.

Recommendation 13: ESB undertake a broad consumer survey to understand what the level of uptake could be in a two-sided market, what are the barriers, and inform enabling solutions.

Ageing Thermal Generation workstream

Recommendation 14: There are a range of existing measures in place that should be sufficient to manage impacts on price and reliability from thermal coal closure and therefore recommend that no new measures are introduced at this stage.

Recommendation 15: The ESB recommends the establishment of a statutory authority to manage the effects of the energy transition on workers and communities.

Scheduling and Ahead Mechanisms workstream

Recommendation 16: Proceed with Australian Energy Market Operator (AEMO) implementing the Unit Commitment for Security (UCS) systems analysis and optimisation tool. Review the need for a voluntary day ahead market after further work is done on systems architecture and ancillary service arrangements.

Resource Adequacy Mechanisms workstream

Recommendation 17: The ESB reinforce to The Energy Council the need for electricity sector emissions reduction targets and a mechanism designed to integrate energy and emissions policy, to drive investment at low cost to consumers.

Recommendation 18: The ESB delay decision on additional resource adequacy mechanisms, until recent reforms and rule changes have had time to operationalise.

Transmission Access and the Coordination of Generation Transmission workstream

Recommendation 19: The ESB implement the following proposals with respect to improving transmission investment, access and coordination:

19.1 Make the following changes to the implementation of the Integrated Systems Plan (ISP):
   a) Integrate the ISP into existing planning, review and cost recovery framework;
   b) Require the AER to review AEMO process in developing the ISP and determine whether its optimal development path is economically efficient overall and in long-term interests of consumers; and
   c) Require the AER to determine whether transmission projects are normal or strategic, and allow strategic to be subject to modified RIT-T process that allocates costs differently.

19.2 Allocate risks of investments to those with the capacity to manage them and incentivise these parties to deliver the entirety of the modelled benefits to consumers. Recover costs from those who directly benefit from the investments.

19.3 Implement The Public Interest Advocacy Centre's (PIAC) model for Renewable Energy Zones (REZ), which shares costs and risks of REZ investment between generators, investors and consumers, rather than just consumers.

19.4 Provide locational price signals for both investment and operation, for example by exposing generators to the costs of connecting to the network or by locking in marginal loss factors (MLFs) for connecting parties for a standard period.

19.5 Develop a framework to better recover costs from consumers across multiple NEM regions.

Discussion

1. Introduction

1.1. Purpose and structure of Post-2025 Market Review

In recognition of the rapidly changing energy market, the ESB was tasked by the former Council of Australia Government (COAG) Energy Council (The Energy Council') to advise on a long-term, fit-for-purpose market design for the NEM. The ESB set up seven workstreams to consider the issues and develop potential solutions. The initial work has been done by the market bodies, the Australian Energy Market Commission (AEMC), Australian Energy Market Operator (AEMO) and Australian Energy Regulator (AER) working together with ESB staff. Industry and consumer groups and other stakeholders have been involved and consulted along the way.

1.2. This submission

We welcome the opportunity to provide feedback on the ESB's consultation paper on the post-2025 energy market design program.

Many of the signatories to this submission have been involved in additional ESB led consumer consultations on two of the seven workstreams - the two-sided market and the DER integration workstream. We have welcomed this additional engagement and inclusion of our feedback into the ongoing development of these two workstreams. It will be valuable to continue the additional consumer engagement as the ESB finalises its options paper, develops final market design recommendations, and as market bodies implement reforms.

Recommendation 1: The ESB continues regular consumer engagement as it finalises its options paper, develops final market design recommendations and as market bodies implement reforms.

This submission aims to reinforce key points made in the consumer consultation sessions and provide additional input based on further consideration by signatories.

The submission will first discuss and provide recommendations on a number of overarching matters and then consider the individual workstreams, primarily two-sided market and DER integration as these workstreams have greater implications for residential consumers.

2. Overarching considerations

2.1. The interaction between energy, disadvantage and the changing market

2.1.1. Energy market rapidly changing

As noted in the Consultation Paper, Australia's electricity system is undergoing transformational change driven by the need to decarbonise, technology change and

consumer preferences. It is transitioning from a highly centralised, fossil fuel dominated system, to an increasingly decentralised and decarbonized future.

It is moving from a one-way system (energy produced elsewhere sent to premises and consumed) to a two-way system, where people with control and access to resources can increasingly store, export, trade and self-consume energy they produce through DER and modify energy consumption to provide demand management services to the energy market.

On current projections, between 30 to 50% of Australia's annual electricity requirements (MWh) in 2050 will be generated by DER. These changes, along with greater DER integration provides opportunities and benefits, but creates challenges and risks.

As a result of these ongoing changes, there are aspects of market design, rules and regulations that are no longer fit for purpose and will increasingly be the case as transformation continues. To this end we support the purpose of the post-2025 market design review.

2.1.2. Energy is an essential service

What remains unchanged is the essential nature of energy. For business it is critical to economic outcomes. For people, it is critical to health, social, and economic outcomes. It is therefore vital that reforms put the needs of people, especially those most at risk, at the centre.

Energy is particularly fraught for the millions of people living below the poverty line or experiencing disadvantage. People on low income pay disproportionately more of their income on energy (on average 6.4% up from 5.4% a decade ago - after energy concessions are taken into account) compared to households on the highest income quintile (who pay an average of 1.5% of income, up from 1.4% a decade ago).[1] People on low incomes often live in inefficient homes that are expensive to heat and cool, and do not have the means or control to improve the efficiency, especially if they rent.

Energy affordability is not just determined by the price of energy, but also the level of consumption (influenced by size of house, efficiency of house, family size, health conditions etc.), ability to pay and increasingly ability to access energy saving measures and technologies.

Those with the least control and access to resources suffer the most from high energy bills. Some people deprive themselves of energy and go without heating, cooling, hot water, and cooking to the detriment of their health, to afford their energy bills. Other people cope by forgoing other essentials like food, medicine, dental or don't send their kids on school excursions, just to pay the energy bills.

More and more emphasis is being put on a competitive energy market to provide affordable energy, which increasingly requires higher levels of specific forms of ongoing engagement in the market to find the best electricity price and increasingly to participate in new DER services. This requirement for ongoing and active engagement does not align with the preferences of many people, and many face barriers to dealing with a market that requires high levels of engagement.

[1] ACOSS and BSL (2018) Energy Stressed in Australia. https://www.acoss.org.au/wp-content/uploads/2018/10/Energy-Stressed-in-Australia.pdf

Further, the reliance on competitive markets has failed to deliver fair outcomes in many sectors.[2] In energy, the Independent Review of Electricity and Gas Retail Markets in Victoria found that competition had added additional costs to the market which have not been offset by benefits and that market practices had resulted in confusing contracts and pricing that even knowledgeable consumers find hard to navigate.[3]

2.1.3. No-one should be left behind in the energy transition

Most people care about energy in ways that makes sense to them. However, many people do not actively engage in the energy system in a way a market approach assumes and requires. The barriers to active engagement vary but include the type of home they live in, geography, renting, affordability, language, literacy, health, stress, complexity, lack of business models, network restrictions, amongst others.

There are millions of people who are currently locked out of DER, especially people on low incomes who already pay significantly more of their income on energy bills and contribute disproportionately to DER subsidies and system costs. The barriers to access of DER technologies and services are substantial including lack of control over premises, particularly for people on low incomes and renters, lack of resources to upgrade technologies and lack of engagement and knowledge as noted above.

People on low incomes are already being seriously left behind, and is likely to get worse with the acceleration of access to DER for others. This is creating a larger divide between the haves and have nots. The energy market approach fails to drive any changes that put people most at risk at the centre of its design. The market does not target people on low income or who experience disadvantage and Government subsidies and supports have generally been either poorly targeted or not at scale.

For those who are able to and want to actively engage in the new energy system, typically people with control and access to resources, how do we ensure their agency is maximised, that they are adequately rewarded for the benefits they provide the energy system, and that they appropriately pay for the costs they impose on the energy system and other energy participants?

For those who don't want to actively engage in the way the market requires and for who energy is simply a functional concern, how do we ensure their decision is respected and supported and they are not penalized and disadvantaged in a new energy market?

And importantly, for those who face barriers to actively engage and/or access DER, how do we ensure that they are not placed at further risk? How do we accelerate their access to and engagement with DER in an appropriate way? How do we ensure people most at risk are not penalized or further disadvantaged in the new energy market?

We believe these are critical questions that the post-2025 market design review must address. The review needs to put the issues for people most at risk at the heart of its deliberations in order to deliver for all.

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[2] The Final Report of the Royal Commission into Misconduct in the Banking, Finance and Superannuation Industry identified six norms of conduct relevant for any essential service market design, one of which was to 'act fairly'.

[3] Independent Review of Electricity and Gas Retail Markets in Victoria (Thwaites Review), Final Report, August 2017, available at: https://engage.vic.gov.au/review-electricity-and-gas-retail-markets-victoria.

2.2. Post-2025 Market design should be guided by people centred framework - New Energy Compact

2.2.1. People centred framework

The changes in the energy system mean that the old social contract to provide this essential service has become fractured. In this process, trust has been lost, energy is unaffordable for some, others are unable to benefit from the transformation taking place, and we urgently need to decarbonise our energy system.

While reform processes have focussed more on the technical and market challenges, which are necessary to the transition, there has been limited discussion of the people, and the values and principles that are needed to build confidence and trust in the energy system of the future.

Markets have not prevented substantive unfair practices from becoming widespread. Moreover, unfair practices such as confusing contracts and pricing structures are more likely to impact disadvantaged or vulnerable groups. Consumers who face barriers to protecting their own interests, for example factors like age, language, health or capacity, are more likely to experience detriment associated with unfair practices.

Access for all to affordable, dependable, and clean energy services is critical. We need to ensure that energy continues to be valued as an essential service and to create a more inclusive and sustainable system that delivers better outcomes for all. We need to place people most at risk at the centre of design.

A new compact between governments, people, industry, institutions and communities must be created. It needs to be focused on the future and be consistent with the values and principles of people and the community, to meet their energy needs.

For example, it is increasingly recognised both in Australia and internationally that firms need to be promoting not just the interests of shareholders, but the interests of the wider community, in particular customers to whom they supply goods and services.[4]

We acknowledge and welcome the use of principles in the Evaluation Framework of the consultation paper. In addition, we believe a values and principle based framework should be created to guide the further development of post-2025 workstream considerations, market design options, final recommendations and implementation.

Consumer groups are in the process of developing a New Energy Compact[5] (see figure 1 below), that can be used to guide the values and principles based framework for the post-2025 market design. The Compact has been designed to reflect the values of people, ensure reform is future focused and to be used by decision makers to guide policy and reform for an inclusive, affordable, dependable and clean energy system.

A more explicit example of how aspects of the New Energy Compact can be applied is provided further below under section on two-sided markets.

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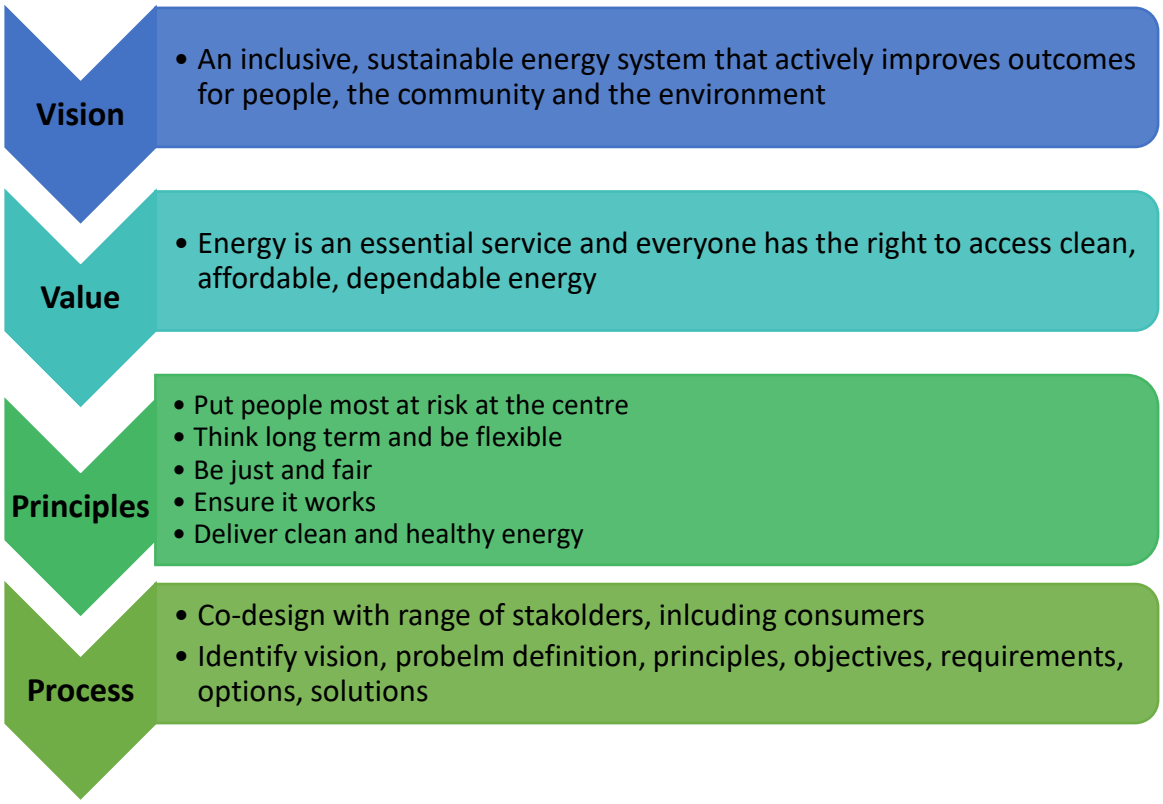
[4] Business Roundtable Redefines the Purpose of a Corporation to Promote 'An Economy That Serves All Americans', 19 August 2019,available at: https://www.businessroundtable.org/business-roundtable-redefines-the-purpose-of-a-corporation-to-promote-an-economy-that-serves-all-americans.

[5] https://www.acoss.org.au/new-energy-compact/

We would welcome more input into the evaluation principles, to enhance focus on meeting needs of people and ensuring no-one is left behind.

Recommendation 2: The ESB articulates a vision, identifies values and principles to guide the post-2025 market design reform process and design options, in addition to evaluation. We recommend using the New Energy Compact as a starting point.

Figure 1 Summary overview of New Energy Compact



2.3. Reforms should be co-designed with consumers

Inherent in the New Energy Compact is the need to be inclusive, not just in the final outcome but in the process to develop reforms, regulations, policies, products and services.

A good process is one that brings together a range of stakeholders to jointly agree on a vision, problem, principles, objectives, options and optimal solutions. See for example the process in figure 1 above.

How stakeholders work together is also important. The Compact encourages a change in mindset towards collaboration, innovation and striving to achieve win-win outcomes.

Recommendation 3: Each of the workstreams incorporates a funded consumer representative in the team and articulates the problem to be solved, the vision, principles and objectives in order to help inform options and final recommendations.

2.4. Updating the National Energy Objectives - decarbonisation and equity

The Consultation Paper notes that the Energy Council advised the ESB that the post-2025 market design should comply with the NEO. Further the Consultation Paper notes that the options and recommendations will be evaluated against the NEO. The NEO is:

> *to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to –*
>
> *a) price, quality, safety, reliability and security of supply of electricity; and*
>
> *b) The reliability, safety and security of the national electricity system.*[6]

Given the rapid and far reaching changes and transformation of the energy system, we believe like the energy market design, the NEO is no longer fit-for-purpose and not in the long term interests of consumers. In particular we believe the NEO should be amended to include social equity and decarbonisation as objectives. We are concerned that development and implementation of a post-2025 market design without amendments to the NEO would create inefficiencies, inequities and delay decarbonisation of electricity.

2.4.1. Equity

Changes to the energy market design, rules and regulations; growth in new technology, products and services; and the unequal distribution of energy market costs, have already created wide ranging and serious social equity impacts, with the potential to get worse. Yet the current framing of the NEO does not give regard to social or distributional impacts of energy policy or regulatory decisions, especially for low income and disadvantaged households that goes beyond just 'price'.

It has been argued by some, that social outcomes are more appropriately dealt with by other public policy levers, and we agree there is an important role for Government to provide safety nets, however markets must also play a role in achieving social equity outcomes. For example, market design, rules and regulations can have a positive impact on social equity dimensions, by:

[6] http://www.coagenergycouncil.gov.au/energy-security-board/post-2025; the NEO is set out in section 7 of the National Electricity Law

- distributing costs, benefits and risks transparently and fairly to allow for equitable outcomes regardless of people's ability to engage with the energy system;
- incentivising energy market participants to innovate in ways that bring benefits to all consumers; and
- providing appropriate protections to support people to be able to access affordable, efficiently priced basic energy supply regardless of how much or how little they actively interact with energy services.

Countries like the United Kingdom and US states like New York State, have successfully included social objectives in their energy regulatory regimes.[7]

We note the Consultation Paper has recognised the need to consider equity, as part of its proposed stage two reform-wide assessment principles:

Principle C. Affordable and Equitable, described as "Costs associated with market design are affordable and fair. Design works to optimise use of resources for the benefit of all consumers, providing enhanced opportunities for consumers to engage in and receive value from new service models." (pg. 124)

While we welcome the inclusion of equity in the evaluation principles, we would be concerned about successful implementation, if design, rules and regulations were deemed inconsistent with the NEO.

We have seen deregulating the energy market to encourage retail competition has not delivered equitable outcomes.[8] It is necessary to set regulatory processes and incentives that ensure equitable outcomes rather than a set and forget approach.

With the rapid pace of energy transition, people most at risk are being left behind. Given the essential nature of energy supply, it is important that market bodies and market participants place social or distributional impacts at the centre of energy policy or regulatory decisions.

Recommendation 4: The ESB recommends to The Energy Council, the NEO be expanded to include social equity.

2.4.2. Decarbonisation

The disconnect between climate policy and energy market regulation in Australia over the past two decades has been partly responsible for economically inefficient investment, leading to higher wholesale prices and retail bills, and has also hindered the decarbonisation of the NEM in line with our international obligations.[9]

In 2017, Chief Scientist Alan Finkel referred to the energy trilemma - the challenge of achieving secure and reliable energy supply while reducing carbon emissions and ensuring affordability for consumers. The preliminary report for the *Independent Review into the National Electricity Market* (Finkel Review) emphasised how important it was to integrate energy and emissions policy:

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[7] https://d3n8a8pro7vhmx.cloudfront.net/boomerangalliance/pages/641/attachments/original/1488246895/Finkel_NEO_joint_sub_Feb_2017.pdf?1488246895

[8] See for example, Independent Review of Electricity and Gas Retail Markets in Victoria (Thwaites Review), Final Report, August 2017, available at: https://engage.vic.gov.au/review-electricity-and-gas-retail-markets-victoria

[9] Paris Agreement, which Australia is a signature, stated goal is to reduce global emissions to well below 2 degrees C and pursue a limit of 1.5 degrees C.

> "For both system security and affordability reasons, it is important that governments ensure energy and emissions reduction policies are integrated. The energy system needs to be able to adapt to changes in technology and in supply and demand that are stimulated by emissions reduction policies. Emissions reduction policies that are aligned with the operation of the electricity system will better support efficient investment decisions by consumers and in generation and network assets."[10]

The final Finkle Report noted that the AER, AEMO and AEMC argued against including any reference to environmental considerations in the NEO because *"the inclusion of such considerations would create multiple, potentially competing objectives"*.[11] However, countries such as the United Kingdom, Germany and Denmark and large US states such as California and New York, include an environmental objective in their regulatory regime,[12] which the Finkel Report noted did not seem to create conflict,[13] and on all appearances has positively contributed to reform.

Further, a number of the market bodies are including emissions outcomes in their work. For example, the AEMO 2020 Integrated Systems Plan (ISP) sets out " *the optimal development path needed for Australia's energy system, with decision signposts to deliver the affordability, security, reliability and emissions outcome for consumers through the energy transition."*[14]

The Consultation Paper itself refers to emissions/decarbonisation objectives in developing and evaluating the new post-2025 market design:

> "The ESB will provide advice to Energy Ministers on changes to the existing market design, or recommend an alternative market design, to enable the provision of the full range of services to customers necessary to deliver a secure, reliable and **lower emissions electricity** system at least cost by mid-2021" (pg. 6).

Stage 2 reform-wide assessment principles includes a principle to support lower emissions, described as *"Ability for the design to align with decarbonization objectives and deliver reduction in carbon emissions"* (pg. 124).

While we welcome these statements, we remain concerned these are in conflict with the requirement for the design and evaluation to comply with the NEO and that there will be challenges with ongoing implementation because it may be deemed inconsistent with the NEO.

We believe that it would be in the long-term interest of consumers, market bodies, and decision makers if the NEO was amended to include a decarbonisation objective.

It is important to note that including decarbonisation of the electricity network in the NEO does not require Market Bodies making rules and guidelines for the operation of the NEM to set the targets or policies for meeting Australia's national or international

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[10] https://www.energy.gov.au/publications/independent-review-future-security-national-electricity-market-preliminary-report

[11] https://www.energy.gov.au/sites/default/files/independent-review-future-nem-blueprint-for-the-future-2017.pdf pg 176

[12] https://d3n8a8pro7vhmx.cloudfront.net/boomerangalliance/pages/641/attachments/original/1488246895/Finkel_NEO_joint_sub_Feb_2017.pdf?1488246895

[13] https://www.energy.gov.au/sites/default/files/independent-review-future-nem-blueprint-for-the-future-2017.pdf, pg. 176.

[14] https://aemo.com.au/-/media/files/major-publications/isp/2020/final-2020-integrated-system-plan.pdf?la=en, pg. 9.

decarbonisation targets. However, the rules and regulations that govern the electricity market should embrace, facilitate and accelerate decarbonisation.

Recommendation 5: The ESB recommends to The Energy Council, the NEO be expanded to include an environmental or decarbonisation objective.

2.5. Consideration of Resilience

Given the impacts increasing extreme weather events are having on Australia's electricity system and consumers, we urge greater consideration be given to energy systems resilience. Resilience is broader than reliability and refers to the capacity for electricity systems to prepare, absorb and recover from natural hazards events.[15]

Greater focus on energy system resilience in post-2025 market design should lead to lower costs to consumers in the medium and long-term, as it will require a shift in thinking on network asset investment and potentially add to the DER value stack.

See Total Environment Centre (TEC) submission to post-2025 market design Consultation paper for more detailed discussion.

Recommendation 6: The ESB includes consideration of electricity system resilience in developing options and recommendations for the post-2025 market design.

2.6. Greater consideration should be given to system architecture

A key remit of the post-2025 market design review is to identify a long-term, fit-for-purpose market design for the NEM. However, we are concerned that in breaking the review into workstreams the Review lacks a system focus, in particular there has been little discussion about whether major changes are needed to system architecture (which includes market arrangements, market coordination and operational structures).

Experts argue that when applied early in the planning process it can help to address system complexity and minimize unwanted consequences. In Australia, the current grid design is based on one-way transmission of power from central power stations through distribution level networks to customers - a top-down approach. However this design may not be fit for purpose as we move to more decentralised and localised energy generation

AEMO and Energy Networks Australia (ENA) attempted to consider aspects of systems architecture as part of the Open Energy Networks Project (OpEN).[16] The figures below show two of the models considered for illustrative purposes:

[15] Bushfire and Natural Hazards CRC, The Australian Natural Disaster Resilience Index: A system for assessing the resilience of Australian communities to natural hazards, Chapter 1, July 2020

[16] https://www.energynetworks.com.au/resources/reports/2020-reports-and-publications/open-energy-networks-project-energy-networks-australia-position-paper/

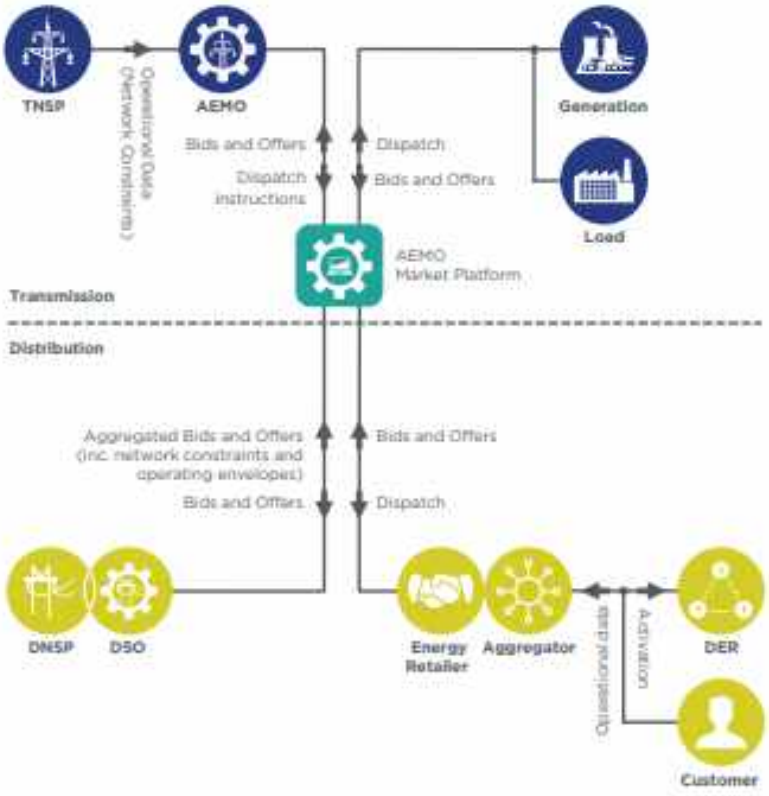
- model 1 - a single integrated platform with AEMO as the single market operator; and
- model 2 - has two market platforms, a central market platform operated by AEMO and a distribution/local areas level market platform operated by distribution system operators.

However, the OpEN was done separate from the post-2025 market design review, took a very technical and markets perspective with little consideration of consumer perspective and design principles, and did not explore more bottom up systems architecture.

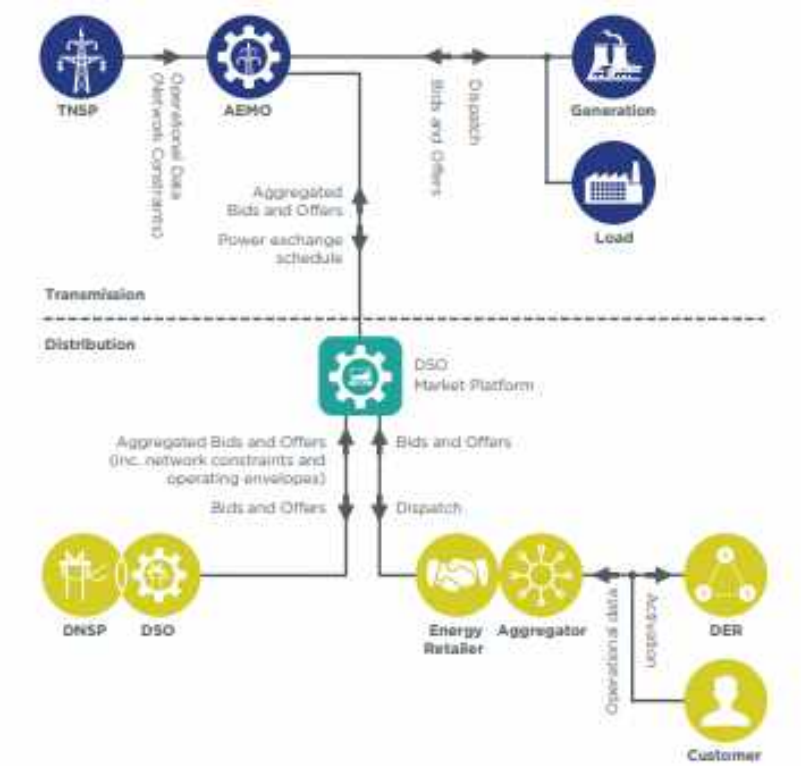
We note the DER Integration Market Design workstream, makes a reference to consideration of market arrangements and architecture required to optimise DER value streams (from self-consumption through to wholesale markets) for the NEM (pg. 102).However the section is light on information about intent.

We recommend that post-2025 market design extend its work program to include consideration and analysis of systems architecture and explore a number of system architecture models, including a decentralised or bottom up model.

Model 1. Single integrated platform



Model 2. Two step tiered platform



The development of the models should be informed by a vision of the future energy system from a consumer perspective and guided by clear objectives and requirements/characteristics (as discussed in 2.2 above).

For example, some objectives/requirements we would like to be considered, would include:

- Small consumers should not be required to directly interact with the wholesale market to trade their DER (i.e., they will do so mainly via aggregators, so that individual consumers do not need to be scheduled).
- More specifically, small consumers should be able to trade energy with each other via distribution level trading platforms (like deX, Reposit and PowerLedger). This will be especially relevant in the context of islandable Stand Alone Power Systems (SAPS) and microgrids employed to enhance system resilience.

Each system architecture model should include a consumer impact assessment (not just total consumer impact, but also distributional outcomes - on those with and without DER for example, and conditional outcomes contingent on for example access to information and consumer protections in place). This could be considered across time or be a dynamic model, for example, reflecting both transition and future end states.

While we appreciate that it may not be cost effective to shift to a particular system design now (the OpEN Consumer Reference Group advised against this as part of the OpEN consultation),[17] having an appreciation of where we want to end up can:

- inform and/or rule out options considered in the workstreams;
- stimulate innovation;
- inform investment decisions; and
- ensure short and medium term rule and regulatory changes are consistent with a future state.

Recommendation 7: The ESB extend its work program to include consideration and analysis of systems architecture and explore a number of system architecture models, including a decentralised or bottom up model, and test workstream options against interactive and future systems architecture.

2.7. Workstream to ensure new market design leaves no-one behind

As noted in 2.1 above, people most at risk are being left behind in the energy transition, especially people on low income or experiencing disadvantage.

Market design, rules and regulations must improve efficiencies, reducing inequity (see 2.2.1 above), support engagement and provide protections. It's also likely more will be needed in terms of:

- Incentivising business models that can overcome barriers to people on low income, renters, and others at risk of being left behind to access energy reduction measures. For example in the US there is a network that invests in improving the efficiency of homes, including low-income homes, as it's more cost effective than augmenting the network.
- Government policies and measures:
    - Such as mandatory energy efficiency rental standards
    - Direct investment to support social housing and low-income homeowners can access energy reduction measures
    - Well targeted energy concessions
    - Not for profit retailers and aggregators

While some of these issues are being considered in other workstreams such as two-sided market with respect to consumer protections, again there is no systematic workstream identifying market and non-market solutions to deal with the limitations post-2025 market design, rules and regulations may have in ensuring no-one is left behind in the transition.

[17] https://www.energynetworks.com.au/resources/reports/2020-reports-and-publications/open-energy-networks-project-energy-networks-australia-position-paper/ pg. 25

Recommendation 8: The ESB should establish another workstream to identify market and non-market solutions to deal with the limitations of rules and regulations post-2025 market design, to ensure no-one is left behind in the transition.

2.8. Integration of workstreams

As noted above we believe it is important to take a systems perspective to developing a long-term, fit-for-purpose market design. We welcome the acknowledgment in the Consultation Paper (pg 26) that greater coordination across the seven workstreams is needed and we encourage this to occur to ensure there is a holistic view. The suggested additional work program/workstreams on systems architecture and ensuring no-one is left behind, should be included.

In particular we strongly encourage the DER Integration workstream and the Two-sided Market workstreams be merged. For example, key questions being explored in the DER Integration workstream such as *facilitated participation of DER* and *deep market integration of DER* are intrinsically linked to the design and protections for consumer participation in the two-sided market workstream.

Recommendation 9: The ESB should merge the DER Integration workstream and the Two-sided Market workstreams.

2.9. Transition period and the need for reviews

We note the consultation paper outlines three key phases of delivery, short-term deliverables (12-18 months), intermediate deliverables (implemented before 2025, and long-term deliverable (implemented post-2025).

We welcome the intention stated, that all reforms will be evaluated together to ensure they lead to an integrated solution.

We are however concerned with the timeline. In particular final options to be put to the Energy Council by December 2020, with final recommendations on all reforms intended to be made by mid-2021.

Responding to the 2019/2020 bushfires and COVID-19 has reduced the capacity of many stakeholders to fully engage in the post-2025 market design review process. In addition, we believe more work needs to be done in the areas outlined above to inform the options put forward to the Energy Council, and the potential solutions. We would recommend this timeline be pushed out by at least 6 months.

Recommendation 10: The ESB request from The Energy Council an extension of at least 6 months on the delivery of the Options Paper and the final Market Design Recommendations.

The Consultation Paper also states once the final recommendations on all reforms are made by mid-2021, the required legislation and rules will be developed and introduced over time. We recommended regular independent reviews are put in place to:

- review whether policies are achieving outcomes or are not having unintended consequences, especially as they interact with each other;
- meet changing needs of consumers;
- take into account changes to government policy; and
- take into account other changing variables as identified on page 27 of the consultation paper.

Recommendation 11: Regular independent reviews be put in place to review whether the recommended legislative and rule changes are still appropriate.

3. Two-sided market and DER Integrating workstreams

There is considerable overlap between the two-sided market and Integrating DER Market Design workstreams, so we have chosen to deal with them together in this section.

3.1. Summary of two-sided market workstream and Integrating DER Market Design workstream

The Consultation Paper outlines the following opportunities of creating a two-sided market (pg. 84):

> The changing system dynamics and growth of decentralised sources of supply is a contributing source of variability and uncertainty in the system. This can create costs and can increase energy prices for consumers. There is an opportunity to change the current NEM arrangements to make it easier for new types of participation in the market, or for consumers with flexible demand to participate. This would improve visibility and understanding of flexible demand on the system and provide more choices to consumers. This also means that consumers could be rewarded where they shift their demand to other times of the day when they can offer valuable sources of flexibility to the system through different market services or mechanisms. This workstream sets out a long term approach towards two-sided market arrangements. This intends to:
>
> - Allow consumers to choose if and how they participate in the wholesale market
> - Better reward the value provided to the system by flexible demand and supply
> - Facilitate new types of participation in the market, remove barriers and provide incentives for traders to participate in dispatch, enabling greater innovation and choice to consumers
> - Work out how best to incorporate price responsive supply and demand into the operation of central dispatch and the forecasting that leads into real time,

enabling better informed quantity and price inputs from both the demand and supply sides in market processes
- Establish an evolved consumer protections framework that makes sure all consumers have fit-for-purpose protections

The Consultation Paper outlines the following key points with respect to workstream on Integrating DER Market Design (pg. 96)

The rapid increase of DER on the NEM, at both household and grid scale, presents a range of opportunities and challenges that require a holistic approach to ensure effective system and market integration, and to unlock benefits to all energy system users. Effective integration of DER has implications across the post-2025 market reforms and will be considered as a key interdependency for each workstream.

A broad program of work is underway and being coordinated by the ESB to support this: including initiatives considering changes to technical, regulatory and market settings. The focus of the market integration is expected to occur in three overlapping stages:

- Foundational measures (including considerations for changing the market design for DER integration),
- Facilitated participation (including defining participation requirements to enable DER to participate multiple markets)
- Deep market integration of DER (including realising opportunities for DER to participate in multiple markets and service provision (value stack) where it is efficient and technically viable to do so).

Six key considerations for DER integration need to be addressed in developing a post-2025 market:

- The balance of how DER services are delivered – through markets and/or technical and regulatory processes.
- How responsive DER and engaged & willing DER owners will be to participate in markets.
- The infrastructure required for DER participation, especially operating envelopes.
- Definitions of aggregators to support DER participation and compliance under post-2025 market designs.
- The balance between participation and full market integration of DER services.
- The potential for distribution-level markets

3.2. Combine Two-sided Market and Integrating DER workstreams

The Consultation Paper flags that the ESB are considering combining the DER Integration and two-sided markets workstreams, which we fully support given the significant overlap in issues and objectives (see recommendation 8).

The consultation paper seeks advice as to how this should be done. We **recommend** the respective teams come together, with consumer representatives and other relevant key stakeholders, and work together to:

- identify and articulate the problems the workstreams are trying to solve for and write a problem statement for the merged workstream;
- articulate a clear vision for DER integration and consumer participation;
- articulate key objectives and criteria to inform design and implementation; and
- articulate a set of principles to guide development of options (see for example the Appendix)

We would **recommend** the consideration of 'infrastructure required for DER participation' and 'development of distribution level markets', be taken out of the DER Integration workstream and be dealt with in our proposal for a new work program focused on systems architecture (see recommendation 6). We believe the systems architecture (as discussed in section 3.4) should be dealt with outside of any one workstream, as its overarching nature will interact with all the workstreams and options being considered. However, each workstream should inform the development of the systems architecture.

3.3. Ongoing consumer engagement to further inform the the two-sided market and DER Integration workstreams

As noted in section 1.2, many of the signatories to this submission have been involved in an additional ESB led consumer engagement process, mainly focused on the Two-sided Market workstream and more recently the DER Integration workstreams. We have welcomed this additional engagement and inclusion of our feedback into the ongoing development of these workstream.

We believe the engagement with consumer groups has helped put people more at the centre of this reform process, particularly the two-sided market workstream. We welcome reference to

- a focus on meeting customer needs, including a focus on providing choice and innovation, ensuring customers are treated equitably, and creating opportunities to lessen the energy divide;
- consumer protections and complementary measures; and
- intention to use customer archetypes.

We found it challenging to inform and/or respond to the considerations and questions posed in this Consultation Paper for the DER Integration section, as there is still so much to consider and there were no clear options to which we could respond. We are aware, that significant work is still underway in the DER Integration workstream and this was reinforced in the Consultation Paper.

It will be valuable to continue the additional consumer engagement to provide more detailed input as the ESB finalises its options paper and, develops final market design recommendations, and as market bodies implement reforms (see recommendation 1).

The brief responses below serve to reinforce some key points and flag a few new suggestions for further discussion in the consumer engagement forums.

3.4. Questions for stakeholders

3.4.1. What are the risks and barriers preventing more active demand response and participation in a two-sided market?

We would characterise some of the problems/barriers as:

- **POVERTY AND DISADVANTAGE:** It is clear that the benefits of DER are disproportionately helping people with higher incomes and wealth. For example, people who own their homes and have higher incomes have greater control and access to DER technologies and services. In general, people on lower incomes, or with other barriers such as literacy, and renters do not currently have the power or resources to access DER.
- **UNCERTAINTY:** Current and future markets and policy settings, and how people are motivated to respond to these and other incentives, are characterised by increasing uncertainty.
- **LACK OF TRUST AND TRANSPARENCY:** There is a low level of trust that energy companies are operating in the interests of consumers. Trust is undermined when there is a lack of transparency around market offers and competition.
- **PARTICIPATION:** Consumers shifting load or generation could create value in the wholesale market, ancillary services, and emergency services or for network support, but market rules prevent them from realising this value.
- **CHOICE:** Market arrangements, along with those for metering and connection, don't support consumer preferences to access the products and services they want or from the providers they choose (i.e. people can only contract with one retailer, and not with other intermediaries such as aggregators).
- **ACCESS:** New and innovative energy products and services offer significant value, but are difficult to access, especially for disengaged and low-income consumers. Access barriers include the type of home, geography, renting, affordability, language, literacy, health, stress, and complexity
- **PROTECTIONS:** New market models, products and services, where they partly or fully facilitate essential energy supply, raise new risks for consumers in emerging markets, particularly disengaged and vulnerable consumers.
- **SOCIAL PRACTICES:** There is a lack of consideration of social practices and an overreliance on shifting demand to smooth peak demand and avoid network buildout. There needs to be more consideration and research into shifting times of energy use as not everyone is willing or able to change their energy practices.

3.4.2. How can risks and barriers be managed?

We welcome the ESB intention to use customer archetypes to assist consideration of how different aspects of the reform program might work in practice with different customer groups.

As previously discussed with the ESB, we believe the DER Integration workstream and the Two-sided Market workstream would benefit further from incorporating consumer

design processes - that is developing systems, products, services and value propositions from an end users perspective. This goes one step further than looking at the technology/appliance a consumer interacts with and evaluating against customer archetypes, and instead considers consumer agency and preferences in the design phase.

Recommendation 12: The ESB undertakes further work to incorporate consumer design requirements into the DER Integration and Two-sided Market workstreams.

We also recommend the ESB undertake a broad consumer survey to understand what the level of uptake could be in a two-sided market, what are the barriers and enabling solutions.

Recommendation 13: ESB undertake a broad consumer survey to understand what the level of uptake could be in a two-sided market, what are the barriers and enabling solutions.

As already identified in the paper, appropriate consumer protections will need to be developed and consumer and business education will be important.

3.4.3. What might principles or assessment criteria contain to help assess whether it is timely and appropriate to progress through to more sophisticated levels of the arrangements [in a two-sided market or with DER integration]?

Appendix outlines principles to guide formation of two-sided markets and DER integration. They are based on the New Energy Compact and was developed (with a focus on two-sided market workstream) by organisations engaged in the ESB's consumer engagement group.

These principles can be drawn on to develop assessment criteria to progress to more sophisticated levels, and could include:

- All consumers have the option to participate in new services/the market
- No-one is obliged to participate in a 'two-sided market'
- Fit-for-purpose consumer protections are in place, including dispute resolution, to enable full participation
- People are not exposed to risk they aren't rewarded for
- People are not exposed to risk they can't manage
- New intermediaries can access the energy market as participants
- Consumers can access services from intermediaries as readily as they can with retailers
- Energy costs for disadvantaged disengaged people are not made higher by any reform
- Targeted measures support disadvantaged people who wish to engage
- The net benefit of any reform is markedly higher than the cost
- Metering arrangements and multiple platforms support people being able to engage with multiple market participants of their choice
- Connection point arrangements support people being able to engage with multiple market participants of their choice

Further consultation with consumer engagement groups would be helpful to further develop the assessment criteria.

4. Ageing Thermal Generation workstream

4.1. Summary of the Ageing Thermal Generation workstream purpose

The Consultation Paper outlines the following problem the Ageing Thermal Generation workstream is trying to resolve:

> With 61% of the existing thermal generation resources in the NEM likely to exit over the next two decades, it is essential for reliability of supply and affordability of electricity prices that this transition is efficient, and delivered at least cost to customers. Uncertainty around the timing of the exit of ageing thermal generators could have a significant impact on the affordability of electricity. This uncertainty could result in replacement capacity being delayed or new investments requiring a higher return on capital. This could lead to higher electricity prices. The ESB is seeking feedback on the likely effectiveness of current arrangements to minimise consumer costs and manage risks to reliability and security over the transition (including their materiality) and whether additional measures may be needed for the transition, taking into account other changes to the market design proposed through this work.

4.2. Current mechanisms to deal with Ageing Thermal Coal adequate

We note the previous spike in wholesale prices and reliability issues were primarily a result of the **sudden** closures of Hazelwood coal plant in Victoria (5 months' notice) and of Northern Coal plant in South Australia (18 months' notice). For South Australia this created a reliance on gas generation at high cost of the wholesale market. The market was not prepared or able to meet generation gaps in such a short period of time.

Since then a number of measures have been put in place to avoid a repeat of the price spikes and reliability issues, including:

- 42-month notice of closure rule, which Victoria increased to 5 years; and
- establishment of the Retail Reliability Obligation (RRO), which provides stronger incentives for market participants to invest in the right technologies in regions where it is needed,

In addition, other measures and incentives underway will also incentivise replacement generation:

- Renewable Energy Zones (REZ) and the Integrated Systems Plan (ISP) approved by the Energy Ministers Forum, will work together to coordinate the transmission and generation investments
- Investment in and scoping of large scale storage projects such as Marinus Link and Snowy 2.0
- Demand Management mechanisms
- Growth of DER markets as proposed in two-sided market and DER Integration workstreams
- Other measures being considered under the Resource Adequacy workstream and Essential Systems Service workstream.

The Consultation Paper also notes (pg. 50):

> *"Even if retirement is suddenly brought forward, market signals may encourage sufficient replacement investment. Temporary high prices signal a need for investment,* ***with investment in new types of generation and demand response being relatively quick compared to the lead times for large thermal plants in the pas****t. There are also existing market arrangements such as RERT that can act as a backstop to provide reserves in the immediate term until new capacity is built."*

At this stage, we do not see the need for additional measures to be introduced, as existing measures look sufficient to manage impacts on price or reliability resulting from thermal coal closure. We would be concerned that additional measures would add costs and/or could delay thermal coal closures necessary to support decarbonisation of the electricity grid.

Recommendation 14: There are a range of existing measures in place that should be sufficient to manage impacts on price and reliability from thermal coal closure and therefore recommend that no new measures are introduced at this stage.

4.3. Just transition authority needed to support affected workers and communities

We are however concerned that a major gap exists with respect to a national strategy to manage the just transition of workers and communities, resulting from coal, gas or diesel closure. Just transition plans must be place-based, and include developing new economic opportunities, skills and supports. ACOSS has previously advocated for the creation of:

- a statutory authority responsible for managing the effects of the energy transition including managing coal closures, overseeing worker support, and coordinating plans for regional economic diversity; and
- an industry-wide multi-employer pooling and redeployment scheme which provides retrenched workers with the opportunity to transfer to roles with renewable or low emission generators as well as remaining fossil fuel generators

Recommendation 15: The ESB recommends the establishment of a statutory authority to manage the effects of the energy transition on workers and communities.

5. Scheduling and Ahead Mechanisms workstream

5.1. Summary of the Scheduling and Ahead Mechanisms workstream purpose

The Consultation Paper outlines the following problem this workstream is trying to resolve:

> In 2025, the system will be more complex, and variable and changing patterns of demand and supply create challenges in keeping the system balanced. This can lead to costs for consumers (for example through AEMO directions) that could be avoided by better market design. Getting greater visibility of the resources available in the system supports the ability to achieve real time economic dispatch of the system and reduces reliance on operator intervention into the market to assure system security and reliability. ESB's preferred options for development include:
>
> - the implementation of the Unit Commitment for Security (UCS), is a systems analysis and optimisation tool. It optimises across time constraints, location and costs
> - a voluntary ahead market to procure and/or trade relevant system services (with or without energy) with a financial commitment.
>
> Options to introduce a compulsory ahead market design are not intended to progress.

5.2. Minimal approach with further work needed

While we support the need for greater visibility of the resources available in the system the benefits have to outweigh the costs.

Ahead markets, while they are used extensively in Europe and the USA, may result in significant implementation costs.[18] Furthermore, the market signals for slower-start generation may not be needed if the proportion of fast-start generation increases, or if volatility is minimal.

A distribution level market (which may be considered as part of DER integration workstream or as part of model considerations for systems architecture) combined with the wholesale market may be more responsive and reduce volatility. As indicated at 3.4 we would urge ESB to do more work on identifying optimal systems architecture.

[18] https://www.energycouncil.com.au/analysis/day-ahead-markets-a-new-hope-or-a-phantom-menace/#:~:text=The%20benefits%20of%20a%20day,for%20plants%20to%20be%20scheduled%3B&text=Allows%20market%2Dbased%20redistribution%20of%20risk

According to a 'Scheduling and Ahead Market' report by Creative Energy consultants, while the UCS is minimalist in its approach, it still provides some benefits at close to zero cost.[19]

The report by Creative Energy Consultants also noted that another "solution is to create ancillary services arrangements for all services that the power system is likely to need from the competitive market, but does not presently price. This is thankfully already underway with a series of rule changes being worked on by the AEMC."[20]

Recommendation 16: Proceed with AEMO implementing the Unit Commitment for Security (UCS) systems analysis and optimisation tool. Review the need for a voluntary day ahead market after further work is done on systems architecture and ancillary service arrangements.

6. Resource Adequacy Mechanisms workstream

6.1. Summary of Resource Adequacy Mechanisms workstream purpose

This initiative considers whether the current NEM design will deliver adequate resources through the transition, at lowest cost to consumers. The ESB is inviting views on whether signals for investment in new and existing capacity in firming or dispatchable plant are sufficient to maintain resource adequacy over the planning timeframe, and if the real-time market will work to make sufficient resources available when needed. Based on feedback from some stakeholders that the current design presents difficulties for investing in dispatchable generation, this section considers a range of options to stimulate such investment. Maintaining a strong investment environment will promote competition in generation and help keep prices as low as possible for consumers, particularly as ageing thermal plants retire.

In the absence of long term price signals and the inability to hedge large demand risk, may deter future necessary investment, which in turn risks further intervention – a vicious cycle where consumers will pay more than necessary for investment.

ESB are considering:

- mechanisms to make the real-time price as efficient as possible to strengthen the current signals for investment
- Options to create a price for reliability or capacity that may be separate and additional to investment signals for future expectations about the energy price.

[19] Creative Energy Consultants (2020) Scheduling and Ahead Markets - Design options for post-2025 NEM. https://www.energycouncil.com.au/media/18717/20200630-cec-final-report.pdf

[20] Ibid.

6.2. Emissions reduction target and carbon pricing is needed

The absence of an emissions reduction target and mechanism designed to integrate energy and emissions policy, is a major barrier to delivering equitable outcomes for all from the new energy market, hindering investment and driving up costs. The Consultation Paper notes that what we have seen instead is an increase in federal and state/territory government intervention which is hindering private investment and increasing costs to public and consumers.

Recommendation 17: The ESB reinforce to The Energy Council the need for electricity sector emissions reduction targets and a mechanism designed to integrate energy and emissions policy, to drive investment at low cost to consumers.

6.3. Resource adequacy in the absence of good government policy

The ESB are seeking views on whether current signals in the NEM 'energy only' market are sufficient to encourage investment and maintain resource adequacy at the lowest costs to consumers. The NEM is designed to encourage investment in times of scarcity, however it is not clear if this market design is fit for purpose with increasing variable renewable energy, lowered demand and the exit of thermal generation. Risks to consumers of high retail prices as a result of high wholesale pricing has occurred in South Australia and it is clear that this risk is too high a price for consumers to carry. As noted by the ESB, "the allocation of risk is critical."

However, the Consultation Paper outlines a range of market and regulatory rules already in place to support resource adequacy (see page 31), including reliability settings, real-time spot market, financial contracts market, recently implemented Retailer Reliability Obligation (RRO) and the Reliability and Emergency Reserve Trader (RERT). There are also new reforms underway that will further support resource adequacy, including 5-minute settlement, wholesale demand response mechanism, and reforms to the RERT to include an interim out-of-market reserve.

Our initial inclination is to recommend the ESB (and The Energy Council) allow more time to assess whether newer reforms such as the RRO, 5-minute settlement, wholesale demand mechanism and recent changes to the RERT, along with other options being considered under other workstreams (like DER Integration and Two-sided Market), provide the right signals to ensure resource adequacy.

We support the ESB's decision to rule out a centralised capacity market, a scarcity price adder mechanism, and further changes to the RERT and Reliability Standards and Settings.

The ESB are proposing to explore further options for expanding the RRO. At this point we don't see a need to expand it given it only came into effect in July 2019.

We would not be opposed to further exploring an operating reserve mechanism, especially given the AEMC is currently considering three rule change requests of different models of operating reserve mechanism for consideration. However, we would suggest that in whatever measure is pursued that the risk of high pricing events on the wholesale market is not carried by consumers and overall costs and risks to consumers is considered (see for principles in Appendix)

Recommendation 18: The ESB delay decision on additional resource adequacy mechanisms, until recent reforms and rule changes have had time to operationalise.

7. Transmission Access and the Coordination of Generation and Transmission workstream

7.1. Summary of Transmission Access and Investment workstream purpose

The shift to locate generation in different places is a challenge for the existing transmission network, connections to it, and how it is accessed and used. We need arrangements that can efficiently manage congestion on the grid and get renewable power to consumers by making sure investment can happen in the right places (e.g. signals to encourage new generation into Renewable Energy Zones (REZs) or to have big batteries located where the system needs them most). A combination of regulatory and market arrangements are needed to support efficient and timely investment to deliver efficient outcomes to customers and investors.

• The reforms for transmission access will include interim measures to address current congestion as well as frameworks to support efficient and timely investment over the longer term.

• Work is focused on how best to introduce progressive and proportionate reforms to transmission access, that deliver benefits to consumers and support an overall coherent market design.

7.2. More strategic planning and fairer costs allocation needed for transmission

Large investment in transmission is needed over the coming years to cater for large quantities of renewable generation and energy storage to connect to the power system. However as noted by s the Public Interest Advocacy Centre (PIAC) in their submission to the Consultation Paper, without an appropriate transmission planning and investment framework, we will see:

- inefficient generation and network investment;
- a lack of coordination between generation and network meaning consumers may have to pay twice for the same problem to be attempted to be solved by both a generation and network investment;
- missed opportunities to exploit economies and scale and scope; and
- a longer and more expensive transition to a low- or zero-emissions energy sector.

An appropriate transmission planning and investment framework should:

- identify the most efficient system-wide solution;
- deliver the solution in a timely and efficient way, taking into account benefits and costs; and
- recover costs for the delivered solution in the fairest and most equitable way.

An appropriate transmission planning and investment framework should also include the following key considerations (as articulated in the PIAC submission):

- Limit the costs of major transmission investments, the policy and regulatory framework must allocate responsibility and incentives to those parties that have the capacity to manage the various risks and deliver the entirety of the modelled benefits to consumers.
- The party or parties responsible for delivering the investments must be exposed to the consequences of failing to deliver it, and equally, they must also stand to be rewarded for the benefits of delivering the investment efficiently.
- The costs of the delivered solution should be recovered in the fairest and most equitable way. Those who benefit from a given investment should also pay for that investment. Where there are multiple beneficiaries, the costs should be recovered proportionally to their share of the benefits, and where it is not practical and transparent to identify the beneficiaries, a causer-pays principle should be used.
- Cost recovery should also include the risk, to the extent it exists, of the underutilisation of assets and hence asset stranding. Cross-subsidies should only be permitted where they are accepted by informed consumer feedback (such as retaining postage stamp pricing for distribution network tariffs) or immaterially small.

The PIAC submission provides further discussion on how to improve the implementation of the Integrated Systems Plan (ISP) and the Renewable Energy Zones (REZs). See PIAC submission for more detailed information and recommendations.

Recommendation 19: The ESB implement the following proposals with respect to improving transmission investment, access and coordination:

19.1 Make the following changes to the implementation of the Integrated Systems Plan (ISP):

(a) Integrate the ISP into existing planning, review and cost recovery framework;
(b) Require the AER to review AEMO process in developing the ISP and determine whether its optimal development path is economically efficient overall and in long-term interests of consumers; and
(c) Require the AER to determine whether transmission projects are normal or strategic, and allow strategic to be subject to modified RIT-T process that allocates costs differently.

19.2 Allocate risks of investments to those with the capacity to manage them and incentivise these parties to deliver the entirety of the modelled benefits to consumers. Recover costs from those who directly benefit from the investments.

19.3 Implement PIAC's model for REZs, which shares costs and risks of REZ investment between generators, investors and consumers, rather than just consumers.

19.4 Provide locational price signals for both investment and operation, for example by exposing generators to the costs of connecting to the network or by locking in MLFs for connecting parties for a standard period.

19.5 Develop a framework to better recover costs from consumers across multiple NEM regions.

8. Essential Systems Services workstream

Due to capacity constraints, this submission will not provide input into the Essential Systems Services workstream. However, we encourage the ESB to refer to the principles outlined in the Appendix in considering the options and utilise the ESB consumer engagement group to discuss further.

Acknowledgements

This submission was prepared in consultation with the ACOSS Climate and Energy Policy Network. In addition to the signatories, we'd like to acknowledge the contributions of PIAC and TEC.

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Appendix: Principles that can be used to guide the Two-sided Market and DER Integration workstreams

Principles

To ensure that energy is an essential service and everyone has the right to access clean, affordable, dependable energy, any future market design must:

Put people at the centre

- Leave no one behind:
    - All people should have the opportunity to take advantage of new energy services enabled by two-sided market reforms if they want to.
    - People should be able to access affordable, efficiently priced basic energy supply regardless of how much or how little they actively interact with energy services.
    - People should be able to readily obtain any help they need to access an essential energy supply or to interact with energy services.
- Enable energy management technology, products and services that enhance consumer outcomes and reduces the costs of the energy system.
- Be open and transparent, allowing consumers to choose from a range of new products and services that they can engage in directly and/or via energy providers and market intermediaries.
- Information and tools that empower consumers to make decisions must be available, and be clear, transparent, in plain language and accessible (i.e. rather than relying on bills as the primary communications channel, businesses should communicate directly and appropriately with customers according to preferences and in ways that suit the information being communicated).
- Supported by fit for purpose consumer protections, including dispute resolution, to enable full participation.
- Consumers and communities have an ongoing voice and input into the design, evolution and progression through market development to reflect consumer needs and expectations.

Prioritise the long-term and be flexible

- Long-term (2025 and beyond) solutions should be prioritised over short-term workarounds. There is inherent uncertainty in transforming complex systems, therefore a staged approach, with scope to adapt along the way, is critical.
- Regulatory frameworks and controls should be fit for purpose, light touch and provide the maximum agency and flexibility for consumers, both individually and in groups or communities. This would favour decentralised bottom-up solutions rather than a centralised top-down model.
- To deal with changing circumstances and uncertainty, decisions about progressing through reform stages should be guided by a customer centred framework and

principles to evaluate consumer needs and preferences, business models, technology, consumer protection frameworks and other material considerations.
- Be flexible and innovative in response to changes in people's needs and preferences, the environment and technology.
- Focus investment in innovation, research and development to develop products and services that meet the diverse needs of people, businesses and communities.

Guarantee just and fair outcomes

- Distribute costs, benefits and risks transparently and fairly to allow for equitable outcomes regardless of people's ability to engage with the energy system.
- Except where the community expresses an explicit preference to do otherwise, costs should be recovered from:
    - beneficiaries (where costs and beneficiaries can be identified) or
    - causers (where primary beneficiaries are difficult to identify or costs or benefits are difficult to quantify).
- Clearly identify risks of future market arrangements to ensure that risks sit with those best placed to manage and afford them.
- If consumers are going to be exposed to risks, this must be by their own choice, they should be rewarded and they must be empowered to manage and minimise them.
- The designers must be explicit about the limitations of the market solutions and consider the need for complementary measures that may be required to successfully address those limitations.

Ensure it works

- Ensure that investment in and operation of the energy system is equitable, economically efficient and avoids wasting money and resources.
- Provide incentives and prioritise energy solutions to manage demand and improve the utilisation and reliability of existing generation and network infrastructure.
- Improve the resilience of people, communities, businesses and institutions as well as the energy system to manage shocks.

Deliver clean and healthy energy

- Support transition to net zero emissions, as well as consumer preferences for clean energy services.
- Support energy services that positively impact the health and wellbeing of people
- Enables people, businesses and the community to play a role in the transition to a clean and sustainable environment.