



Post 2025 reform: A pivotal opportunity to refocus

The Battery Storage and Grid Integration Program (BSGIP) welcomes the opportunity to provide input to the Energy Security Board's (ESB) *Post 2025 Market Design Consultation Paper*. Reform of this magnitude only happens rarely therefore it is important to ensure that such reform is beneficial to all energy users. As such, wide-ranging consultation is an important part of this process. BSGIP looks forward to further supporting and engaging with this process and assisting the ESB where possible.

The Battery Storage and Grid Integration Program is a multi-disciplinary, industry-focussed research and development program based at The Australian National University. As Australia's national university, we are committed to informing the national debate and advancing public policy. We take a holistic, socio-techno-economic approach to our work in the energy system. In this context, our submission provides recommendations from all three perspectives that we believe will create an energy future that better serves all Australians.

In writing this submission we have drawn on experience from several of our recent [research and development projects](#): [evolve](#) (smart software for 21st century electricity systems), [Victorian energy and water Ombudsman Investigation of Consumer Experiences](#) (VOICES), [Community-scale batteries](#), and [Realising Electric Vehicle-to-grid Services](#) (REVS). These projects have demonstrated many of the themes presented in our response. Two themes in particular stand out as essential considerations for the Post 2025 Market Design:

1. ensuring all **people, their values and their aspirations are heard as part of** energy system reforms; and
2. ensuring the underlying **technical performance** required for a reliable and secure energy system.

Recommendations

The transition to a post-2025 energy market will be difficult to implement given the extent of the reform contemplated in this consultation. As a starting point, we recommend three actions that can be undertaken in the near term to support a positive outcome for this process:

1. engage people in participatory policymaking, including, but not limited to, **citizen juries**, which have been successfully used elsewhere for reform processes;
2. **engage a diverse cross section of stakeholders and expertise** in the consultation and reform process; and
3. leverage existing and new **trials and demonstrations** to test key concepts and build engagement both across the sector and between the sector and the general community.

The remainder of our submission provides an overview of the three key themes and how they inform and affect the reform process.

Bring people to the centre

The ESB's proposed changes are wide-ranging. They will change the way people interact with the energy system for decades. While the ways people engage with energy are heavily shaped by the market, economic and regulatory landscape, energy is also an essential service that is fundamental to people's lives and livelihoods. Reform such as this must therefore seek and incorporate the views and aspirations of Australian energy users and aim to improve energy equity for all. This includes addressing questions such as the following:

- **distributive**: who bears the costs and receives the benefits of the proposed reforms?
- **procedural**: is the process for decision making open to all stakeholders?
- **recognition**: are the voices of all stakeholders recognised as legitimate?

One measure of distributive equity might be access to energy at the lowest possible price. But the concept is far broader. The reforms proposed in this submission contemplate a new world where some people receive significant revenue from providing grid services. Currently, this opportunity is limited to people with the means to access these services. For example, home batteries are not only expensive, but also challenging to install on rental properties. Introducing the possibility of remuneration to individuals for grid services risks reinforcing existing societal inequities and creating new ones: as all users must pay for the systems required to distribute benefits that only some can access. Overall, the system may be more efficient with this service than without, but it will require a concerted effort from policy makers, industry and research organisations to ensure the envisaged two-way system is fair and equitable. The question of whether or not this should even be considered at all has never been explored with the Australian public. And yet, emerging research has found that a lack of trust in the energy sector means people are sceptical of many of the proposed technologies and reforms being proposed.

The current consultation process being undertaken by the ESB is open. Anyone, in theory, can submit a response to this paper, and from this perspective, a degree of procedural equity has been achieved. However, we feel that the current process, like many in the energy sector, may be less accessible for many Australian energy users. Engaging with these processes requires a substantial investment of time and significant technical expertise. There are relatively few tools or forums available for lay people (including energy users) to build sufficient expertise to engage with the process and provide meaningful feedback on such a critical issue.

Further, we hold some concerns with the ESB's stated intent to use customer archetypes as an assessment tool. Such tools may be helpful in product design, where customer attraction and retention are the key metrics. But, as noted above, the scope of the changes proposed by the ESB is very broad, and will impact broadly on the energy system, which is an essential service for all energy users. The impact on people of the changes proposed in this submission cannot be adequately assessed using archetypes alone. Archetypes tend only to be useful if they are based on empirical research, which necessarily limits their applicability (since every community of users is different). We strongly recommend that ESB reconsiders this approach, or risk further increasing disenfranchisement, and so distrust, among many energy users.

We recommend the ESB engages more deeply with people and communities on the proposed changes. However, engagement should come in a range of forms. It is critical we empower energy users to contribute specifically towards shaping the reforms. A good example of this type of deliberative process is a citizen's jury, where a representative group of ordinary people are provided with the expert information needed to inform policy development. There have always been pragmatic reasons why engaging people early is more effective than the 'decide, announce, defend' approach. However, in the context of high levels of distrust in the energy sector, democratic innovation in policy making is even more urgent.

Technical performance

The energy market is inherently dependent on the technical performance of the power system. Energy system operation has been based on the control and operational paradigms of large centralised generators feeding largely disengaged customers. Modern power systems are not like this. Generation is dispersed, customers can take control of their own energy future. The reforms proposed in the ESB's consultation sit at a juncture: do we attempt to alter the new to act like the old, or do we reframe our energy system and implement new operating paradigms for the entire energy system?

The ESB's proposal sees a significant expansion of centralised command and control market mechanisms – layering additional complexity on an already complex energy system. Many of the issues being faced may not be best solved in this way. Non market (e.g. through technical requirements) or distributed (e.g. distributed control) approaches may solve these issues in a simpler, more efficient manner with better overall outcomes for all energy users. In defining how to transition the energy system we recommend the ESB considers these key factors:

- how complex is the mechanism? Simplicity has a high value in ensuring we can reason about the system behaviour, making it easier to guarantee energy reliability and security.
- how technology agnostic are the proposed mechanisms? Conventional framings of control criteria may be biased by the characteristics of historical technologies. Furthermore, this reform should be compatible with continuous technological development beyond 2025.
- how certain is it to provide the desired level of service at the desired location?
- what happens if the service is not provided as required?
- how valuable is the price discovery process relative to other metrics? Markets are sometimes an efficient tool for price discovery within particular contexts. Some energy security requirements may demand an emphasis less on price discovery and more on delivery guarantees.
- what other ways could these services be procured and delivered? New challenges needn't be solved in traditional ways. Diverse thinking may bring new and better solutions that build an overall better energy system.

Our key recommendation in this space is simple – **engage a diverse cross section of stakeholders and expertise** in this process. This includes participants in the industry but must also include expertise from outside industry participants such as regulatory, academic, and international experts. A key example of successful engagement with diverse expertise was the [“Future electricity markets summit”](#) in Sydney hosted by the IEA, ESB and ANU Energy Change Institute. This event hosted a diverse cross-section of industry and non-industry, local and international stakeholders. Events such as these can generate real and actionable outcomes and the rise of remote working has made it easier to engage diverse people through online events.

Trials and demonstrations

The ESB propose a series of fundamental, wide-ranging reforms in their consultation paper. Getting this right will require extensive analysis that should be informed through broadly leveraging a suite of new and existing **trials and demonstrations**. **Trials and demonstrations** are useful both to reduce risks and as a means of building stakeholder confidence that the future posited by the proposed reforms will be genuinely better. There are many of these trials and demonstrations currently in progress or being defined, such as BSGIP's own [REVS](#) and [evolve](#) projects. Trials allow a “test drive” of the proposed future at lower risk, but can only deliver value if their outcomes are actioned. We recommend the ESB continues to work closely with these projects and provides a formal mechanism for capturing their outcomes to inform this current reform process.

Conclusion

In summary, large-scale reforms undertaken in the context of an essential service like energy requires both depth and breadth of engagement. Already, we have a highly complex energy system and market that contributes to dissatisfaction and lack of trust amongst many energy users. Further complex reforms may be necessary but should be premised on what will ultimately achieve the best outcome for all energy users. In our submission, we have suggested three actions for ESB to consider which would increase the likelihood of a successful energy transition. The recommendations would increase the accountability and legitimacy of the process and provide clear future pathways for socio-techno-economic reform.

The transition to a post-2025 energy market will be difficult to implement given the extent of the reform contemplated in this consultation. As a starting point, we recommend three actions that can be taken in the near term to support a positive outcome of this process:

1. engage people in participatory policymaking, including, but not limited to, **citizen juries**, which have been successfully used elsewhere for reform processes;
2. **engage a diverse cross section of stakeholders and expertise** in the consultation and reform process; and
3. leverage existing and new **trials and demonstrations** to test key concepts and build engagement both across the sector and between the sector and the general community.

BSGIP looks forward to further supporting and engaging with this process and assisting the ESB where possible.