ENERGY CONSUMERS AUSTRALIA

A Suite 2, Level 14, 1 Castlereagh Street
Sydney NSW 2000
T 02 9220 5500
W energyconsumersaustralia.com.au
@energyvoiceau
/energyconsumersaustralia
/energyconsumersaustralia

ABN 96 603 931 326

30 September 2019

Matt Garbutt
Project Director
Post 2025 Market Design
Energy Security Board

By email: info@esb.org.au

POST 2025 MARKET DESIGN ISSUES PAPER

Dear Matt,

Energy Consumers Australia is the national voice for residential and small business energy consumers. Established by the Council of Australian Governments (COAG) Energy Council in 2015, our objective is to promote the long-term interests of energy consumers with respect to price, quality, reliability, safety and security of supply.

Thank you for the opportunity to respond to the Energy Security Board's (ESB) Issues Paper on a Post 2025 Market Design (Issues Paper). The Post 2025 process sits alongside the Integrated System Plan (ISP), the Economic Regulatory Framework Review and the Distributed Energy Integration Program as work about the long-term future of the electricity system, the market and other supporting structures.

It is difficult to overstate the nature of the changes that are happening in the way the electricity system is organised and the way Australian households and small businesses power their homes and their small businesses. The mass migration of more than two million households into the world of not just buying electricity but generating it on their roofs – driven by necessity and enabled by new technology – has fundamentally changed the energy system and the energy market. A system that was once centralised and 'one-way' (a 'small number of large things'), is increasingly decentralised and two-way (a 'large number of small things').

The core question we explore in this submission is how market design needs to evolve to serve the long-term interests of Australian households and small businesses in this new system. At the same time, we recognise that market design is not everything. Business culture, government policy, the adequacy of the safety-net and trust provide a critical context for any market and shape outcomes for consumers. This bigger picture becomes even more important and complicated in times of transition and uncertainty.

This is not easy work and we support the approach in the Issues Paper, which poses a set of questions about frameworks to inform the way we can think about task. Energy Consumers Australia is keen to be part of a conversation at this level of broad objectives and market drivers before we launch into the detail about specific solutions. Listening to what consumers are telling us about their experience in the market now and their aspirations for the future, should be the compass we use to navigate this challenging transition task.

Designing for change

What is clear to us at this point is that the way we think about the new world must go beyond the logic of big engineering and the economics of market liberalization that underpinned the last great waves of energy market reform. Consumers as 'market participants' brings an entirely new social dimension to

the practical business of running the grid. Digitisation and the advent of modular energy technologies is opening up possibilities to match the resource with the need without having to make big, risky bets on fixed infrastructure that might not be needed. And at the same time, our thinking needs to reflect the emissions constraints and risk which must be managed in a way that works for consumers and the community. In this submission we outline the '*Affordable, Individualised, Optimised*' or 'AIO' framework which reflects on the new environment to offer a vision for the future of energy services.

The future is uncertain, so using scenarios and other techniques to explore different future and test different market design options is essential. The current market design has been in place for 20 years and the expectation should be that whatever comes next has similar longevity. In this submission therefore, we use the AIO framework to develop a pathway for long-term energy system change and explore the implications for market design.

Governance is a critical 'how' in the energy transition

The governance of the National Electricity Market (NEM) is relevant for considerations about market design and managing change in the energy market in an orderly, efficient and open way. How we strengthen the foundations of the current market, building on that to unlock new value through innovation, will turn on our ability to work together through robust and trusted policy and governance frameworks.

The NEM is a cooperative arrangement between the states, which have the constitutional authority for energy, and the Australian Government. The Council of Australian Governments (COAG) Energy Council of Ministers is the peak policy and governance body, overseeing the national electricity and gas laws and the market bodies that are responsible for rule-making and market development (the Australian Energy Market Commission); regulation and compliance (the Australian Energy Regulator); and the day-to-day operation of the power system and wholesale market (the Australian Energy Market Operator).

These bodies are animated by two broad objectives that are enshrined in the Australian Energy Market Agreement (AEMA): promoting the long-term interests of energy consumers with regard to price, quality and reliability of electricity and gas services; and, establishing a framework of reform in relation to a number of matters, including the governance of the sector to attract investment, the participation of energy users in the market; and addressing greenhouse emissions.

While the second limb of the objectives in the AEMA is future orientated, the pace of change in the energy market, and the challenges of integrating energy and emissions policy, has placed the framework under considerable pressure. The outcome of the lack of a clear and shared approach to emissions – a task that has new dimensions now that Australia is a signatory to the 2015 Paris Climate Agreement – has contributed to change being more expensive for consumers and less orderly for the market.

The important point is that these issues cannot be separated from the question of market design. There is a need for governments to settle the energy and emissions integration issue in the form of a long-term statement about the Net Zero by 2050 trajectory, clarify the role that government will play in facilitating an efficient and effective market, and ensure energy consumers with income and other barriers continue to be able to access essential energy services through a framework of complementary measures.

The creation of the ESB to coordinate work across the three market bodies to implement the Finkel Blueprint was a recognition of the new environment and brought a new point of accountability to the governance framework. The ESB's task has subsequently grown, with it now overseeing work on the

Australian Competition and Consumer Commission (ACCC) Retail Electricity Pricing Inquiry (REPI) recommendations and on other governance initiatives.

The other market bodies are also adapting to the new strategic environment. The AEMC's recent statement on how it will consider climate change adaptation risk in the way it assesses future rule change proposals reflects broader corporate governance trends and is significant. The role that the AEMC plays in future market development through the Economic Regulatory Framework Review and other vehicles is also of growing importance.

The AER will need to continue to adopt flexible and open approaches to regulating monopoly network businesses and overseeing competitive markets, in a complex and rapidly changing context. How it will undertake its role in a market where the boundaries between energy and other services (credit, housing, utilities etc.) are increasingly blurred will need to be considered. The growing importance of standards in a market where data and interoperability are core to consumer outcomes is another important matter for reflection in the context of market design work.

How AEMO's approach to its day-to-day 'flight control' task of maintaining a safe and secure system, while simultaneously facilitating change and innovation in an independent and open way, will have a direct bearing on market design options and pathways. While AEMO is distinct from the AER and AEMC in the way it is constituted as a monopoly provider of market operation services with a board that includes industry representation, its recent statement in its latest corporate plan about the importance of the long-term interests of consumers guiding its decisions is significant.

While we explore the issue of industry culture through the lens of trust later in this submission, it should also be seen as a matter going to the governance of the sector in a time of transition. At times of profound change, prescribing 'what' companies can or can't do through detailed regulation becomes difficult as technologies and systems change. In this context there is a need to move to principles-based approaches which speak to outcomes and expectations. This shift requires trusted industry leadership, which the Energy Charter and industry accountability mechanisms like the New Tech Consumer Code can help foster.

Importantly, the new decentralised energy market will be a market where consumers as energy users and market participants and partners in transition, have expectations about being a part of the dialogue and at the table when decisions are made. Ensuring that consumer values, priorities and preferences are understood and given explicit consideration in every decision is critical for the effective operation of the system and for maintaining community support for transition.

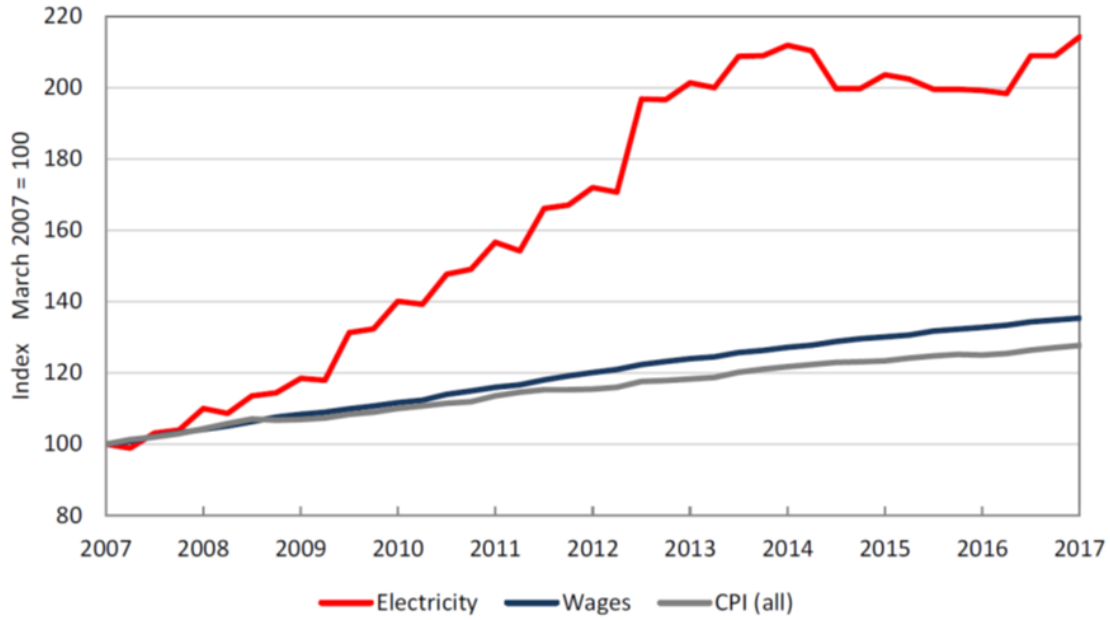
The Issues Paper proposes an assessment framework for market design options. We provide comment on this framework at **Attachment A**.

The starting point – poor affordability and a lack of control over energy use

Consumers are telling us that energy services are not affordable and that they are not value for money. Consumers do not have confidence and trust that the sector is working in their long-term interests. The price of energy has for many essentially doubled in the past 10-15 years, far exceeding wage growth and with extraordinary price spikes along the way and is a root cause of the dissatisfaction we see coming through the Energy Consumer Sentiment Survey.[1]

[1] https://energyconsumersaustralia.com.au/publication/energy-consumer-sentiment-survey-findings-june-2019

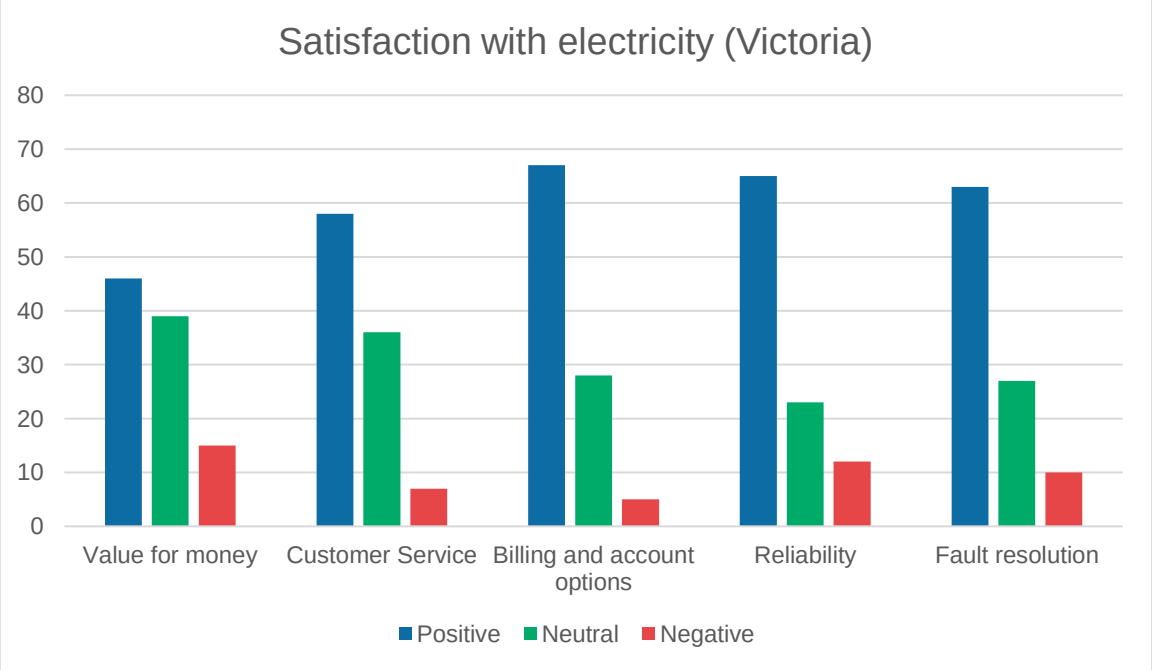
Figure 1 Electricity price growth (ACCC Preliminary Retail Electricity Pricing Inquiry Report)



Source: ABS, Consumer Price Index 6401.0 and ABS, Wages Price index 6345.0, Australia.

It is important to note that affordability is a bigger issue for consumers than reliability.

Figure 2 Energy Consumer Sentiment Survey June 2019



Understanding what caused higher prices is critical for thinking about future market designs. The expectation that a competitive retail market would effectively manage prices and price risk for consumers that value bill stability has not always been borne out by experience. In thinking about future market design, it is important to reflect on why this has been the case.

The ACCC in REPI identified a range of basic competition and regulatory problems in the network, wholesale and retail parts of the supply chain which mean that they have not been working as intended and have contributed to high costs and poor service outcomes for consumers. The ACCC found that implementing its 56 recommendations could deliver savings of 20-25 per cent for the average household and small business by 2020-21.[2]

We would expect that efforts reduce prices by enhancing competition between the existing companies would go a long way to improving consumer satisfaction with electricity services. There is also optimism in some quarters that with new capacity coming into the market, wholesale prices will turn the corner, with consumers beginning to see lower bills in the next couple of years.[3]

What is not yet clear is whether – even if prices do moderate – the market as it is currently organised can and will deliver broader affordability and service outcomes for consumers who don't just focus on the *price* but also their ability to manage their *use*. Our research reveals people do not feel they have what they need to manage their energy use, contributing to a sense of not being 'in control'.

> *"I think I have the same problem as other pensioners. I can only put my heater on for one hour a day and have to wrap in a blanket as the bills are so high."*
>
> *"I've looked into solar. I have not got the roof space to put enough solar on to really give me any benefit for the cost of it. You can't turn freezers off and on because it all comes under safe food program, and things have to be kept at minus 18 degrees constant."*
>
> *"We painted our roof white to get our electricity bills down."*

Assumptions are often made that generous feed-in-tariffs and solar PV's clean attributes have been driving the uptake of rooftop solar. However, our research – both the Energy Consumer Sentiment Survey and work by UMR on solar and batteries – indicates that consumers have been motivated by a desire to find ways to manage their costs and become independent from the grid.[4] We see this as a clear indication that consumers have lost trust in the traditional market's capacity to deliver value for money and are taking matters into their own hands.

Missing service problem

While innovative service propositions are starting to emerge, the basic retail offering remains based around selling units of electricity and billing the consumer on a quarterly basis. Without good information or tools, managing energy use in the home (what appliances are costing to run in real-time) remains a matter of guess-work for most households and small businesses.

---

[2] https://www.accc.gov.au/publications/restoring-electricity-affordability-australias-competitive-advantage

[3] For example, see https://www.reputex.com/research-insights/where-to-for-wholesale-electricity-prices-under-current-policy/ or http://theconversation.com/wind-and-solar-cut-rather-than-boost-australias-wholesale-electricity-prices-119979.

[4] UMR, Usage of solar electricity in the national energy market, p 87, http://energyconsumersaustralia.com.au/wp-content/uploads/UMR-Usage-of-solar-electricity-inthe-national-energy-market.pdf.

This amounts to a 'missing service' problem which ultimately reflects a market where there has not been a strong drive to innovate for consumers. A core question for this review is whether the incumbent businesses which do not have an obvious incentive to sell less of their product can make the shift from managing big assets and selling a commodity to providing an individualised service. The future of the sector turns on the answer to this question and we believe it must be core to the scenarios that are developed to test different market design options.

This question about the pivot from asset management to services is central to thinking about market design because digitisation and technology developments are changing the way value is created in energy systems. In the past, when demand could be predicted with reasonable certainty, governments and investors could invest in big centralised assets, that generated value through scale economics and supplied customers who didn't have any other options, confident they could earn stable returns over the long engineering life of the facilities. In this world the trust that mattered was between the governments and the big companies on the supply side of the system that risk capital could be deployed and rewarded.

While privatisation, the unbundling of the supply chain and the introduction of wholesale markets improved productivity in this centralised, one-way system, the sector's focus in terms of value creation essentially stopped at the household's meter box. This was mainly because the technology did not exist to allow the companies to help their customers manage their use in real time. This meant that a significant level of extra generation and network capacity had to be built to ensure that there was sufficient supply to meet demand when it was at its highest e.g. the hottest day in summer when airconditioners were running flat out to keep people cool.

The advent of the internet and digital control technology means it is now possible for consumers to more actively manage their appliances – everything from pool pumps, to fridges and airconditioners – without compromising their lifestyle. Rather than the time-consuming task having to manually turn an appliance off or wait until later in the evening to do the washing to save money, consumers can use an app to get a smart appliance to do what they want, when they want it, with a minimum of hassle. Other markets are further down the road on this journey to more tailored services: music (from CDs, to iTunes to Spotify); transport (uber, GoGet etc.); and higher education (Massive Open Online Courses).

This individualised outcome does not just generate value for the consumer, but also contributes to a much more efficient and optimised energy system overall. Horizon Power's Power Ahead trial, which tested mobile phone style energy plans paired with smart apps giving people real-time information about their energy use, found that more than two-thirds of participating customers were better off, at the same time as a quarter were able to drop their peak usage by 15 per cent.[5] At a time when affordability is a pressing concern, and there is a need to find the least-cost pathway to meeting our emissions reductions commitments, we cannot afford to ignore this opportunity to empower consumers and reduce overall costs.

The future of individualised energy services is coming into view

It is critical that future market designs support increasingly individualised energy management services nested in an optimised energy system. The Smart Electric Power Alliance (SEPA), which is an alliance of 1000 utilities and energy services companies in the United States, has developed a

[5] https://horizonpower.com.au/our-community/news-events/news/two-thirds-of-vulnerable-customers-better-off-under-horizon-power-trial-pricing-plan/

framework describing the progression of energy management through four levels which can be used to test market design options:[6]

- Level 0 – Historical Data Visualisation
    - *Access to historical energy data, typically through online portals or Home Energy Management Reports.*
- Level 1 – Real-time Energy Monitoring
    - *A real-time connection to a home's energy use.*
- Level 2 – Real-time Energy Monitoring with Connected Devices
    - *Connectivity to smart devices, allowing for control and management of appliances.*
- Level 3 – Insight Assisted Change
    - *Provide personalized insights of home and appliance health.*
- Level 4 – Full Home Optimisation
    - *A personalized and autonomous optimisation engine for the home that balances comfort and efficiency.*

The power of this model is that it provides a framework for thinking not just about the technology and the systems required to deliver the services, but what it might mean for the people living their lives in the home. In the first instance, it suggests that whereas the price per unit of electricity consumed was the most important thing for the consumer in the old world, in the new world where zero marginal cost modes of renewable energy generation is dominant, that control and autonomy (over-ride functionality, the openness of energy management systems and ability to choose to exit the ecosystem on reasonable terms etc.) becomes what is most highly valued.

Carnegie Mellon University in the United States has explored the other side of the coin, looking at how the energy companies providing progressively smarter services would need to evolve.[7] The Smart Grid Maturity Model it has developed in consultation with energy companies in Australia and around the world, as well as the United States Department of Energy National Energy Technology Laboratory (NETL), comprises of 6 levels:

- Level 0 – Default
    - *Status quo.*
- Level 1 – Initiating
    - *Taking the first steps, exploring options, conducting experiments, developing smart grid vision.*
- Level 2 – Enabling
    - *Investing based on clear strategy, implementing first projects to enable smart grid.*

[6] https://sepapower.org/knowledge/the-4-levels-of-autonomous-home-energy-management/
[7] https://resources.sei.cmu.edu/library/asset-view.cfm?assetid=524438

- Level 3 – Integrating
    - *Integrating smart grid deployments across the organisation, realizing measurably improved performance.*
- Level 4 – Optimising
    - *Optimising smart grid to benefit the entire organisation; may reach beyond organization; increased automation.*
- Level 5 – Pioneering
    - *Breaking new ground; industry-leading innovation.*

While the Carnegie model is most relevant for integrated utilities, it provides a perspective on the elements that need to be in place to deliver the individualised services contemplated by SEPA. For example, a Level 5 'pioneering', utility is expected to be in a position to optimise energy assets across the full value chain through dynamic control and automation. As part of this, it would also facilitate 'plug and play' customer generation and play a leadership role in industry-wide information sharing and standards for a smarter system.[8]

More than a price signal – the need for a New Energy Compact built on trust

The economics and system pricing structures that are needed to create the incentives for companies to develop business models and services that take advantage of this new technology has been debated at length in the sector. Indeed, bringing the 'demand side' of the market into the system is the core idea at the heart of the Australian Energy Market Commission's 2012 *Power of Choice* reforms.[9]

However, concerns about how consumers would manage more variable pricing structures at a time when they were already struggling with high energy prices and did not believe they would see a benefit in their pocket, has meant that governments have been reluctant to push ahead with reform. An unfortunate tendency within the sector to try and sheet home responsibility for the efficiency of the grid to consumers who were 'unfairly' benefiting from cross-subsidies by investing in airconditioners and solar panels and fixate on the need for 'cost-reflective' pricing, has not helped assure people that the sector was on their side.

The respected political commentator Paul Kelly links these attituded to the broader 'trust crisis' in Australian public life associates with the bad corporate behaviour uncovered by the Hayne Royal Commission:

> *"The public feels its lack of power. It wants to be enabled; at heart it seeks a more participatory form of service delivery. Its resentment at the oligopolistic and patronising nature of Australian corporate power – from retail to telecommunications to energy – is growing."*[10]

Very recent research by KPMG on what motivates retail investors finds that Australian retail investors are now keenly aware of the importance of reputation, transparency, ethical behaviour, values alignment and social responsibility.[11] We previously lived in an environment where the management of

[8] https://resources.sei.cmu.edu/asset_files/TechnicalReport/2011_005_001_15416.pdf
[9] https://www.aemc.gov.au/markets-reviews-advice/power-of-choice-stage-3-dsp-review
[10] https://www.theaustralian.com.au/nation/inquirer/the-nations-great-trust-crisis-hits-home/news-story/ac878b67aad9c78341c4ebc0bef2afbc
[11] https://home.kpmg/au/en/home/insights/2019/09/shareholder-value-australian-retail-investors.html

companies was driven down to almost a single point of success, which was about return to shareholders. This is now changing.

> *"Trust and culture are not high-minded, amorphous discussion points, but rather pre-requisites for success. They are factors that are pertinent not just to our consciences, but to our hard-headed investment decisions."*

What this means is that rebuilding trust that the sector is working in the long-term interests of consumers is not just important in its own right, but central to successfully managing the energy transition. Consumers will be reluctant to let energy service providers into their home (e.g. to remotely manage their air-conditioner) to realise value in a low trust environment. The importance of individualised services to build trust was one of the big lessons learned in the successful Bruny Island Battery Trial. In this case, the trial revealed the limitations of a model that relied heavily on the technology and did not provide ongoing and tailored customer support services e.g. how to make the best use of the app and trouble-shooting. And while the algorithm that governed the way the device box managed the customer's battery along purely financial lines worked for some people, for others the mismatch (at times) between the price signal and non-negotiable needs of daily life was problematic.[12]

We are cautiously optimistic now that the sector can begin to rebuild trust with consumers and create the space to try new things. The nominations for the recent Energy Consumers Australia-Energy Networks Australia Network Engagement Award show that networks are doing a much better job of engaging in with their customers and reflecting what they hear in their strategies and regulatory proposals.[13] The new engagement model currently being trialled by Ausnet Services – a Victorian electricity distribution network – to develop its revenue proposal for the 2021-26 period – is also showing promise. Under this model Ausnet is negotiating directly with its customers on important elements of its plan including price pathways, customer hardship and experience and innovation expenditure.[14]

While cost and affordability is the main concern for consumers at the moment and the focus of engagement with networks, the conversation will need to turn to how networks evolve from their traditional role managing the poles and wires, into platforms for new energy services. This was a central point in the Australian Energy Market Commission recent report on *Integrating Distributed Energy Resources for the Grid of the Future*:

> *"A high DER [Distributed Energy Resources] environment could mean that DNSPs [Distribution Network Service Providers] need to alter aspects of their operation, from transporting electricity oneway to being platforms for multiple services, facilitating electricity flows in multiple directions and facilitating efficient access for DER so that they can provide the greatest benefits to system as a whole. This change is likely to have implications on aspects of the regulatory framework."*

[12] http://brunybatterytrial.org/wp-content/uploads/2019/05/consort_social_science.pdf
[13] https://energyconsumersaustralia.com.au/wp-content/uploads/Energy-Networks-Consumer-Engagement-Award-Speech-notes2.pdf
[14] https://www.ausnetservices.com.au/en/Misc-Pages/Links/About-Us/Charges-and-revenues/Electricity-distribution-network/Customer-Forum

The implication being that to enable this shift:

> *"… consumer choices should drive the transformation of the energy sector. It is therefore increasingly important for consumer views, preferences and priorities to be reflected in network proposals and regulatory outcomes."*[15]

Another development relevant to market design is the Energy Charter. As part of this initiative, the CEOs of 18 energy companies have committed to a major strategic and cultural re-orientation of their businesses and the sector.[16] The commitment is based on five principles:

1. *We will put customers at the centre of our business and the energy system.*
2. *We will improve energy affordability for customers.*
3. *We will provide energy safely, sustainably and reliably.*
4. *We will improve customer experience.*
5. *We will support customers facing vulnerable circumstances.*

Signatories are due to lodge their first disclosures against the five Energy Charter principles by 30 September 2019 with the Independent Accountability Panel chaired by Dr Wendy Craik AM. This will help establish a baseline for the sector and provide impetus and insights for work by the signatories to transform into the new world of energy services.

The extent to which the Energy Charter can act as a catalyst for the businesses on trust and culture is something that only time will tell, and different outcomes on this front should be factored into the scenario planning for the Post 2025 process. The other question that is relevant to thinking about market design is whether a voluntary framework like the Energy Charter can help 'put the sector back together' thirty years after we started the process of privatizing and unbundling the energy sector as part of the microeconomic reform agenda. It may be that an energy services culture (as distinct from regulation) can play a significant part in driving the 'whole-of-system' thinking needed to make the new decentralised system work for consumers through the transition.

The New Energy Tech Consumer Code (NETCC), which is in the final stages of being approved by the ACCC and was developed by industry with consumer advocates, will provide important insights into the potential for industry leadership and accountability.[17]

The structure of the NETCC has been developed to be flexible, meaning that as issues arise in the market, they can be quickly and easily addressed for consumers by the service providers. Taking a high-level principles-based approach means the Code is also technologically neutral. New product, systems and services can be accommodated as they enter the market. Should a need arise for more detailed guidance for industry, then this can be accommodated through the development of standards, guidelines or training.

---

[15] https://www.aemc.gov.au/market-reviews-advice/electricity-network-economic-regulatory-framework-review-2019

[16] https://www.theenergycharter.com.au/wp-content/uploads/2019/04/TheCharter_20190328.pdf

[17] https://www.accc.gov.au/public-registers/authorisations-and-notifications-registers/authorisations-register/new-energy-tech-consumer-code

A consumer framework to inform market design

We have developed the *'Affordable, Individualised, Optimised'* or 'AIO' framework to describe the way these elements around value, technology and trust are interacting in the new energy system. The 'AIO' framework also reflects consumer experience and priorities that are emerging from the Energy Consumer Sentiment Survey, Power Shift and other research. In simple terms what the concept says is that in the new market affordability is a function of individualised services within an optimised system (A= I x O).

1. *Affordable*

    - Affordability must be a constraint on all our investments and decisions about energy – an explicit criterion in our decision-making up and down the supply chain. Consumers want prices to return to more normal levels and to be confident they are getting value for money.

2. *Individualised*

    - Energy services must be built around individuals to reflect their unique circumstance; enabling people to manage their own use and costs. Households and small businesses are willing partners if provided the support they need to make further change – whether that be more information, new affordable technology or other support.

    - Making it easy and convenient for households and businesses to share their resources, to see value for their flexibility and assets as part of the solution – is an important principle.

    - Value is not just about pricing a commodity but has new dimensions as digitisation allows more people to trade-off their time and money, their skills or the skills of others, and select the level of risk that they want to take for the outcome they want.

3. *Optimised*

    - Existing and future investment in the power system – networks, generation and retail – must be optimised based on consumers demands that not one more dollar than necessary is spent than required, and new investments are not made one day earlier than necessary.

    - Key to optimising our energy system is providing genuine choice and control to households and small businesses, rewarding their flexibility and embracing them as partners for change.

How AIO evolves over the long-term – pathways to inform market design

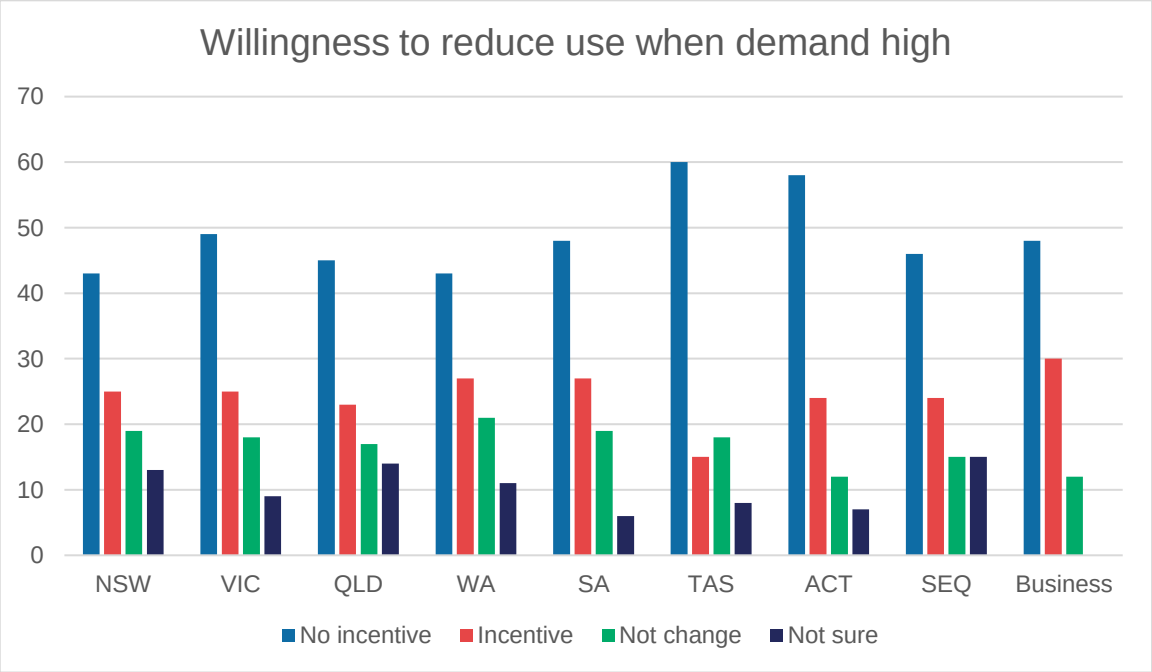
Research is showing that many consumers want to play an active part in managing change: whether that is by sharing energy with a neighbour who's having trouble paying their bills or partnering with the sector to keep to the keep the grid running during heatwaves.[18]

According to the Energy Consumer Sentiment Survey, around 45% of residential consumers are prepared to reduce their energy use during periods of high demand. An additional 25% of respondents indicated they would reduce their demand if there was an incentive to do so. Around 60% of small business consumers think consumers should be rewarded for reducing energy use during peak period.

[18] See page 23 Energy Consumer Sentiment Survey on consumer willingness to reduce load during times of system stress on page here.

These results are supported by the experience in New South Wales and the Australian Capital Territory in February 2017, where a call by governments for people to adjust their use yielded a significant reduction in demand that helped avoid the need for load shedding. This represents an incredible opportunity for the sector to partner with consumers to create value for them and the community.[19]

Figure 3 Energy Consumer Sentiment Survey June 2019



They are also interested in the future. Consumers are also indicating to us that a missing part of the trust puzzle is a long-term objective and an explicit, shared view about how we are going to manage the transition together. There is evidence coming through our research that consumers want clarity about how what they do – how they manage their energy bills, manage their use and technology to maintain the comfort of their homes and the competitiveness of their businesses – fits into a bigger, longer-term picture.

"They were thinking ahead when they built the Harbour Bridge … where is that thinking now?"

This sentiment highlights the fact that we have not defined – from a consumer-user-community perspective – how we want to organise this new 'paradigm' and to what ends. We are missing the consumer values and principles that are needed to guide policy (including market design), regulation, investment, innovation, planning, safety-nets, consumer protections and technical standards to make a system in transition work for consumers.

The lack of an 'energy compact' between governments, the sector, consumers and the community that would define for the experts the new world that we want them to build means reform in the sector and

[19] http://www.chiefscientist.nsw.gov.au/__data/assets/pdf_file/0019/136711/171219-MASTER-NSW-Energy-Security-Taskforce-report-FINAL-SIGNED.pdf

resolve complex issues around for example, pricing, control and access in relations to distributed energy resources has been slow.

Energy Consumers Australia has commissioned a major piece of research to explore the future in more depth with Australian households and small businesses: about their lives, small business goals and their criteria for 'better' energy services. The early results from the research indicate consumers have expectations about being part of a dialogue about the future.

We will be publishing this research at Foresighting Forum 2020 as part of supporting a dialogue with the sector about long-term objectives and a transition framework. This research can provide the ESB with a critical consumer lens for the scenario work for the Post 2025 process and we would value the opportunity to brief you on the findings as soon as the work is finalised.

Scenarios – beyond the engineering and the economics

It is important that future market design options are assessed against long-term trajectories for the energy system, taking account of emissions constraints. The cost impact of a lack of integrated energy and emissions reductions policies leads to risks of poorly timed investment. These risks cannot be borne by consumers as the sector transitions.

We note that Net Zero carbon by 2050 is an objective already adopted by all State and Territory Governments and the 'Step Change' scenario that is being included in the 2020 ISP will provide a view of the least cost pathway to a net zero carbon energy sector. This scenario work is critical because it provides a framework to assess the impact on the electricity system of the decarbonisation of the oil and gas and transport sectors and other core questions, such as the optimal amount of energy generated locally and the best location for storage, whether that is big central storage or distributed.

No scenario can be complete however without it taking a view about how consumer and community values, expectations and preferences drive outcomes. It is notable that in recent years Shell, which pioneered scenario planning in the 1970s, has focused much of its attention on how people and institutions respond to stresses and crisis. In its 2013 publication, it proposed two pathways through uncertain times, which are useful to reflect on in our context: '*Room to Manoeuvre*'; and '*Trapped Transition*'.

> *"When stresses arise, and a crisis emerges, some actors exhibit relevant forms of resilience that enable them to adapt and reform. Others however struggle until the crisis escalates to a level that enforces either dramatic and painful restructuring or collapse."*[20]

A long-term view and a pivot to consumers – A Consumer Outcomes Scenario to consider

Australia's energy sector responds in a positive and effective way to consumer feedback about affordability, the need for better information and tools and their willingness to partner in a way that builds trust.

Incumbents energy businesses embrace the shift to an energy services market and wherever possible manage uncertainty by leveraging modular technologies locally rather than building big fixed assets and passing the risk through to consumers. At the same time, easing 'cost and control' pressures contribute to a more orderly uptake of solar and batteries.

[20] https://www.shell.com/energy-and-innovation/the-energy-future/scenarios/new-lenses-on-the-future.html

'Unsocial' outcomes risk – that new technology which can dramatically improve cost, comfort and convenience outcomes is available to some for some but not to those that can't afford the upfront costs – is mitigated. Energy service companies find innovative ways to empower renters, people in poor quality housing, people with vulnerabilities and those on low incomes with the information, tools and support to manage their use.[21]

Coordinated work by governments to improve the energy performance of new and existing Australian housing reduces the amount people need to spend on electricity and makes them more resilient able to manage change.

Over time, increasing trust and more resilient consumers creates head-room for service providers to explore more variable pricing structures to recover system costs. Having demonstrated to consumers that the sector could responsibly manage pool-pumps and other appliances that are not essential for life, service providers take advantage of increasingly variable pricing structures to offer more sophisticated in-home energy management services that are sensitive to non-negotiable everyday needs.

Greater confidence in policy-makers and regulators to adopt more flexible, principles-based approaches to market design and regulation, creating better conditions for innovation. Greater confidence that technology and energy service propositions have addressed the tensions between affordability, emissions reductions and reliability, builds community support for transition.

Ultimately greater clarity about long-term objectives and work by the sector to build trust with consumers and the community lays the platform for a more orderly and managed transition.

A visual representation of the high trust AIO pathway is at **Attachment B**.

Thank you for the opportunity to make this submission. If you would like to discuss this submission further, please do not hesitate to contact Chris Alexander, Director Advocacy and Communications, on 02 9220 5500 or chris.alexander@energyconsumersaustralia.com.au.

Yours sincerely,

Rosemary Sinclair AM
CEO
Energy Consumers Australia

[21] https://energyconsumersaustralia.com.au/projects/power-shift

ATTACHMENT A

ECA comments on ESB Post 2025 Assessment Framework

The Assessment Framework proposed in Annex A of the Issues Paper includes, as separate items, criteria that could be considered as subsets of others. An alternative way of framing these criteria is set out below:

A. Efficiency
    a. Allocative efficiency – price bids reflect the marginal cost of supply, costs are allocated to those best able to respond to them. As a piece of technical markets design this requires a market with *incentive compatibility*, that is, where a participant's bid truly reflects the price it is willing to produce at. Underinvestment – which creates market power – is avoided. Market concentration is avoided.
    b. Productive efficiency – costs are as low as they can be, there is an avoidance of over-investment. The allocation of risk to those best able to manage it is cost minimisation, because if cost can't be managed it is ensured against and the cost of insurance increases with risk. Therefore, the cheapest insurance is available to the party that can best manage risk. 'Capital efficiency' as described in the issues paper is just a version of productive efficiency through scale. Technology neutrality and competitive neutrality.
    c. Dynamic efficiency – effective entry and exit, coordinated timing of entry and exit. Innovation in supply, optimum mix of centralised and decentralised resources.

B. Practicality
    a. Consumer empowerment – for market arrangements to be effective ultimately demand needs to be able to respond to the cost information provided through prices. The current NEM is not producing these outcomes. Further it is not sufficient that the consumer 'sees' the prices, the consumer has to have choices on how to respond, and effective choice requires a range of tools.
    b. Ease of transition – the proposed design can be implemented smoothly without causing a second order round of market problems (e.g. investor uncertainty, new gaming opportunities). [Note: the issue of incentives mentioned in the Issues Paper under practicality is really an issue of productive efficiency].
    c. Computationally tractable — ultimately the market prices are determined by computer matching. It is possible to design markets that don't settle on a price, robust testing is essential.
    d. Socially acceptable – electricity is an essential service, any market redesign that results in significant distributional changes needs to be accompanied by recommendations on how social policy (e.g. concession schemes, public housing) should be adjusted, and contingent on those changes.

C. Resilience
    a. Durability – the market design should be expected to meet needs up to 2050.
    b. The market design should be robust to external shocks. Significant shocks that should be included are (i) an enduring large oil price increase flowing from Middle East turmoil (ii) more rapid declines in costs of battery storage (ii) development of fusion reactors (allow two decades).
    c. Robust to policy changes – firstly the market design should be assumed to be effective in limiting future policy changes, but where there is policy change the design should be able to accommodate those.

ATTACHMENT B

Consumer Outcomes Transition Pathway