



Ref: 20201127AS:CB

30 November 2020

Dr Kerry Schott
Data Strategy Consultation
Energy Security Board

By email: info@esb.org.au

Essential Energy submission – Energy Security Board Data Strategy

Essential Energy welcomes the opportunity to provide a submission in response to the Energy Security Board's (ESB's) *Data Strategy Consultation Paper* (the consultation paper).

The electricity supply chain is currently undergoing a fundamental transformation. The rapid uptake of new technologies is putting energy consumers at the centre of the electricity market. For the first time in the National Electricity Market's (NEM) history, consumers can harness their generation or demand to both improve the security and reliability of the NEM and be rewarded for their contribution. Nonetheless, to achieve these benefits, capability uplifts and data access reform is required across consumers, networks, energy regulators and data service providers. The earlier that fit for purpose data reforms can be integrated across the NEM, the more optimal the benefits can be applied to all consumers.

To that end, Essential Energy welcomes the ESB's data strategy work programme as an appropriate first step, however we would encourage a clearer articulation of the ESB's data vision and how data and digitalisation is going to address consumer preferences into the future. In relation to data system architecture, further foundational work and industry co-design is required to validate what data sets or devices to capture data are actually needed to satisfy the stated vision and to ensure allocated accountabilities are directed to participants who are best suited to manage such data.

Essential Energy is supportive of the committed objective of greater data gathering and visibility capabilities on network Distributed Energy Resources (DER) to identify areas with existing and emerging challenges to optimise the benefits for all stakeholders. We would encourage tangible milestone dates being set within the ESB's recommendations as a matter of priority. The scheduling of such reforms is vital to allowing participants to internally prepare for approaching workloads.

We also believe it is important the ESB undertake a comprehensive identification of the range of implementation costs associated with many of the recommendations to ensure the achievement of net-customer benefits.

These issues and our response to other discussion topics raised in the consultation paper are provided below. If you have any questions in relation to this submission, please contact Anders Sangkuhl, Regulatory Strategy Manager at anders.sangkuhl@essentialenergy.com.au or via phone 0409 968 326.

Yours sincerely,

A handwritten signature in black ink that reads "Chantelle Bramley". The signature is written in a cursive, flowing style.

Chantelle Bramley

General Manager, Strategy, Regulation and Corporate Affairs

Essential Energy submission to the ESB Data Strategy consultation paper

Data Strategy Vision

Most data systems used across the NEM today were developed “bottom-up” by various regulatory bodies, market operators or individual participants to meet specific needs or achieve certain tasks. The development of data gathering, and associated processing systems, were typically funded by those institutions or private participants themselves. As the market has evolved, data sharing has been required across market bodies and participants to achieve a variety of new functions.

At present, the NEM’s various regulatory bodies and private market participants who are charged with data gathering and processing currently operate individually, without cohesive standardised tools, methodologies, or training. Going forward greater coordination is required across all stakeholders to better integrate data and generate consumer value. The ESB’s strategy work is an appropriate first step, however a clearer articulation of the ESB’s data strategy vision and purpose is required as it sequentially sets the scene for what data architecture is required to achieve the vision, and also provides a yardstick from which the net benefits of reform can be assessed and value can be created more effectively.

Whilst noting the consultation paper’s objective of seeking to achieve “*effective data management in the National Energy Market which supports market objectives and drives better consumer outcomes*”, such an objective is very high level and potentially understates the impact digitalisation will have on the energy industry. Digitisation will not only provide new opportunities to maximise consumer outcomes, it will also potentially transform the electricity industry as we know it.

At the next stage of consultation, we would encourage a clearer identification of the ESB’s data vision and how data and digitalisation would address consumer preferences and drive value into the future.

Data System Architecture

The consultation paper succinctly identifies many of the priority data gaps needed to support the energy market transformation, as well as issues of duplication and existing inefficient data gathering practises. However, analysis on the proposed data system architecture required to deliver improved outcomes is notably absent.

An architectural outline would map data flows across individual data gatherers and users to data storage points. Typically, data system architecture outlines the policies, models and standards that govern the way data is to be collected, stored, integrated, and ultimately utilised by the data processing systems over three core tiers:

1. Conceptual – representing all the key data users and producers across the NEM;
2. Logical - representing the logic of how all the identified participants are related and entwined; and
3. Physical - the design and construction of data processes to achieve specific types of functionality.

Essential Energy considers an appropriately outlined data system architecture is a prerequisite to the NEM’s data strategy. Without such, participants cannot:

- validate which data sets or devices that capture data (e.g. smart meters) are needed to satisfy the stated vision and purpose;
- Clearly and efficiently articulate what data is sensitive and which agents can access data within the end to end energy system
- ensure there is an understanding of how data is linked and flows between different data sets;
or
- define data ownership to ensure allocated accountabilities are directed to participants who are best suited to manage such data.

To ensure efficient reform, it is fundamental that industry participants are included in the early stage setting of the NEM system architecture so the correct architectural requirements are developed and specifically tailored to the different parts of the supply chain. The prioritisation of a data system architecture at the next consultation stage will also help ascertain correct role allocations as well as what data flows are most desirable to stakeholders.

Many of the data sets the energy industry requires in the future will encompass an increasing number of data suppliers. A core competency of the agents within the energy industry will be the identification, selection, quality control and normalisation of data sets specified within an agreed architecture and a minimum cost. It is Essential Energy's opinion that the strategy needs to ensure that we plan as an industry to be source agnostic and quality driven.

Essential Energy would also suggest that ESB consider architecture based on the Common Information Model which has been designed for the electricity industry as an appropriate design starting point from which the market could leverage. It is also recommended that the work undertaken by the Energy Data Task Force be considered and where possible adopted as a preliminary step within this activity.

Delivery Timeframes and Programme Structure

Broadly speaking, Essential Energy supports the ESB's efforts in framing the reform stages of data strategy into the "Needs today", "Framework", "Capability" and "Needs Tomorrow" pillars, along a broad reform timeline. This structure is highly useful for both regulators and market participants to assist reform sequencing preparations. As mentioned above, it would be beneficial for the ESB's vision statement to be enunciated throughout these pillars.

It is somewhat inevitable that some of the indicative objectives in the final "Needs Tomorrow" pillar will alter, as they are dependent on preceding regulatory reforms. However, in the early stage pillars, such variability should be limited. This applies to the "Needs Today" and "Framework" pillars as outlined in the consultation paper, in particular components such as:

- Retail transparency;
- LV/DER visibility;
- Understanding consumers;
- Identifying the out of date / inconsistent data regulations; and
- Overhaul of the data governance framework.

We would encourage tangible milestone dates within the ESB's recommendations to Energy Ministers in early 2021 for these short-term reform options above as a matter of priority (including data architecture). The scheduling of such reforms is vital to inform priority workstreams and allowing

participants to internally prepare their businesses for approaching workloads. This would also allow for congruency and alignment with the other cyber-security, data, and LV/DER reforms currently underfoot across multiple regulatory bodies. The scheduling of such reforms should also be informed by appropriate net benefit analysis (discussed further below).

Improved Network Visibility

Managing the high penetration of DER across distribution networks both now and in the future will depend on data provision and data quality being provided in a timely fashion. The falling costs of DER installation and the greater uptake of new technologies such as batteries or even electric vehicles is accentuating this requirement.

As noted within the consultation paper, the visibility and management of DER on the distribution network is a high priority challenge. Essential Energy as well as many other DNSPs have well identified a lack of visibility of the performance on segments of the distribution network and in some instances have no visibility at all.

As such, Essential Energy is supportive of the committed objective of greater data gathering on network performance metrics to identify and target areas with existing and emerging challenges to optimise the benefits for DER. To that end, we are supportive of recommendations 11, 12, 13, 15, 16 and 17 and believe these identified recommendations will make a positive contribution towards enabling greater visibility across the distribution network.

Data Governance

We note the recommendation for the establishment of an ongoing data leadership and coordination group (recommendation 23) across the ESB, AEMO, AER and ECA, charged with providing strategic advice to review and improve data management across the NEM.

To ensure the efficient operation of the data leadership group, it is critical that industry participants, including networks, metering providers, retailers and generators, are also adequately represented. Effective governance of data across the NEM is best informed by the key stakeholders who are active data users, gatherers, managers and validators.

A suitable governance model for the data leadership group to emulate would be the NEM's reliability panel, which is comprised of equal representation of regulatory and industry participants and is held in high regard.

Implementation Costs

Essential Energy notes and agrees with the broad contention throughout the consultation paper that improved access of data and data management processes across the NEM will ultimately contribute to the delivery of increased customer benefits and efficiency improvements.

However, it is worth noting the unprecedented amount of existing transformational market reforms taking place, many of which require a significant deployment of resources from participants, for example the five-minute settlement rule change. In this context, we believe it is important the ESB undertake a comprehensive identification of the implementation costs associated with many of the recommendations to ensure the achievement of net-customer benefits.

Essential Energy appreciates that there are inherent difficulties in modelling the impacts of the Data Strategy at this stage of the reform process. However, without a clear understanding of the potential impacts on market bodies, industry participants and consumers, the case for engaging in thorough

debate remains constrained. A significant data strategy reform package warrants comprehensive analysis that contemplates:

- Implementation costs associated with the recommended uplift capabilities across all participants including AEMO and other operational bodies;
- Data gathering, management and storage costs;
- Associated compliance costs;
- Cost impact to consumers; and
- Data gathering approaches.

A thorough examination of the costs identified above, presented in conjunction with the proposed recommendations would allow for:

1. The appropriate staging of reforms, where those reforms which deliver the greatest net-benefits receive preference;
2. Complexities to be raised and questions posed about the scale of the changes required to implement the recommendations as envisaged; and
3. Clearly defined hurdles for reforms to proceed.

It is worth noting that implementation costs are an important issue for regulated network businesses, as many of the identified reforms entail investments in new data gathering, storage and processing capabilities. Any investments needed to deliver improved data outcomes are approved on a five-yearly basis through the Australian Energy Regulator's determinations, which is not guaranteed. Given data is a key transition point for the energy industry, we would also encourage the ESB to consider how regulated network data gathering costs interact with the existing regulatory asset base framework to ensure high quality data gathering incentives are correctly structured for the future.

Essential Energy would encourage the ESB to progress with the contemplation of a cost-benefit analysis at the next stage of consultation.