20 April 2018

Dr Kerry Schott
Independent Chair
Energy Security Board
Email: info@esb.org.au

Dear Dr Schott

NEM Data Strategy Consultation Paper

Energy Queensland Limited (Energy Queensland) welcomes the opportunity to provide comments to the Energy Security Board (ESB) consultation paper on the National Electricity Market Data Strategy. This submission is provided by Energy Queensland, on behalf of its related entities Energex Limited (Energex), Ergon Energy Corporation Limited (Ergon Energy), Ergon Energy Queensland (EEQ) and Yurika Pty Ltd (Yurika).

Energy Queensland looks forward to providing continued assistance to the ESB. Should you require additional information or wish to discuss any aspect of Energy Queensland's submission, please do not hesitate to contact either myself or Trudy Fraser on (07) 3851 6787.

Yours Sincerely

Jenny Doyle
General Manager – Regulation and Pricing
Telephone: (07) 3851 6416 / 0427 156 897
Email: jenny.doyle@energyq.com.au

Energy Queensland Submission on the Energy Security Board's Consultation - Development of a Data Strategy

Energy Queensland Limited

20 April 2018

About Energy Queensland

Energy Queensland Limited (Energy Queensland) is a Queensland Government Owned Corporation that operates a group of businesses providing energy services across Queensland, including:

- Distribution Network Service Providers, Energex Limited (Energex) and Ergon Energy Corporation Limited (Ergon Energy);
- a regional service delivery retailer, Ergon Energy Queensland Pty Ltd (Ergon Energy Retail), limited in its scope by jurisdictional legislation; and
- affiliated contestable energy services businesses, Metering Dynamics, Yurika and Ergon Energy Telecommunications.

Energy Queensland's purpose is to "safely deliver secure, affordable and sustainable energy solutions with our communities and customers" and is focussed on working across its portfolio of activities to deliver customers lower, more predictable power bills while maintaining a safe and reliable supply and a great customer service experience.

Our distribution businesses, Energex and Ergon Energy, cover 1.7 million km^2 and supply 37,208 GWh of energy to 2.1 million homes and businesses. Ergon Energy Retail sells electricity to 740,000 customers.

The Energy Queensland Group now includes Yurika, an energy services business creating innovative solutions to deliver customers greater choice and control over their energy needs and access to new solutions and technologies. Yurika is a key pillar to ensure that Energy Queensland is able to meet and adapt to changes and developments in the rapidly evolving energy market.

Contact details

Energy Queensland Limited
Jenny Doyle
General Manager Regulation and Pricing
Email: jenny.doyle@energyq.com.au
Mobile: 0427 156 897

PO Box 1090, Townsville QLD 4810
Level 6, 420 Flinders Street, Townsville QLD 4810
www.energyq.com.au

Energy Queensland Limited ABN 96 612 535 583

1 Introduction

Energy Queensland Limited (Energy Queensland) welcomes the opportunity to provide comment to the Energy Security Board (ESB) on its National Energy Market Data Strategy Consultation Paper (the Consultation Paper). This submission is provided by Energy Queensland, on behalf of its related entities Energex Limited (Energex), Ergon Energy Corporation Limited (Ergon Energy) and Ergon Energy Queensland Limited (EEQ)).

In response to the ESB's invitation to provide comments on the Consultation Paper, Energy Queensland has provided a number of high level comments regarding the data strategy and its objective section 2 below. In addition, we have provided responses to a number of the questions raised in the Consultation Paper in section 3 of this submission.

Energy Queensland is available to discuss this submission or provide further detail regarding the issues raised, should the ESB require.

2 Specific comments

Energy Queensland considers that data transparency is important for the efficient operation of the energy market. This is especially vital when the market is rapidly changing. Through greater access to data, energy market bodies, market participants, third party providers and consumers will be better able to adapt to this rapidly changing market. Greater access to data will also deliver beneficial outcomes to these parties through increased security, future reliability, affordability and lower emissions. With this in mind, Energy Queensland considers that the ESB's development of a data strategy, consistent with the recommendations of the Finkel Review, is both timely and required.

Notwithstanding out support for the overarching objective of the strategy, Energy Queensland recommends that, in developing the data strategy, the ESB has consideration of the following:

- Data validation is an important element in a developing a data strategy. It is vital to ensure that the data is clean, correct and useful.

  For example, the DNSP benchmarking dataset remains in its infancy. Data quality and other anomalies remain very important considerations for this dataset. There are also differences in approaches taken and interpretations applied across DNSPs. Furthermore, network design, changes in SAIDI and accounting practices (amongst other things) pose possible influence to year on year variations in the Australian Energy Regulator's (AER's) productivity results. An approach that is of sufficient quality to reliably inform stakeholders of the relative efficiency of DNSPs, takes time and refinement. Interpretation has already been embedded, even unconsciously, through the description of data presented. This makes it difficult for stakeholders to access and understand without prior knowledge. All data sets encounter such issues, particularly during their initial collection.

  To attain the full benefits of data, the strategy needs to also focus on the quality and assurance of the data. We consider that the Consultation Paper has not appropriately highlighted this as a necessary element in the data strategy.

- Importantly, we echo the Energy Networks Australia's concern regarding the lack of cyber security considerations in the strategy. Given there is significantly more volumes of data in the National Electricity Market (NEM), data security should form part of the overarching data strategy objective.

- We acknowledge that defining the objective and outlining guiding principles is the first step of the process. Supporting these initiatives in the strategy will inevitably include best practice principles and fit-for-purpose use of the data. Notwithstanding our support, Energy Queensland would appreciate more clarity on the objectives of the outcomes to be achieved against each key data dimension and their benchmark. We are also concerned that the scope of the strategy is too broad and as such, suggest a staged approach by enhancing and collaborating with stakeholders and their existing data sources.

- A consolidated NEM data strategy; rather than ad hoc, should aim to enhance existing data platforms in a more consistent and accessible format that benefits the market. Importantly, where new data measures are imposed as a consequence of the NEM data strategy, costs incurred should be balanced against the net benefits to consumers and the community. It is not clear that the costs and benefits to consumers and industry have been clearly outlined. Energy Queensland considers that greater emphasis on the cost effective principle needs to account for organisational costs. Often the organisational costs are difficult to quantify at the time of consultation, but nonetheless, should not be ignored.

3 Table of detailed comments

Consultation Paper Feedback Question	Energy Queensland Comment
1. Do you agree with the proposed objectives of the data strategy?	Energy Queensland supports the proposed objectives of the data strategy. We believe that a clear and defined data objective is necessary and should lead to a greater ability for the market to adapt to changing conditions. Although not directly related to the "data strategy objective" we consider that in the event that additional data is identified, we recommend that any obligations to disclose data: • Align with existing regulatory guidelines and frameworks; • That consultation occurs with impacted stakeholders to determine whether the costs and benefits associated with additional data requirements are balanced; and • Consideration is given to the appropriate time and processes required to establish to ensure quality and assurance of the data.
2. Are there additional dimensions that should be considered based on a data need, market requirement or use case? If so, what types of data would you consider relevant within those additional dimensions?	It is critical that data is categorised appropriately as this helps inform and provide context. Energy Queensland notes that a potential additional dimension, which may in fact be a subset of one of the five proposed data dimensions, is emergency response planning and activation. This may require special consideration. In these situations, it is critical that energy market bodies have access to data more quickly than under normal conditions. Therefore data sharing protocols may be relaxed during these periods.

Consultation Paper Feedback Question	Energy Queensland Comment
3. What data do you require and for what purpose?	Given the portfolio of businesses that Energy Queensland operates across the energy sector, we require a broad range of data, including but not limited to: • Network Reliability Data Analysis - Data used for network performance reliability reporting is the asset interruption and customer data to report Ergon Energy and Energex's reliability performance to the Queensland Competition Authority (QCA) and AER. The data obtained is also used internally for reliability improvement strategies. For example, planned, unplanned, and forced outage data primarily to provide performance reporting to the business and regulators. This data is also used to compare reliability performance between DNSPs. • Customer and generator real and reactive power data, where interval metering is not available, and energy data in order to verify compliance with connection agreements and the National Electricity Rules (NER), for example, power factor compliance. This data also is used to diagnose network power quality issues, determine precursors to fault conditions, and also to adequately plan the network for the future by examining shifts in load profiles, network peak demand events and design appropriate network tariffs. • Customer data is used to develop network models in order to identify potential constraints or power quality issues. • Generator modelling data is used to investigate power systems modelling across interconnected networks, including, system fault studies and, system stability studies. • Data from the following external bodies, including but not limited to: o Bureau of Meteorology data; o Various Australian Bureau of Statistics (ABS) demographic data; o Queensland Gross State product (ABS); o Other utilities, Councils and large energy consumers; o Google Earth; o DNSP benchmarking and performance data from the AER;

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	o Meter Data providers; o Electricity retailers B2B data; o Australian Energy Market Operator (AEMO): and o AER, Data obtained via these agencies, helps inform, management of network operations, planning/forecasting, performance monitoring and emergency response planning and activation. • Energy consumption data for billing purposes. • Distributed Energy Resource (DER, for example, batteries and electric vehicles (EV)) connectivity and associated metadata (e.g. specifications) would be useful for distribution network planning purposes. With the evolution of the market and technologies it is critical that networks have access to this data. • Schedules for large intermittent loads are critical and useful, for example, water treatment pumps and desalination plants, for managing the network. • Our energy services business Yurika and other non-network providers requires: o Network models and topology data – this will provide them the ability to model responses to scenarios involving generation and load curtailment in combination with network reconfigurations, replacements or network options; o Asset retirements and refurbishment programs and drivers – this allows an understanding of load drivers on the network; o ratings data and drivers for change in ratings - this is useful in determining demand responses to increase ratings.

Consultation Paper Feedback Question	Energy Queensland Comment
4. Is this data currently available to you and if not, do you know if it exists?	Generally yes. However, there are some concerns related to specific types of data and these are described below: • PSCAD/EMT-type models – Energy Queensland would support this type of data to be provided to NSPs and other proponents while respecting intellectual property and commercial-in-confidence matters. • Power quality data from all metering installations is not available. • DNSP performance data has not been published by the AER in recent years. • Data that is available is often not available in consistent forms across service providers. • It is not known where all energy storage systems are connected to the distribution networks. • We do not have access to EV garaging information. However, it may be available from the Queensland Department of Transport and Main Roads. Notwithstanding this, it is likely that relevant data sharing agreements would be required. • Network reliability data is available internally and other DNSPs' data is available through the AER Regulatory Information Notice (RIN) process. • Power quality data can be obtained from the Metering Provider at a cost.
5. Where would you expect to look to find the data you are interested in?	Refer to our response to question 4.
6. Who currently supports or funds the provision and management of the data that you have access to?	The Energy Queensland portfolio of businesses, generator proponents, Metering Providers, AER, ABS, other DNSPs/Transmission Network Service Providers, retailers.

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7. Who do you believe should be responsible for funding and/or managing the data that you access? Are there any gaps in the provision of this data/service?	There needs to be an understanding of the costs associated in creating a "data access platform" across the NEM prior to determining who should be responsible for managing access to and funding of the data. Nonetheless, Energy Queensland supports a framework that applies best practice in ensuring parties have equal access to data on an ongoing basis.
8. Can you identify any barriers to data access? What needs to change for you to be able to access the data?	**Data warehousing, volumes and communication bandwidths** Currently, in Queensland there are a large but manageable volume of interval-metered customers. Although this data is beneficial, if this volume increased significantly, a huge volume of data must be stored, collected and accessed. This could result in significant IT systems changes and increased data warehousing costs. These issues and the related costs need to be considered as part of the development of a data strategy. **Generator modelling data** It is critical that generator modelling data and EMT-type models are accessible, validated, provided and shared to ensure accurate modelling by proponents for the purposes of power system security, quality and reliability of supply and efficient network planning. There may be restrictions in terms of intellectual property or confidential agreements over these models. However, access to this modelling data is paramount to ensure system security. **Miscellaneous barriers** • Varying data quality across data sets. • Differences in approaches, interpretations and definitions applied by data suppliers/ creators. Interpretation has already have been embedded, even unconsciously, through the description of data presented. This makes it difficult for stakeholders to access and understand without prior knowledge. Therefore, there is a risk some data will be used for something that it is not suited for. • Existing business systems may not lend themselves to open data formats. • Cultural change required to embed open data into work practices of most organisations. • Risk of individual's identities being ascertainable by using or cross-referencing other available information, if appropriate risk assessment is not undertaken and additional data publishing

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	controls adopted. • Non-network providers also require access to network modelling data and often access is restricted due to confidentiality and ring-fencing obligations.
9. Do you collect and/or create data? If so: a. describe the data and its purpose b. could the data be of value to a broader user base? c. what is the data format and how and where is it stored? d. do limitations exist on sharing this data and/or making it publicly available?	**a) Data created and its purpose** Although, not an exhaustive list, Energy Queensland uses data for the following purposes: • Asset Management and Planning (sent to AER); • Network Management and Planning (sent to AER); • DNSP benchmarking & performance data (via the RINs to the AER); • National Electricity Customer Framework (NECF) Data (AER); • Electricity Generation Data (Clean Energy Regulator) **b) Could the data be of value for broader use** Yes. **c) Data format and how and where is it stored** Various organisational transactional IT systems, and often in excel spreadsheets. **d) Limitations on sharing data or making it public** We note that while the AER publishes the above data sets, these datasets remain in their infancy. Data quality and other anomalies remain very important considerations for this dataset. There are also differences in approaches taken and interpretations applied across DNSPs. Furthermore, network design, changes in SAIDI and accounting practices (amongst other things) pose possible influence to year on year variations in the AER's productivity results. This makes it difficult for stakeholders to access and understand without prior knowledge.

Consultation Paper Feedback Question	Energy Queensland Comment
10. Should other principles guide the strategy's development and direct future decision making?	We support the identification of principles as these will be the foundation for collection, access, release and use of data for decision making. Energy Queensland is primarily concerned with the costs, quality and the timely access to data. It is unclear how costs will be measured in terms of compliance flowing from a data strategy and any outcomes, for example, regulatory obligations and supporting amendments. However, we welcome the ESB's inclusion of "cost effective" and "timely and automated", as guiding principles in the development of a data strategy. We also support the other principles identified by the ESB. Energy Queensland also believes that data validation is an important element in developing a data strategy. It is vital to ensure that the data is clean, correct and useful. To attain the full benefits from data, the strategy needs to focus on this as well as promoting the data assurance. We consider that the Consultation Paper has not appropriately highlighted these elements. Notwithstanding our support, we consider that "best practice regulation" should be a guiding principle. Ultimately, we consider that amendments will be required in the regulatory framework to support a data strategy and therefore, it is critical to include principles of best practice regulation.
11. If you disagree with any of these principles, what is your contrary view and on what basis is that view held? For example, is there evidence that what is proposed may not be feasible or that a better approach exists?	Energy Queensland recommends, amending the title of the following principle, "Sharing and transparency is business as usual", to more clearly articulate that datasets subject to privacy, security or privilege limitations, may be restricted or released in a modified form. We consider that the "cost effective" principle should be more balanced when considering costs incurred by organisations. Energy Queensland still needs to investigate the costs associated with any additional data requirements, for example system changes, data warehousing, automation of data and verification of data. Costs incurred will be passed on; therefore these costs cannot be overlooked when determining the net benefit.
12. Are existing consumer protections (under the National Energy Customer Framework and State and Commonwealth privacy laws – including the protections envisaged under the Consumer Data Right) sufficient to protect against adverse outcomes for consumers in the event that data is shared more easily and extensively	Given the number of energy market bodies and related government bodies involved, the governance and accountability for the data strategy needs to be clearly defined. Energy Queensland recommends that the ESB consider developing an information security classification framework which sets the minimum requirements for information asset security classification. It would also provide a standard process to allow the energy market bodies and related

Consultation Paper Feedback Question	Energy Queensland Comment
between market bodies and participants?	government bodies to evaluate their information assets and determine the appropriate level of security classification that must be applied, addressing the need for a consistent approach to dealing with the sensitivity and confidentiality of information assets across these organisations. This classification could then form part of criteria for the priority setting and planning in relation to data related projects. By providing a standard approach to information asset security classification, the framework facilitates improved interoperability and consistency between the energy market bodies and related government bodies along with interested stakeholders. Such a framework should be consistent with State based Frameworks (e.g. Queensland Government Information Security Classification Framework) and the Australian Government Protective Security Policy Framework. Consideration should also be given to establishing a robust publication process across all energy market bodies and related government bodies. It should require that a risk assessment framework is undertaken before releasing data to minimise the risk that an individual could be identified by cross-referencing available information.
13. What are the implications (positive and negative) for improved data access for competition in the market?	Energy Queensland recognises that at an altruistic level there are positive implications by having greater data transparency, including: • Improving knowledge and understanding of the industry; • Enhancing collaboration and participation; and • Fostering innovation including the creation of new business models Despite the positive implications, if the data strategy does not ensure that data is available in a meaningful way, then there is the potential for a “data divide”, misunderstanding and improper use of the data. The data may only be of value to technical specialists who can understand and interpret the data. Further, with greater access to data, security risks, privacy risks and costs will increase.