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26 March 2018

**COAG Energy Council Secretariat
GPO Box 787
Canberra ACT 2601**

Submitted electronically to: energycouncil@environment.gov.au

Dear Sir / Madam,

NextGen Utilities, LLC (“NextGen”), an independent Consultancy and Energy Services provider with significant Australia and Overseas power markets expertise, makes this submission in response to the *Facilitating Access to Consumer Energy Data – Consultation Paper* (“Consultation”) dated 1 March 2018.

The on-going distributed energy resource (“DER”) and technology-driven revolution disrupting the utilities landscape is impacting the National Electricity Market (“NEM”) as consumers are increasingly able to exert additional control of energy use. As this ‘prosumer’-led revolution accelerates, the area of utility data monetisation is becoming an increasingly important topic as several value-adding use cases exhibit the potential to contribute materially to clean, affordable and reliable energy supplies within in Australia.

Whilst the Consultation correctly sets a framework to manage privacy risks associated with the provision of Energy Data, it does not directly address several issues required to effectively deliver on the vision laid out by the Energy Security Board’s *National Energy Guarantee – Consultation Paper*¹ (i.e., Demand Response). Furthermore, its recommendation of a “centralised approach to the provision of metering data” may be construed as insufficient as it pertains to supporting the provision of innovative valued-added services to consumers, such as via “behind-the-meter automation software²”, which requires two way information exchange between Consumers (i.e., smart meters) and Retailers / Distribution Network Service Providers (“DNSPs”) / Third Party Agents. Fundamentally, the proposal of leveraging AEMO’s B2B for one-way information flow appropriately supports the process of (passively) enabling “consumers to make better and more informed choices” but does not *actually* deliver the right architecture and roles and responsibilities, typically requiring Cloud-based two-way communication to trigger Internet of

1

http://coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/Energy%20Security%20Board%20National%20Energy%20Guarantee%20Consultation%20Paper_0.pdf

² Commonwealth of Australia, Independent Review into the Future Security of the National Electricity Market: Blueprint for the Future; June 2017, pages 142-143.



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Things (“IoT”) commands / responses, to ensure that “valued-added services to consumers” can be appropriately deployed by Retailers / DNSPs.

KEY CONSIDERATIONS

The Consultation’s recommendations may include unintended consequences which may include:

- *Misalignment with the National Energy Guarantee framework* – Consider a Retailer with a Contracting Obligation under the Reliability or Emissions Requirement. This Retailer may in fact choose to enter into Demand Response Agreements with customers. However, as pointed out by EnerNOC in its submission³ to the Energy Security Board, “without a standardised framework for measuring quantities of DR delivered, there is no way to verify how much DR has been contracted under the Reliability Guarantee, or how much DR has been delivered to the wholesale market when dispatched.” Despite the COAG Energy Council’s August 2017 commitment to “facilitate the development of innovative services,” this Consultation is moot on what specific recommendations are being made to support Demand Response. Further exacerbating the issue, the Consultation’s recommendation “that pricing or tariff assignment data should not be included in the scope of data provided in the immediate future” presents a significant barrier to systems / processes required to adequately identify customer details needed to not only support Demand Response, but other key objectives of the National Energy Guarantee, such as understanding the physical linkages between end users & related hedging activity by Retailers (i.e., spot price pass-through arrangements);
- *Inadequate drivers* – The Consultation repeatedly states that any consumer data access scheme “should seek to minimise the cost of collecting and sharing data given currently anticipated use cases” and as a result of the “strong incentives to minimise costs” arising from stakeholder discussions. NextGen’s own recent experience working with a large Market Participant, for example, including a Pilot Partnership between a Retailer and a large Global Logistics / Shipping Company looking to utilise its handheld devices across its fleet of delivery drivers to remotely ‘ping’ a homeowners’ meter to receive back a confirmation ‘Yes or No’ response. This response assists delivery drivers with route optimisation whilst minimising costs associated with ‘no one is home’ attempted package deliveries, saving an average of \$5 per avoided ‘no one is home’ attempted delivery’ and providing potential benefits to Utilities (and its customers) as well as the Shipping Company itself (e.g., assuming a single ‘no one is home’ delivery to each household in Australia per year at a value of \$2.50 per household, this use case alone covers the cost of decentralised systems as envisaged by the Consultation). Separately, other market reforms overseas have also sought to strike a balance between supporting innovative business models and outright cost-minimisation, such as New York’s *Reforming the Energy Vision*, whereby the

3

<http://coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/EnerNOC%20response%20to%20Energy%20Guarantee%20consultation.pdf>, page 4

monetisation of consumer data underpins⁴ ‘Platform Service Revenues’ through the provision of Distributed System Platform (“DSP”) services thus delivering value added services to customers. In fact, in New York, Consolidated Edison (as well as several other utilities) is currently leveraging Green Button Data⁵, a public-private effort to provide energy ecosystem stakeholders with free of charge Open Source tools and data related to energy usage information. The Consultation’s goals to “minimise the cost of collecting and sharing data” may be accomplished (more) cost-effectively on a decentralised basis, leveraging generally accepted data formats and superior automation (including two-way communications), whilst underpinning various ‘New Energy’ Business Models and Third Party driven value added services in lieu of the centralised one-way AEMO B2B hub as envisaged;

- *Role of AEMO, B2B Hub, and Governance* – The Consultation suggests that “AEMO have the responsibility” for the “[development] of an accreditation scheme and subsequent implementation” given its prior “prior experience in accrediting market participants,” further noting it would be “well placed” to undertake “[enforcement obligations].” Whilst AEMO’s own Vision / Objectives⁶ focusses on the facilitation of electricity retail competition and consumer choice, its role should be limited to ensuring information provision / adequate systems or protocols are in place, as evidenced by its objective to “implement the new B2B electricity framework.” It is unclear that AEMO’s remit includes any enforcement powers (i.e., Privacy Act) above and beyond the effective operations of the Power System and further notes the potential for conflict of interests (or at least prioritisation) as it relates to a System Operator that is already struggling to manage the power system effectively⁷. In our view, AEMO’s role should be limited to the issuance of ‘Digital Certificates’ (or similar permissioning /cyber security strategy) to appropriately accredited Third Parties looking to gain access to the B2B Hub or related systems;
- *Scope and Coverage* – The Consultation’s recommendations centre around the belief⁸ that since the “AEMO B2B hub is used to transfer information for the purposes of market settlements” it will “align with any future technology or regulatory change.” Additionally, the Consultation categorises “new technologies such as batteries and electric vehicles” as requiring data associated with “future use cases” that may require “very different data” than as currently

⁴ New York Public Service Commission, PSC’s Order Adopting a Ratemaking and Utility Revenue Model Policy Framework, May, 2016. Pages 137 - 151

⁵ <http://www.greenbuttondata.org/>

⁶ www.aemo.com.au/-/media/files/About_AEMO/Our_Vision/AEMO-Corporate-Strategy-Poster-Revision-201721.pdf

⁷ Page 32, <https://www.energy.gov.au/sites/g/files/net3411/f/independent-review-future-nem-blueprint-for-the-future-2017.pdf>

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<http://coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/Facilitating%20Access%20to%20Consumer%20Energy%20Data%20-%20Consultation%20Paper.pdf>, Section 5.2.1.

envisaged. As underpinned by the economics of solar and solar / storage as well as the very significant investments being made by Market Participants in the NEM (i.e., the enactment of ‘New Energy’ businesses within large integrated utilities), NextGen views the Consultation’s scope as insufficient to addressing consumer data issues faced *today*, not tomorrow as claimed by the Consultation. In fact, the Consultation’s recommendations may include unintended consequences including unforeseen systems re-work costs if, for instance, it was deemed that AEMO’s B2B framework was inadequate for the purposes of supporting New Energy Business models. In order to effectively address what we consider as key to supporting New Energy Business Models (and key aspects of the National Energy Guarantee framework), a decentralised Cloud-based approach is essential to delivering the requisite mechanisms with which to *operationalise* various aspects of New Energy Business Models including flexibility, increased commercialisation of DERs, energy efficiency objectives, customer engagement, as well as the Energy Security Board’s Demand Response own objectives.

As suggested by the framework below⁹, the wireless-based communications between Utilities, Meters and sensor-based grid-edge devices effectively deliver on what we consider to be use cases of *today*:



The typical network as shown above should be integrated with control systems at DNSP’s / Retailers (e.g., in jurisdictions with Smart Metering mandates) to ensure the monetisation of reliability-related objectives including neutral integrity monitoring, meter temperature sensing, service degradation monitoring, distribution / transformer fault location, loading / ramping analysis whilst also supporting analytics and providing a two-way communications framework between DNSPs / Retailers and devices / meters (e.g., required to deliver on New Energy Business models and flexibility management) and underpinning DR response and verification

⁹ Silver Spring Networks, United Energy Case study

activities. In fact, as demonstrated by United Energy's own investment in the above framework, the Company has been able to defer network capital investment whilst driving operational efficiencies that are ultimately returned to customers. In essence, NextGen refutes the recommendation set out in Section 6.2.1 pertaining to a centralised data provision approach and instead recommends the scope expansion of customer energy data provision activities under review by the COAG Energy Council to more clearly include the support for two-way communications between DNSPs / Retailers and Meters / Devices via a decentralised approach as outlined in this Section and loosely aligned with Section 6.2.2 of the Consultation. We also note that AEMO's *Guide to the Role of the Metering Coordinator*, the National Energy Rules¹⁰, and Part A of AEMO's Metrology Procedures already consider the role of 'network devices' as it relates to metering and procedures associated with the maintenance of such networks as well as network standards.

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- ✓ *'Future use cases' as outlined in the Consultation are unfolding before our eyes today. As such, the support of these use cases in this Consultation is essential. The Consultation's recommendation to provide Energy Usage Data via a centralised approach is not fit for purpose to support various New Energy Business Models as well as National Energy Guarantee supported schemes such as Demand Response;*
 - ✓ *The Consultation's recommendation to not include 'tariff or pricing assignment data should not be included' in this Consultation exemplifies the misalignment between the requisite inputs into the National Energy Guarantee and various recommendations. COAG may wish to consider the inter-policy and operational processes needed to ensure various elements of National Energy Guarantee's contracting regime can in fact be operated without the need for 'tariff or pricing assignment data'; and,*
 - ✓ *The Consultation's 'lowest cost' objectives does not sufficiently align with the Policy context overseas and the Finkel Review. Specifically, the support for new business models (and value-added Third Party Services) and innovation through data and analytics has not been appropriately taken into account by the Consultation. We again note that a sizable portion of 'future use cases' noted in the Consultation are happening today and associated benefits should be considered in relation to the quantification of costs / benefits associated with any recommendations made by the Consultation;*
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¹⁰ Sections 7.8.6(d)-(i)



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In essence, the COAG Energy Council should reconsider the reasonableness of the scope of this consultation and its alignment with other on-going consultations, most notably the National Energy Guarantee, in order to ensure low carbon and cost-effective / reliable technologies appropriately contribute to Australia's International commitments and Emissions Trajectory.

Finally, NextGen appreciates the opportunity to contribute to this consultation.

Kind regards,

A handwritten signature in black ink, appearing to read "Leo Figueira", written in a cursive style.

Leo Figueira
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