

25 September 2020

Submission by email to:  
vader@csiro.au

Dear CSIRO

**RE: Value of Distributed Energy Resources: Methodology Study Consultation Draft Report**

SwitchDin is a digital energy technology company providing software to improve the integration and management of renewable energy, battery storage and demand management for DNSPs, electricity retailers, commercial facility managers and equipment manufacturers. SwitchDin's products and services enable customers to implement virtual power plants, microgrids, energy management solutions and integration support for distributed energy resources (DER). We ensure energy consumers, energy service companies, and aggregators have visibility, flexibility and firm dispatch of heterogeneous fleets of DER. Founded in 2015 in Newcastle, NSW, SwitchDin now operates in all states of Australia and in Europe.

SwitchDin is one of the leading technology companies in the DER management space, counting most Australian DNSPs among our client and partner organisations. We are DER vendor agnostic and provide integrations with nearly three dozen popular residential and commercial inverter and battery storage system manufacturers, plus many other types of DERs including air conditioning units, water heaters, heat pumps and electric vehicle chargers. Two of our exemplar projects are the [Onslow DER Project](#) and [Smart Sun Pilot](#) with Horizon Power, where SwitchDin's platform addresses problems arising from the high penetration of renewable energy through the management of diverse mixes of DER types to create flexibility on both grid and behind-the-meter assets.

The Value of Distributed Energy study is therefore very much aligned with the core proposition supported by our business, that DER is driving a transition in our electricity service models and this will bring new value and challenges. We welcome the CSIRO's work on this topic and have reviewed with interest the Methodology Study Consultation Draft Report. The comments below are based on our pertinent contemporary relevant experience with these matters and are provided with the sole intention to improve the relevance and utility of your findings.

**Explicit Mention of Dynamic Export Limits for DER**

- It is unclear whether consideration has been given to non-network interventions for increasing DER hosting capability and value. Non-network interventions, such as dynamic export limits, DER orchestration and variable network charges have the potential to significantly increase hosting capacity and/or value. SwitchDin would strongly recommend that these are explicitly mentioned within the methodology and worked examples to ensure that the methodology allows for both current, emerging and future technologies for maximising DER value and hosting.

**System Boundaries**

- SwitchDin supports the recommendation to use the "total electricity system" as the system boundary, including behind the meter DER assets. Clarity should be provided on whether this system boundary also extends to controllable loads behind the meter which have the potential to provide additional and cost effective flexible energy and flexible capacity. It is SwitchDin's view that the boundary should allow value from all behind the meter DER including controllable loads to be included.

**Overall Methodology and Individual Methods**

- SwitchDin appreciates that the VaDER study is specifically focussed on how to value a change in DER generation and/or capacity enabled by a network investment and welcomes a consistent approach. However, without explicit consideration of what value dynamic export limits and DER orchestration can bring, both for deferring network augmentation and for maximising the DER value within an augmented network, this approach may lead to suboptimal investments.
- To encourage better investment strategies and more efficient use of existing and augmented networks, SwitchDin suggests that the methodology should require comparison against:

- The BAU case;
- The BAU case, with dynamic export limits and DER orchestration of existing DER assets
- Where possible, a fourth case - the proposed change including dynamic export limits and DER orchestration of DER assets should also be considered to ensure that the maximum value of the increased DER hosting is considered.

#### **Type of DER Service Enabled**

- *"In most cases, where active DER is enabled, both flexible energy services and capacity services will be provided. However, the shorthand method requires the network to select only one of these services (to avoid double counting). The service selected should represent the service via which the active DER systems are likely to generate the most of their revenue."*
- SwitchDin considers that this approach may underestimate the true value of DER, particularly in the context of VPPs and DER orchestration. An alternative approach could be to require that, when using the shorthand method, the network may select more than one of these services provided there is evidence that potential double counting of value has been taken into account.

We thank the CSIRO for allowing us to provide feedback to this process and hope that we can support their implementation with suitable solutions in the future.

Best regards,

**Alison Washusen**

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