

Mr. Terry Niemeier,
Director - Program and Market Development Safeguard
NSW Office of Energy and Climate Change
Lodged online 15 November 2023

RE: Peak Demand Reduction Scheme - Rule change 2 consultation paper

Dear Mr. Niemeier,

Congratulations to the NSW Office of Energy and Climate Change on the development so far on this important work, which will support grid reliability and higher rates of renewable energy penetration at the household level into the future. sonnen commends the approach as broadly reasonable for scheme administrators, and appears pragmatic given the emergent areas of Residential Peak Demand *-Savings*, *-Shifting*, and *-Response* which are complex to implement. Critically, these are areas which will directly affect NSW consumers. As an industry, we must remain cognisant that the consumers are the investors of BESS infrastructure. If the NSW Government gets these policy settings right, however, the scheme may well set a good template for other jurisdictions.

Outlining sonnen's vision and background:

sonnen Australia (sonnen) advocates for a fair, well-governed and coordinated energy system transition which is consumer-driven and industry-led. sonnen is a leading battery storage and energy solutions provider founded in Germany in 2010 with a rapidly growing Australian presence. Our vision is for *clean, affordable energy for everyone*.

We at sonnen understand that energy is an essential service, and we are committed to designing a system that provides for all energy consumers. sonnen is at the cutting-edge of implementing household CER coordination, and specifically, residential battery energy management systems.

We address the Consultation Questions below in the Appendix. First, we highlight these points:

- Question 17 on consumer protections aligns with our business principles. sonnen's experience with our customer facing contracts indicates that consumer trust is improved through: (1) Documenting expectations; (2) providing facilities/services/personnel to address consumer questions.
- On Question 9, we suggest further industry engagement. We see that excluding the RERT (in particular) sets a precedent for how we use resources. We argue in this submission that if a storage device or load is used for RERT it *should not be excluded* from a peak demand reduction scheme.

CONSIDERATION OF CONSUMER IMPACTS:

The consumer is not the party driving the certificate creation, but their assets are being used. The consumer is the party at the *edge* of the scheme. *The onus, therefore, is upon industry and policy makers to minimise impacts on the end user.*

We encourage ongoing industry engagement on this important topic, which will impact increasing numbers of Australians into the future,

Kind regards,

Dr. Veryan Hann

Regulatory & Public Affairs

[Veryan wishes to acknowledge the inputs & expertise of the sonnen Australia Technical Operations & e-Services teams].

sonnen Australia Pty Ltd, Lower Ground Floor, 61 Dunning Ave, Rosebery, NSW 2018

Attached: Appendix - Consultation questions & responses by sonnen Australia

Appendix: Consultation questions & selected responses by sonnen Australia

In this section, sonnen responds to the questions which are most relevant to the sonnen expertise, knowledge and experience.

1 Do you agree with the update to the equation, adjustment factors and lifetime for SYS2?

We believe that the equation and assumptions appear reasonable. Based on extensive BtM experience across jurisdictions, sonnen places a high value on ***equity and simplicity for consumers***. We strongly recommend these objectives remain central in the development and implementation of the scheme.

2 Is the pool pump industry able to meet a requirement that pool pumps have demand response capability and what would the cost impact of this be?

Whole of House Energy Management Systems (EMS) integrating rooftop solar PV, battery, and household loads such as pool pumps, hot water and air conditioning is a rapidly maturing technology. Once a 'gateway' or battery is installed it is plausible that a Wi-Fi connected switch can be integrated for less than \$100 for pool pumps (of less than 2kW).

However, sonnen has experience which demonstrates that stronger consumer engagement is enabled when consumers are rewarded for unlocking additional benefits by participation in a demand response or Virtual Power Plant (VPP) program. This strong consumer engagement is the basis of a successful VPP in the sonnen business model.

4 What evidence should be required under WH1 to ensure that customers aren't being taken off controlled load?

sonnen is not convinced, at this stage, that there is a simple and low-cost way to deal with the potential for heat pump hot water heaters to be switched to a non-controlled source. We would advise continued consultation on this point.

5 Is the new air conditioner requirement (equipment requirement 3), as written in the rule, going to be effective to enable consumers to participate in demand response programs using their new air conditioner?

Co-ordination of air conditioning by a residential battery or 'gateway' device with grid power flow monitoring overcomes some of the limitations of the demand response standard (AS4755). However, if further demand response capabilities are to be mandated then **sonnen strongly supports co-ordination of technical standards** across Australian states to minimise implementation costs.

6 Do you need a transitional period to prepare for the new demand response requirements?

A transition period linked to product cycle update timeframes (12 - 18months) is reasonable. Further considerations:

- As participation in a demand response program is not mandated, rather the equipment needs to be capable the situation is different to the AS4777 requirements for inverters.
- A website of complying devices seems a good start.
- Auditing method, example: 12-monthly audits, comprising an external auditor, and spot checks/random sampling (e.g., sample 200 sites). The independent auditor undertakes the documentation and reports on the findings and provides that to the Independent Pricing and Regulatory Tribunal (IPART).

7 Do you agree with the requirement to verify demand response capacity through dispatch data?

More consultation on this might be warranted. It depends on the price of the certificate. The overall issue is that every 12 months is a certificate creation process. If, for example, the number of certificates that a firm creates is somewhere between 30 and 50, this amounts to approximately \$30 or \$50 a year (at the current price rate). That is a fairly marginal benefit from a processing perspective for firms, regardless of whether they are new entrants or established incumbents.

9 Do you agree with the exclusion of RERT and LTESA loads from the PDRS?

Whilst activation of the RERT shares the PDRS objective of improving the supply and demand balance, the respective schemes pursue different objectives overall.

- The PDRS targets sustained improvements to deliver broader energy productivity benefits with coincidental ‘reliability’ improvements under emergency conditions.
- The RERT however, is a backstop mechanism only used under emergency conditions. Overall, it is preferable to enrol resources into the PDRS, however the PDRS may not provide sufficient incentive alone to support the development of flexible demand. **On this basis, there is merit in permitting some overlap between the two programs and we elaborate below.**

10 Are the implementation requirements sufficient to drive best practice installation of batteries?

- Existing installation standards are adequate: Australian Standard NZS 5139: 2019 (‘specifies requirements for general installation and safety requirements for battery energy storage systems’ (BESSs)).
- Existing inverter standards are adequate: Mandatory requirements under the standard must demonstrate the correct inverter settings and compliance to AS/NZS 4777.2 – Inverter Requirements standard.
- Overall, sonnen does not believe that additional steps and regulations beyond the current standards are warranted, beneficial, or in the public interest.

11 What additional steps can we take to mitigate fire and other safety risks from batteries supported through the scheme?

Australian standards are reasonably harmonised with best practices globally and sonnen has not identified additional requirements that would have a material impact on improving safety.

12 Will there be any challenges meeting the requirement for batteries to be registered on AEMO's DER register?

sonnen appreciates the merit in improving the quality of the DER register, but we are wary of potential timing implications from the processing of updates to the register. sonnen recommend that any evidence of compliance is linked to demonstrating submission by the installer (photo, screen capture etc.) of the installation details to the DER register.

13 Are there additional requirements you recommend we add to ensure consumers get the best outcomes?

Industry and governments alike, in all western, centralised, energy systems globally, recognise the centrality of residential energy consumers in driving change.

sonnen understands that a successful and equitable energy transition must be based on meeting the needs of the householder. The energy system is a socio-technical system which is designed to serve its' citizens, not the other way round. The changing needs of the consumer, sonnen is experiencing, reflects a trend of increasing consumption at reduced costs. The broad point to understand here is that the regulatory bodies and DNSPs should carefully consider how to manage the load based on consumer behaviour, and not to try to manage consumption by 'controlling the customer'. We forecast increased consumption (EVs etc) and so the focus must be on what measures are being put in place to manage the load as it increases into the future. A sentiment for the DNSPs could be summarised as 'why reduce profits by reducing consumption when you can plan to manage your increasing load more effectively' or 'don't bite the hand that feeds your profits'.

Furthermore, consumer contracts should be open and flexible for the consumer, i.e. no lock in contract, and not mandatory. Consumer ethics must be protected insofar as that the consumer has control of their own household purchases.

14 Do you support the dataset used, data assumptions and proposed calculation method for certificates for activity BESS 1?

sonnen's current assessment is that the proposed calculation appears reasonable.

15 Do you agree with the way we've considered round trip losses in the factor of 10%?

We agree that this is a fair simplification considering the performance of the battery over its lifetime.

16 Do you support the data assumptions and proposed calculation method for certificates for activity BESS2?

At this stage, sonnen supports the proposed calculations, assumptions and estimates.

17 Are there additional requirements you recommend we add to BESS2 to ensure consumers get the best outcomes?

sonnen is mindful of the perceived risk that aggregator and consumer interests may not be completely aligned. sonnen's experience with our customer facing contracts indicates consumer trust is improved through:

- Documenting expectations and limitations in clear jargon free contracts
- Access to data on the aggregators usage of the flexible resource either via report or customer portal.
- Facilities to address consumer questions.
- sonnen appreciates that this scheme is not designed to be overly prescriptive and risks to consumers are low, however we recommend the scheme administrators consider regularly reviewing consumer protections if the risk posed to consumers changes (for example higher certificate prices).

18 Can you provide evidence of what proportion of a battery's capacity is available for demand response under orchestration contracts?

sonnen can provide evidence of the proportion of the battery's capacity is available for demand response orchestration contracts. sonnen consider transparency in battery utilization a key aspect of maintaining consumer trust. Given the nominated 8-year creation window it is a reasonable simplification to assume that contracted capacity and available capacity match.

19 Can you see any potential issues with the 12-month cadence of certificate creation for each NMI?

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A 12-month cadence lines up with consumer expectations.

From a practical perspective this is reasonable. Drawing on experience, sonnen typically does not like to lock our customers in: customers do not want to feel that they're 'trapped'. Unless there is a compelling benefit, they do not want to sign on to something long-term.

24 Can you see any potential issues with the 12-month cadence of certificate creation for each NMI?

sonnen believes that a 12-month cadence is reasonable. In our view it strikes a balance with providing consumers flexibility to exit a demand response program and the administrative costs associated with creating certificates.

25 Can you provide information on baseline demand/discharge, demand response or shifting, and other key operational characteristics that the NSW Government could use to develop rules for any of the activities we are continuing to look at?

sonnen is a global leader with Behind-the-Meter (BtM) expertise in VPPs and would welcome engagement from the NSW Government on operational characteristics, and performance of demand response/load shifting.

For a brief overview of sonnen's VPP energy sharing concept, refer to our sonnenCommunity arrangement¹.

¹ see <https://sonnen.com.au/sonnencommunity/> for the concept of the Virtual Power Plant energy sharing and community and for an understanding of the business model. sonnen is one of two global leaders in expertise in VPPs