



**energy savings**  
Industry Association

**ESIA Submission:  
NSW Peak Demand Reduction Scheme  
(PDRS) and draft Rule  
Consultation**

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Submitted via [sustainability@environment.nsw.gov.au](mailto:sustainability@environment.nsw.gov.au) to the  
Office of Energy and Climate Change (OECC), New South Wales Government

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# 1. Introduction

The Energy Savings Industry Association (ESIA) welcomes the opportunity to provide this submission to the Peak Demand Reduction Scheme (PDRS) and draft Rule Consultation which commenced on 1 April 2022 as part of the New South Wales Energy Security Safeguard (Safeguard). This consultation is being managed by Sustainability Programs – Energy, Climate Change and Sustainability, Office of Energy and Climate Change (OECC), (formally DPE and DPIE).

We referred to the consultation webpage: <https://www.energy.nsw.gov.au/government-and-regulation/energy-security-safeguard/peak-demand-reduction-scheme#-first-pdrs-rule-consultation> including PDRS Consultation Paper for Rule 1 April 2022, and the recorded online forum held on 27 April with supporting slides.

## **About ESIA**

The Energy Savings Industry Association (ESIA) is the peak national, independent association representing and self-regulating businesses that are accredited to create and trade in energy efficiency certificates in market-based energy efficiency schemes in Australia. These activities underpin the energy savings schemes which facilitate the installation of energy efficient products and services to households and businesses. Members represent the majority of the energy efficiency certificate creation market in Australia. Schemes are established in Vic, NSW, SA and ACT. Members also include product and service suppliers to accredited providers under the schemes. As well, the ESIA represents member interests in national and state initiatives that include energy efficiency and demand reduction, such as the Federal Government's Emissions Reduction Fund energy efficiency methods and the NSW Peak Demand Reduction Scheme.

## **Further engagement**

We welcome the opportunity to discuss this submission further, please contact the ESIA Executive Officer at [comns@esia.asn.au](mailto:comns@esia.asn.au).

## 2. Responses to consultation questions

### PART ONE – Making the PDRS Operational

1. **What administrative processes could be improved by implementing better digital systems? How would that impact on your organisations?**
  - a. Marking up Rule changes and having them immediately available is a most valuable process.
  - b. Providing data tables in spreadsheet form so the data doesn't need to be manually keyed would be useful.
  - c. Address administration issues in the ACP portal and GGAS registry to improve ESC and PRC creation.

It is not yet clear what electronic delivery of the Rules will look like and how this will add value, so cannot yet comment. For example, it is not clear if the use of application programming interface (API) to push this information out would be an improvement. More consultation, testing and demonstration is likely needed to understand the potential.

2. **Do you use systems managed by other organisations to deliver the ESS rules and/or would you use them for the PDRS? If so, which ones, and how do you use them?**

No comment.

3. **Are there any digital tools, or specific software applications that could improve the PDRS customer experience, or understanding of the PDRS? If so, what are they and how could they be used?**

Refer to Q1.

- a. More transparency. The NSW ESS and PDRS should provide data publicly including postcodes of all upgrade types, as occurs in Victoria under the Victorian Energy Upgrades (VEU) program. This will drive upgrades as the market will be able to target opportunities more effectively.
  - b. More granular data. For example, the HEERS method activities are combined. It would be very useful to spit these so the market can see hot water and air conditioners etc separately.
4. **Would you use an open calculation API if it is made available? Why/why not?**

Publicly available calculators would be very useful as they could become a routine benchmark component for testing of calculations and permutations.

Ideally, such calculators should be available as soon as possible, rather than waiting for a second round of developments under TESSA.

In comparison, under the VEU program calculators are used. Whereas, in NSW under the Energy Savings Scheme APs are required to do their own calculations which increases their risk.

Vintage information, including prospective, current and past vintage information, needs to be clear and publicly available to the system user (including APs, retailers, customers and government) so that understanding, tracking and transfer of vintages is easy.

Visual explanation on these fundamental operational requirements would help on an ongoing basis to support staff training etc.

## PART TWO – Establishing the Rule

(No questions)

## PART THREE – Reducing demand using efficiency method

5. **Do you support the draft calculation approach and requirements for each of the technologies in the RDUE method? Please highlight positives and negatives, including any specific barriers to uptake of this activity. Space is provided in our online form for you to provide answers to each activity.**

**Table 3:1 Comparing activities in Schedule B of the PRDS Rule and Schedule C, D and E of the ESS Rule**

End-use Equipment	PDRS Activity Definition	ESS Method	ESS Activity Definition
Residential air conditioners	HVAC1	Home Energy Efficiency Retrofits	D16
Commercial air conditioners	HVAC2	High Efficiency Appliances for Business	F4
Commercial heat pump water heaters	WH1	High Efficiency Appliances for Business	F16
Non-primary refrigerators and freezers	RF1	Removal of Old Appliances	C1
Refrigerated cabinets	RF2	High Efficiency Appliances for Business	F1
Motors (refrigeration and ventilation)	SYS1	High Efficiency Appliances for Business	F7
Residential pool pumps	SYS2	Home Energy Efficiency Retrofits	D5

The ESIA supports the draft calculation approach for each of the technologies, with some exceptions. Refer to separate submissions of ESIA member organisations where they may have stated concerns with some of the draft calculations. Where exceptions are revealed, prompt action should be taken by the NSW Government, particularly where they

contravene the objectives of the scheme and with appropriate consultation and transition times as appropriate.

Regarding requirements including positive and negatives and any specific barriers:

- Fridge cabinets need further requirements, with decommissioning and new installation types clearly separated, and a co-payment.

There is no co-payment requirement for this activity under the NSW ESS IHEAB method. Given the scenario escalating under the VEU currently with fridges being 'free' and not requiring decommissioning, many new units are being installed where they may not be needed and are increasing energy consumption, which is contrary to that scheme's objectives.

The ESIA has recommended to the VEU that the activity include both decommissioning and new installations with certificates for each scenario not bundled in modelling and significantly reduced for new in comparison to a decommissioning scenario. While it is appreciated that non-decommissioning scenario incentives are based on standard efficiency baselines, the Victorian case is proving that without fairer incentives and adequate installation requirements, inappropriate installation practices will occur at scale. Increased peak demand and inappropriate PRC creation will be a likely result.

Fit-for-purpose requirements need to be clear including rigorous installation and decommissioning evidence. The ESIA welcomes the opportunity to provide more input on this topic based on Victorian learnings since early 2022.

- A co-payment for all IHEAB installations is recommended as an additional protection - noting that all residential and SME HEER installations require a co-payment.
- HVAC 1 and HVAC 2 (air conditioning): there are questions around whether AS/NZS 4755<sup>1</sup> is the most suitable requirement. There could be more flexible options with a suggestion that the European option 2030.5 could be a suitable addition.<sup>2</sup> It has broader international recognition which would result in a greater range of products being eligible under the PDRS that are as effective and appealing to consumers.
- For all activities now eligible: as soon as possible guides and forms are needed to provide certainty to industry that installations from 1 April 2022 have met requirements, such as additional evidence needed to ESS requirements now published. For example, will utility bills be needed to demonstrate peak demand reduction has occurred?
- For activities proposed in the second and future tranches: Release requirements prior to inclusion to provide certainty to industry. Although smart controls are not considered in the second tranche, perhaps test these prior to release of the second

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<sup>1</sup> <https://aemo.com.au/en/initiatives/major-programs/nem-distributed-energy-resources-der-program/standards-and-connections/as-4755-demand-response-standard> (Downloaded 13 May 2022)

<sup>2</sup> [https://ieefa.org/wp-content/uploads/2021/08/Mandating-AS4755-Ignores-Households-and-Widely-Supported-International-Solutions\\_August-2021.pdf](https://ieefa.org/wp-content/uploads/2021/08/Mandating-AS4755-Ignores-Households-and-Widely-Supported-International-Solutions_August-2021.pdf) (Downloaded 13 May 2022)

tranche given that, once released, they will provide significant stacked incentives with tranche one and two activities, and significant demand shifting opportunities.

**6. Should the PDRS have a requirement for the installed End-User Equipment under HVAC1, HVAC2, WH1, WH2 and SYS2 to have DRM 1, and 3 capability under AS/NZS 4755? What are the alternatives?**

DRM capability should be the 'best practice' aim for the PDRS. However, given that some products don't yet have this capability, it seems unreasonable to unduly delay their installation as significant energy savings and peak demand savings will immediately be delivered to NSW.

Given that GEMS will require DRM capability in time, it seems reasonable that there be a transition approach: from not being required to being required.

The energy savings schemes have catalysed such technology development and transformation, so with the right signals, DRM innovation is likely to be rapid. This could include DRM capability being included at the point manufacture and promotion where cost-effective to do so and as the value-add delivers tangible returns.

It also seems reasonable that there be a requirement that customers are made aware of the DRM capability status of the equipment as part of the contract of sale and installation. This should help service providers and end customers make informed sales offers and purchasing decisions. This could be in the form of tick boxes, for example:

- I have been informed that:
  - the product has DRM capability now; or
  - it doesn't but a 'bolt on' DRM technology exists or may in the future.
  - if I choose to add DRM capability in the future, further financial incentives may be available.

Given the complexity of the DRM concept, it seems reasonable that there be clear, simple, publicly available information on the PDRS website on what DRM is, that energy-consuming technologies may be transitioning to provide this capability and where the scheme is at with available incentives. For example, provide typical and basic scenarios where ESC and PRC incentive stacking is possible for each activity for residential and commercial and touch on the vintage component. In time, add PRC demand shifting opportunities.

**7. Should the PDRS incentivise the replacement of continuous tariff hot water systems that are on off-peak or controlled load tariffs?**

If a hot water system is on:

- continuous tariff, then *yes*; and
- off-peak, then *no*.

This view is based on there being a significant portion of hot water systems that are on continuous tariff and that would provide considerable peak energy savings for NSW. Some data includes that around 20% of hot water units are not on controlled load,

amounting to around 500,000 units. This equates to significant immediate energy savings opportunities.

Appropriate evidence would need to be required such as a power bill.

## PART FOUR – Developing the next phase with you

### 8. What aspects of the PDRS would you like to know more about, and what's the best way to provide this information to you?

The ESIA requests that the NSW government makes their position public as soon as possible on the issues detailed below.

- a. Registration fee dollar amount per PRC.
- b. Treatment of existing demand side participation. 'Existing Wholesale Demand Response should be carved out of the PDRS target. The ESIA is aware of more than 200MW of demand response (DR) in NSW that is currently contracted to retailers and DR providers. Refer to published studies and trials by, but not limited to, ARENA, AEMC and AEMO, as well as retailers' BAU activities and/or demand response/energy efficiency project pipelines. The PDRS targets over the early years of the scheme could be easily swamped by existing DR and therefore provide little incentive for additional investment under the PDRS: proposed initial targets may be far too low. It is not clear how pre-existing DR is to be treated under the PDRS: the ESIA welcomes the opportunity to discuss its treatment at the earliest possible time.'<sup>3</sup>
- c. How demand response disclosure by customers will be achieved and verified. For example, via a register managed by a regulator such as the CER?

### 9. What activities, technologies and business models are you most eager to see in the PDRS and why are these important to you?

- a. PIAM&V. Projects are being delivered under the NSW ESS via this method which would also contribute to peak demand reduction. Notably:
  - i. This can be readily achieved by changing the measurement unit from daily electricity usage to hourly electricity usage and changing the baseline and measurement period from annually to the peak demand period for the PDRS from 1 November to 31 March.
  - ii. While we accept that the current PIAM&V approach can be improved, we believe that this does not warrant a delay in enabling the current approach to be implemented as soon as possible.
  - iii. Those engaged in the area are accustomed to the complexities and are well placed to engage in creating PRCs now.

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• <sup>3</sup> ESIA Submission: NSW ESS Targeted Consultation Peak Demand Reduction Scheme, Are the draft regulations workable in practice? 11 August 2021, p4, point 5.

- iv. Any additional approaches that may be implemented in future that streamline the current PIAM&V method could then simply be incorporated into the PDRS.
  - v. The immediate inclusion of M&V based methods (of which PIAM&V is arguably the only credible short-term option) is crucial to the success of the scheme, as without it, the scheme will:
    - 1. fail to drive demand reductions on commercial and industrial cooling and refrigeration which represent some of the largest opportunities for demand savings in the target compliance period; and
    - 2. result in distortions of both the PDRS and ESS certificate markets by arbitrarily increasing incentives for upgrade types based on convenience or method development rather than technical, commercial and public benefit of activity outcomes.
  - vi. PIAM&V can be easily adapted by calculate 'Peak Demand Reduction Capacity' for PDRS Rule Equation One, through minor edits, potentially including changing concepts such as:
    - 1. 'normal year' to 'normal compliance period';
    - 2. 'annual electricity consumption/savings' to 'annual compliance period peak demand/reduction; and
    - 3. Removal of gas model provisions and calculations.
  - vii. With simple changes, PIAM&V and M&V plans could be readily adapted to deliver these calculations by using intra-day instead of daily energy models.
  - viii. A Peak Demand PIAM&V method could also be readily extended to provide a verification framework for aggregated demand response and VPP demand shifting periods – through the multi-site model provisions and PIAM&V and expanding the eligible activity provisions to include these activities, just as the VEU uses PIAM&V equivalent.
  - ix. While we understand that the OCEE plans to consider developing a new and improved M&V method for both the ESS and PDRS, delaying the M&V method due to the short-coming of PIAM&V for some use-cases will cause cascading distortions on the mix and cost of activities adopted under both schemes.
- b. Batteries with solar PV are a demand reduction activity and should be a priority inclusion.
- i. Installation of a PV system with a battery delivers 1) a permanent energy saving and 2) a permanent demand reduction. A battery reduces a customer's peak demand in the same way that installing an efficient air conditioner does and so should also be eligible to create 10 years of PRCs at the time of installation.

- ii. A battery with solar PV makes a material contribution to reducing demand in the following ways:
  1. a *permanent* reduction when installed as the battery will be operated to maximise self-consumption as a default. The demand reduction will be a function of the size of the PV system and the capacity of the battery and the customer's demand.
  2. a *demand response* on top of this permanent reduction, the battery could be operated to maximise discharge during peak periods, as opposed to discharge to reduce the level of imports. This further demand reduction could be treated as demand response and eligible for additional PRCs where covered by a contract such as for a virtual power plant.
- c. What will opportunities look like for customers wanting to engage without the need for a contract via a retailer or WDRP? For example, where equipment can be 'set and forget', such as for a residential hot water heat pump?
- d. F5 and F6 activities. Given that F7 has been included, it seems reasonable to include F5 and F6.
- e. Smart energy control/management systems. They offer significant load shifting for residential, commercial and industry customers across a range of upgrade types: HVAC, refrigeration, hot water and batteries including storage – all tapped with M&V or deemed methods. They will also have the added benefit of reducing renewables spillage from the NEM and avoid load shedding (the latter of which is not included in AEMO forecasts).
- f. Microgrid opportunities: scenarios of how demand response and demand shifting could be applied. For example, a shopping centre which has HVAC and chillers etc and how landlords could be provided with optimal incentives.

Finally, please consider other ESIA submissions made recently, such as:

- ESIA Submission: NSW ESS Targeted Consultation Peak Demand Reduction Scheme, Are the draft regulations workable in practice? 11 August 2021.
- ESIA Submission: NSW Energy Security Target and Safeguard Consultation, 22 June 2020.
- ESIA Submission to ESS Statutory Review, 20 May 2020.<sup>4</sup>

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**For more information** regarding this submission, please email ESIA Executive Officer, [comns@esia.asn.au](mailto:comns@esia.asn.au)

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<sup>4</sup> <https://esia.asn.au/publications/submissions> (Targeted Consultation submissions available upon request.)