

Peak Demand Reduction Scheme: Consultation Paper for Rule 1

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Madimack Response: List of Questions

1. What administrative processes could be improved by implementing better digital systems? How would that impact on your organisation?

N/A

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?

Yes we partner with an ACP to deliver projects. The ability to provide a total energy efficient solution is the main objective.

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?

N/A

4. Would you use an open calculation API if it is made available? Why/why not?

We would need to more clearly under 'access to' along with the tool itself.

Currently Madimack engineer and design specific calculators tailored to our product suite (see attached example). As our business directly specialises in the design and manufacture of energy efficient products within particular categories, we are able to build calculators that factor efficiency across a 'solution' as opposed to individual products.

Our engineers are also particular about the measurements generated and the calculations used.

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 on each activity.

NB: We could not locate the online form referred to in this question.

Madimack support the draft calculation approach outlined for Residential Pool Pumps. We agree that it is a generic standard approach to measure energy efficiency. The calculation uses a number of variables that we would suggest were clearly articulated.

6. Should the PDRS have a requirement for the installed End-User Equipment under HVAC1, HVAC2, WH1, WH2 and SYS2 to have DRM 1, 2 and 3 capability under AS/NZS 4755? What are the alternatives?

Madimack would support the inclusion of a requirement for demand response capability under AS/NZS 4755. We believe that this heightens efficiency and increases buy-in from end-users.

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

NA

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?

How do we increase our access to the conversation in driving Energy Efficiency for NSW & Australia?

How do we make the process of partnering with the PDRS more fluid and responsive?

Provide direct access to personnel within the PDRS program.

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

Madimack would be eager to see PDRS focus on technology based energy efficient products and business models. Products that can adapt quickly to change/innovation and that have a standard of practice imposed. We favour products that result in long-term positive behavioural shifts toward energy-efficiency and business models that can effect change without significant end-user investment.

<https://www.madimack.com.au/en-au/inverter-plus-madimack-energy-saver>

The Inverter Plus variable speed drive (as per attached supplementary documentation) is a product that can single handedly EXCEED the targets set in rule 1 of the PDRS, if applied.

Simply put, the Inverter Plus is a retrofitted variable speed drive that is attached to a single speed pool pump, instantly upgrading it to a 7 or 8 star variable speed pool pump (as per current MEPS standard).

The Inverter Plus has an inbuilt timer and additional smart functions to optimise efficiencies. It is fitted with 'plug & play' technology removing the need for an electrician or installation specialist.

70% of NSW pools are currently fitted with single speed pool pumps, installing the Inverter Plus across the state would immediately impact the set reduction targets, simply and cost-efficiently.

Additional benefits include:

- Not requiring the removal of existing hardware. The Inverter Plus works in collaboration with existing hardware, so there is no waste.
- ROI within 1 year.

NSW Energy Savings delivered by the Inverter Plus

Peak demand reduction of 460 Mwh

Annual energy reduction 512 Gwh

Retail energy consumer cost savings \$142 million

GHG CO2-e reduction 703 thousand Tonnes

Equivalent to 50,000 cars off the road

The Inverter Plus is retrofitted and does not require the disposal of existing equipment. 'Single speed pool pumps' are installed in over 70% of NSW pools, contributing up to 30% of total household energy consumption. With the introduction of Variable Speed Drives (VSD) to pool filtration systems, the potential for energy and cost benefits to the economy are enormous. Specifically, if we were to fit existing single speed pool pumps with an Inverter Plus, the estimated results would include 1,461 GWH of energy per annum; a retail energy cost saving of \$408million; and GHG reduction of CO2-e of 2million tonnes, the equivalent of a car driving 5.4 million km or taking 140,000 cars off the road.

It's a simple product offering a simple solution to a very inefficient problem.

Please refer to the attached document for further technical specifications and case-study details or contact Westley Collins to discuss further.

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