Kieran Price
Manager, Regulatory Reform
Department of Energy, Environment and Climate Action
Submitted via Engage Victoria

28 April 2026

Re: Victorian Energy Upgrades industrial heat decarbonisation – Consultation paper

Dear Kieran,

Thank you for providing the opportunity to provide feedback on the Victorian Energy Upgrades (VEU) industrial heat decarbonisation consultation paper (the consultation paper).

The Energy Efficiency Council (EEC) is the peak body for energy management in Australia. Our members include technology suppliers, energy service providers, governments, education providers and NGOs that have come together to ensure Australia harnesses the power of efficiency, electrification, and demand flexibility to deliver a prosperous, equitable, net zero Australia.

Our comments focus on the electric thermal energy storage and gas efficiency Specified Measurement Methods (SMMs). However, lack of comment on other items outlined in the consultation paper does not indicate an EEC position.

New incentives to decarbonise industrial heat are needed

The EEC strongly supports the development of new VEU activities targeting the decarbonisation of industrial heat. Policy targeting energy use and emissions in industry has been a weak spot in Victoria's policy framework, despite the significant opportunity.

Forthcoming EEC analysis of Climateworks Centre modelling, suggests that in sectors such as manufacturing food and beverages and rubber and plastic products, electrification of low temperature heat alone could offer between 10-20 PJ of gas savings annually, between now and 2035 – a large share of the 55 PJ a year consumed by industry.

Streamlining the process for PBA certificate creation is important

The EEC supports the use of SMMs to reduce the administrative burden of undertaking energy upgrades using the PBA method. Imposing higher obligations on monitored and verified energy savings, compared with projects that use deeming seems counterintuitive so efforts to reduce administrative hurdles for PBA projects are welcomed.

Lengthy delays between project approvals and commencement have also acted as a barrier to uptake in the past, particularly as VEEC prices have fluctuated.

The use of SMMs appears to be a logical approach to simplifying and accelerating the process of PBA-method certificate creation.

Electric Thermal Energy Storage (eTES) systems

The EEC supports the inclusion of eTES in the VEU, an important emerging technology that can support the electrification of industrial heat production. Including eTES in the VEU would help to reduce their up-front cost, which is the key barrier to their deployment.

Ensuring eTES charge with renewable electricity is important in a context where grid-supplied electricity is still reliant on fossil fuel generators and the EEC broadly supports the proposed approach to verifying renewable electricity use through the surrendering of renewable energy certificates, due to its relative simplicity.

However, we also suggest the Department examines how time-of-use electricity and emissions data could be used more effectively in this, and other VEU methods to more accurately account for the *actual* emissions associated with grid electricity use, given these data are now widely available.

The following issues should be considered in further developing the methodology:

1. **More analysis is needed to ensure incentive structures for large energy users currently exempt from paying for the VEU are conducive to eTES use**

   eTES are likely to be suitable for use by some of the state's largest energy users, Scheduled Activity Premises (SAPs), which are exempt from paying for the VEU. It will be important to ensure the incentives associated with installing an eTES outweigh the costs of SAPs opting into the scheme or uptake will be low. We encourage policymakers to undertake further analysis to ensure this is the case.

   One policy option that could be examined is to allow SAPs to opt in *for gas only* and continue to be exempt from VEEC environmental charges on electricity.

2. **eTES could deliver electricity system benefits beyond decarbonisation, which could be accounted for in the methodology**

   While the VEU's central objective remains decarbonisation, the EEC believes another related objective should be the *optimisation of electricity demand*, because un-optimised demand may slow the pace of decarbonising the electricity sector.

   Given their size, an eTES timed to charge from grid-supplied electricity or maximise self-consumption of on-site generation during periods of excess renewable electricity generation could have major benefits for the grid.

   There may be merit in recognising these benefits in the design of the methodology (through an additional factor that accounts for charging when grid benefits are largest). This could help ensure the incentive provided is large

enough to outweigh the cost of participating in the VEU for large energy users (see issue 1).

3. Efficiency factors for gas boilers and eTES may need revision

The eTES SMM assumes gas boiler efficiency of 0.9 and eTES roundtrip efficiency of 0.85. Recent analysis of the Australian industrial process heat market by CSIRO and ITP uses gas boiler efficiency of 0.8 and eTES roundtrip efficiency of 0.93[1]. Research from IEEFA[2] suggests that gas boiler efficiency of 0.8 may still be too high, with typical process heat losses in US manufacturing averaging 33%. Getting these factors right will be critical to ensuring the economics of eTES stack up.

Gas efficiency

The EEC supports the policy intent to increase the uptake of industrial gas efficiency measures via the SMM. While we agree with the consultation paper's assertion that some industrial facilities are 'harder to electrify', in facilities with ageing gas boilers there may be a tension between investing in gas efficiency upgrades that prolong the facility's gas use and replacing its gas infrastructure entirely.

In developing the activity further, policymakers should consider whether changes can be made to ensure the activity only applies where the risk of 'locking in' a facility to ongoing dependence on ageing gas equipment is minimised. This might include, for example, requiring evidence from applicants that electrification options are unviable in the short term, or that gas equipment has only recently been purchased.

Our members also noted the following:

- There would likely be some overlap between measures listed in Table 11, meaning the gains in efficiency are unlikely to be additive in reality. Some of the efficiency gains in Table 11 may also require clarification. For example, pipe lagging may only deliver a 5% efficiency gain *compared to pipes without lagging*.
- There may be a risk that changes in production unrelated to efficiency upgrades are captured in the equations used to calculate project impacts. It would be useful to clarify how changes in production (both up and down) can be accounted for in the methodology.
- As with the eTES SMM, the assumed gas boiler efficiency of 0.9 may need revision. However, as noted above, if efficiency upgrades are limited only

[1] ITP and CSIRO, 2025, The Australian industrial process heat market: Towards zero emissions, https://itpthermal.com/wp-content/uploads/2025/04/itpproccess-heat-report_final08042025.pdf

[2] IEEFA, 2024, *Industrial heat pumps key to addressing excess gas demand,* https://ieefa.org/sites/default/files/2024-10/Industrial%20heat%20pumps%20key%20to%20addressing%20excess%20gas%20demand_Oct24.pdf

to facilities with *relatively new gas boilers* (to avoid prolonging the use of gas equipment at its end-of-life) then a higher efficiency factor may be appropriate.

- Other deemed activities that could be included:
    - Variable speed drives
    - Carbon monoxide trim
    - Steam trap repair and replacement
    - Blowdown heat recovery
    - Pipe and vessel insulation
    - Condensate recovery

For further information please contact me on jeremy.sung@eec.org.au.

Yours sincerely

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