energy savings
Industry Association

ESIA Submission:

Victorian Energy Upgrades (VEU) Program Energy Management Information Systems (EMIS) Consultation

Due 17 February 2025

Submitted Victorian Energy Upgrades, Department of Energy, Environment & Climate Action (DEECA), energy.upgrades@deeca.vic.gov.au

Energy Savings Industry Association
Suite 2, Ground Floor, 109 Burwood Rd, Hawthorn 3122
www.esia.asn.au
ABN 52 166 026 766

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1. Introduction

The Energy Savings Industry Association (ESIA) welcomes the opportunity to provide this submission to the **Victorian Energy Upgrades (VEU) Program Energy Management Information System (EMIS) Consultation** which commenced on 15 January 2025. This consultation is being managed by the Department of Energy, Environment and Climate Action (DEECA).

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 savings 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 most 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 Carbon Farming Initiative energy efficiency methods and National Energy Performance Strategy, and the NSW Peak Demand Reduction Scheme.

Further engagement

We welcome the opportunity to discuss this submission further, please contact the ESIA Executive Director at comns@esia.asn.au.

The consultation

The ESIA referred to the documentation at https://engage.vic.gov.au/energy-management-information-systems

Timeline

The webpage states:

- Consultation opened – **15 January 2025**
- Consultation closes – **17 February 2025**
- Review consultation responses – **March 2025**
- Release response to consultation – **April-May 2025**
- Activity introduced into the VEU program – **June 2025 – January 2026**

This submission can be made public.

2. Response to Consultation – ESIA overarching feedback

1. The ESIA requests that DEECA undertakes more targeted consultation prior to finalising its response to this consultation. This includes with the ESIA and interested members, including those with significant expertise in:
    a. BMS markets including technology developers (traditional and emerging), supply chain, solutions, sales and ongoing maintenance contracts;
    b. Measurement and verification;
    c. Energy retailing; and
    d. Product innovation.

2. The proposed activity is currently largely skewed to commercial buildings. The ESIA would like DEECA to seek further targeted feedback on tailoring the activity to open up more upgrades to industrial applications including manufacturing and processing.

    These kinds of sites may be less likely to have BMS and EMIS capabilities like commercial buildings – so the current proposed activity is likely to miss perhaps 80% of the pool of market opportunity.

3. Current barriers include:

    a. The proposed intent that significant metering points have already been established i.e. for submetering to be required, as this is far less typical for industrial sites versus commercial buildings.

        Noting the proposed requirement that the EMIS must be capable of recording energy consumption data for 'on-site equipment, processes or feedstock of a premise that comprises at least 1% of the total energy consumption or energy handling of a site'.

        The ESIA requests clarity regarding whether the 1% might relate to 'category of consumption' and not every discrete point of use that is 1% or more of total energy consumption. If each discrete point of use or aggregated points of sue greater than 1% of total use must have its own meter/sensor, this will likely be too high a bar: certainly for a Basic ESMIS, likely for an Integrated EMIS, and in any case especially for energy other than electricity.

        Typically, sites with gas may not have adequate granular metering e.g. 15-minute consumption data.

        A reasonable gas meter may cost $25,000 installed which is unlikely to be an attractive investment proposition.

While it may appear that incentives from the EMIS activity at 3%-7%-10% may be generous and likely offset the cost of metering, the customer needs to install the metering at points which may not ultimately serve the site most effectively following installation of the EMIS.

For example, a site with high gas use that is 100% consumed by a gas boiler. Would this site be required to install a steam meter?

4. Deeming period:

    a. While the intention of the proposed two years may be to 'activate' sites on their energy-efficiency journey (i.e. findings may lead to more investment in energy efficiency), the gap between the EMIS activity and M&V methods remains significant, given the continuing high risk of businesses to engage in the VEU M&V methods.

5. Emissions factor

    a. Two years of deeming opens the opportunity for DEECA to adjust the emissions factors for the EMIS activity, to increase VEEC incentives in the near term. Noting that for other deemed activities the deeming periods may be 10 or even 15 years, which is reflected in the emissions factor.

6. Product eligibility, innovation and broader markets

    a. There are concerns that innovations in EMIS technologies may not be maximally embraced as part of this proposed activity. E.g. Technology innovation includes the ability of EMIS to integrate peak power production with solar which is a significant opportunity with SMEs including some office buildings. This can integrate, for example, weather changes such as cool changes which can modify heating and cooling schedules for buildings and save on energy bills. Also, newer sites no longer have wired solutions and run on Wi Fi which is cheaper and has its own protocol.

    b. It is important to distinguish between 'low cost' and 'low quality'. Given this technology is not complex, new entrants with quality offerings supported by financial incentives through the VEU will support innovation and some market disruption will help to transform markets sooner.

3. Response to Consultation – ESIA key questions for DEECA

1. What is deemed as a new system? Is it:
    c. an entire installation;
    d. a connection to a portal; and/or
    e. just a software upgrade.

2. Can the deemed period be extended if the customer signs a longer contract?

3. Is this activity targeting:
    f. larger sites which typically have a BMS (e.g. BMS provided by global brands)
    g. smaller sites which don't have a BMS

7. Which stakeholders have DEECA engaged with in developing the activity? E.g.
    a. BMS providers (including the developers, not only sales teams)
    b. EMIS providers (including the developers, not only sales teams)
    c. Intermediaries including
        i. facilities managers
        ii. mechanicals
    d. M&V experts

8. Have these stakeholders indicated they see significant opportunities with VEU support?

9. What is the size of the target market modelled by DEECA?

10. Is the primary target market commercial buildings? Or are manufacturing and industrial sites also considered a major opportunity?

11. Regarding proposed categorisation;

    a. the wording 'significant' needs to be defined: 1% of site use seems a bit low. Refer to the energy audit standard, for example (AS/NZS 3598:2014) which suggests end-use breakdown of all end uses greater than 10% of the facility (type 2) or greater than 10% of the audited object (type 3).
    b. instead, it may be better to measure 80% of site use. I.e. the platform might be able to measure down to 1%.
    c. What is the benefit of 1% if 3% savings is being offered? Data can be sought from elsewhere internally.

12. Regarding Activity scope:

a. the definition/wording needs further clarity of ‘integration’ versus ‘control’:
    i. of the EMIS of/with the BMS. If talking about control, then no EMIS will be eligible; and
    ii. what is the intent of control? E.g. for a hospital or a data centre?

13. Has DEECA considered distinguishing if the installation is likely to provide capability versus actual savings?

14. Regarding the metrics and VEEC calculation:
    a. Eligibility metric in MWh – are we supposed to convert gas MJ into MWh and add to electricity in MWh to work out whole site MWh consumption to meet the eligibility criteria or is it just based on electricity (MWh)?
    The specification says:
        - ***Electricity consumption*** means the total electricity consumption that a site uses per annum (MJ); this is determined by previous electricity billing
        - ***Gas consumption*** means the total gas consumption that a site uses per annum (MJ); this is determined by previous gas billing.

    NB/ Test case: If we convert MWh in MJ for electricity and use MJ of gas, the VEEC numbers are enormous and completely at odds with the calculations the consultation has in it. Is this an error? Maybe this should be GJ not MJ? In PBA, electricity consumption is MWh and gas consumption is in GJ.

15. Regarding emissions factor: please can DEECA confirm that the emissions factor (EEF and GEF) we should use in the calculation are the same as for PBA of 0.393 (electricity) and 0.05523(gas)? Or what else?

16. What does the warranty apply to e.g. the software or hardware?

17. The warranty required is proposed to be for five years, but only two years of deeming will be provided. Is this intentional? And if so, why?

18. Regarding data security, what consumer protection, if any will be required? E.g. to ensure especially for higher EMIS categories:
    a. data is held on Australian servers;
    b. it is transparent who has access to:
        i. the data; and
        ii. controlling the system.

4. Response to Consultation Questions

4.1 Introduction

1. **Are there any other benefits to EMIS products you would like to express?**

   Other benefits of EMIS products:
   - open the door to predictive maintenance;
   - optimise a building management system (BMS) by providing quantitative data about where energy is being used throughout a building - a crucial benefit to the site and industry to better tailer energy management services and solutions;
   - can be used to manage peak demand;
   - can be used to participate in frequency control ancillary services(FCAS).

2. **Are you aware of any issues with the supply chain required to implement an EMIS activity into the VEU program that the department should consider?**

   ESIA members have some concerns around the required interfacing between the EMIS solutions and an existing building management system (BMS).

   Therefore, clarity is needed around and apparent requirement that where a premises does not have an existing BMS, the installation of an EMIS product must include the installation of BMS hardware. Note further that:

   - In the building management space:
     traditionally:
     - where a BMS has been put in place, generally for larger sites, (i.e. controlling variable speed drives (VSDs) etc.) the BMS provider usually has a service contract in place for years. These types of BMS solutions generally are not retrofit products.
     - for smaller sites, a range of EMIS solutions, that may not have a BMS and a long-term contract, target that sector such as marketed at the Australian air conditioning business services (ARBS) exhibition. These types of solutions are more likely to suit retrofits.

     more recently:
     - with technology solutions being wireless, and depending on the BMS provider, it is possible that an EMIS could piggyback an existing BMS.

     The ESIA seeks clarity on this from DEECA if the intention for the VEU EMIS activity is to target those sites without long term BMS

solutions and contracts, given this sector is much less likely to be interested in the activity. And if they are, they will likely seek to maintain control of any EMIS introduced to the site.

ESIA members noted:

- it would be highly unusual for an EMIS to be introduced to control a BMS. And ideally, the introduction of a BMS would likely need to be considered before introducing and EMIS without a BMS. Noting also:
- a BMS already has the tools to measure consumption, even though it may not be used, it will be available and should generally be considered before introducing an EMIS.
- There are instances where an EMIS is installed that may not be integrated back into the BMS, for example to control heat pumps.
- the consultation paper doesn't talk about a very basic EMIS dashboard which is important to highlight any existing infrastructure, and how the site navigates using a new provider. The activity will need to clarify VEEC eligibility i.e. what is in and what is out based on what is already on site. Noting there is a difference between capability and what is being used.
- In terms of which people along the supply chain can influence decision making, traditionally the market model BMS providers rely upon is to building relationships with consultants to specify their products in a brief to a site. For example, if a building owner appoints a 'mechanical' consultant who scopes the requirement for a BMS for the site, then a bidding war follows with BMS providers which generally focuses on lowest price, noting the mechanical is the one making the decision about the BMS. The mechanical appoints the electricians etc.

The ESIA seeks clarity on which party is going to be required to sign the VEEC assignment form.

3. **Do you agree with the three-tier categorisation of EMIS products based on their capabilities?**

    a. Yes

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    b. If not, please detail why and suggest an alternative method of categorisation of EMIS products.

    No.

    It appears that the proposed categorisation of EMIS products is

likely tailored to commercial buildings, i.e.

- may not be practical for industrial sites which typically have more points to control;
- may not suit sites that cannot turn off sections such as hospitals including those with operating theatres, nor manufacturing sites.

The ESIA notes:

- The consultation paper wording seems to imply that the EMIS would take control of the BMS, whereas the benchmark practice is typically that an EMIS works with a BMS or SCADA and can then be recorded.
- The wording 'significant' needs to be defined: 1% of site use seems a bit low, instead it may be better to measure 80% of site use. I.e. the platform might be able to measure down to 1%.
- What is the benefit 1% if 3% savings is being offered? Data can be sought from elsewhere internally.
- The level of granularity of measurement required needs to clarified, i.e. what is acceptable: at the metering, submetering and circuit level? For example, in a small commercial building premises, it may be easy at the circuit board or meter box to swap out the fuse but this may not provide the granularity required. If it needed to be at least 5%, then it wouldn't have to be at the circuit level, i.e. which doesn't seem to be a requirement.
- Threshold will be scrutinized by the ESC so clarity on this is important to ensure it is workable for APs to meet requirements with EMIS providers/installers.

4. **Do you agree that the Advanced tier products should be introduced at least six months after the Basic and Integrated products?**

    a. **Yes. If yes, why?**

    Yes.

    In the interest of overall risk mitigation, and noting that C&I facilities may include critical services such as healthcare facilities, data centres, power stations etc., it seems reasonable that automated integration and control capabilities – for example using AI – be introduced later, after a period of observation and consideration.

    b. **If not, please detail why and suggest an alternative approach.**

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5. **Do you foresee concerns or risks to consumers related to the capabilities presented in the Advanced EMIS classification?**

   Further to the response to Q4, there are concerns and risks associated with providing automatic system optimisation capability without the need for human input when seeking to minimise energy consumption, costs, and/or carbon emissions. Priorities need to be carefully considered, defined and coded into the EMIS to ensure that, for example, carbon emission reductions do not end up at the very top of the priority list where other priorities are paramount.

4.2 Activity scope

6. **Do you agree with the proposed approach to develop a register of proven (demonstrated by at least two years of suitable data) products for the EMIS activity?**

   a. Yes

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   b. No, please explain why

      No.

- This closes the door on new entrants and seems very restrictive for a product that does basic metering i.e. metering technology is not complex.
- A requirement of two years of data in the field blocks new entrants for at least that period. This creates a barrier to innovation to basic technology, however delaying Advance to AI is likely a reasonable safeguard given current AI unknowns.
- It could stop established businesses that are well placed to invest and pivot to provide this technology not entering the market, even when they have built a trustworthy and innovative reputation and standing with other technologies.
- With reasonable guardrails and requirements new entrants should be encouraged.
- A greater risk is providing VEECs for an activity that is behavioural – it's the equivalent of an in-home display (IHD) for non-residential sites – it won't necessarily deliver any energy savings in and of itself.

The ESIA seeks clarity:

- Table 47.1, Scenario 47B, Clause (d) on the wording of 'integration' versus 'control' of the EMIS of/with the BMS: if talking about control, then no EMIS will be eligible.

7. **Do you agree with the proposed approach that facilities must have a minimum annual consumption of 500 MWh and facilities with energy consumption greater than 5,000 MWh per year should only be rewarded for installing an Integrated or Advanced EMIS?**

    a. **Yes**

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    b. **No, please explain why**

    No.

    - ESIA seeks clarity: which sector(s) are proposed to be targeted with the proposed VEU EMIS activity? Given a minimum of 500MW of consumption per user has been indicated, it seems both big and small sites and being targeted. For example, it is the sites that use more energy, which are likely to have a BMS (likely with a locked in contract with an established BMS provider), or is it SMEs?
    - In principle it makes sense to have a staggered level of incentive, although it may not be necessary.
    - The proposed requirements may provide adequate guardrails and benchmarks used in other programs that aren't so prescriptive.

- The ESIA suggests:

    - consider lowering the threshold, or scrapping the minimum threshold altogether for one or more scenarios, noting that the actual consumption of the site is used in the deemed savins calculation. As sites get smaller, the incentive level naturally reduces. With deemed savings factors as low as 0.03, a prescribed consumption threshold may not be necessary for all scenarios.

      Further, a 10-storey office building may have a minimum annual base-building consumption of around 250MWh, but the whole building would likely be some multiple of that. It very much depends on where one draws the boundary, especially in developments with an embedded network. A bit more flexibility is desirable in those cases when assessing developments that may warrant a Basic EMIS to get engaged, especially if consumption varies annually.

      For example, where different tenants of the same building are seeking different approaches to metering and/or where

metering must be shared or can be split. Such sites may sit below the threshold but be highly valuable early mover sections of sites that could expedite uptake at the overall site over time to shift the status quo.

- consider other regulations. For example, the NSW ESS under its HEER activity set a <100MWh annual consumption to classify as a small business.

- 100MWh is also a point at which a business moves from being a small market consumer to a large market consumer and the style of an electricity bill changes: as higher use requires a more detailed account of electricity consumption data for contestable accounts. The threshold may vary by state. In Victoria, for example, the threshold may be 160MWh.

- when considering the solar industry, STCs are applicable to <=100kW systems, and that could be a reasonable target market for EMIS. For example, generating around 400kWh of electricity a day. That market, the C&I solar market under 100kW is very large including many commercial sites. In comparison the larger consumption sites would be more likely to have more sophisticated systems including BMS which is SCADA.

- If using ATO benchmarks, note that defining SMEs by number of employees is unlikely to be helpful.

8. **Do you agree that facilities with Basic EMIS should be limited to claim 125 VEECs annually and facilities with Integrated EMIS and Advanced EMIS should be limited to claim 1,000 VEECs annually?**

    a. Yes

    -

    b. No, please explain why

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9. **Do you agree with including EMIS product eligibility requirements that will enable flexible demand?**

    a. **If yes, please provide further detail, e.g. what capabilities do you think should be required and how should compliance be evidenced?**

Yes.

It aligns with decarbonisation and sustainability goals and offers capabilities that can further leverage modernising energy markets using predictive analytics for energy demand forecasting and load shifting to take load off the grid as well as place load on the grid, as necessary.

b. If no, please explain why you do not agree with the inclusion of flexible demand.

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10. Do you agree with the proposed approach to include a provision in the Specifications requiring EMIS providers to adhere to the Australian Privacy Principles?

c. Yes

Yes.

d. No, please explain why

-

4.3 Activity design

11. Would you be interested in becoming accredited to provide this product through the VEU program?

a. If yes, what classification of EMIS would you be interested in supplying or installing?

There is interest from some ESIA members in participating in the delivery of EMIS as well as to be accredited for VEEC creation. However, until it is clear on the target market and the level of flexibility in providing basic through advanced EMIS, industry is likely to be hesitant.

b. If no, please provide further information.

-

12. Do you agree with the proposed minimum co-payments required for each classification?

a. **Yes.**

There is a need for a copayment – perhaps with more of a scaled approach – to provide an adequate guardrail against opportunist providers. For example, a relatively inexpensive EMIS receiving high levels of VEECs is risky if no improvements are made in energy use.

The VEEC reward needs to be scaled with system capability and actual savings, or a runaway behavioural activity could occur.

ESIA members with experience is the BMIS space note that selling an EMIS solution generally is not easy. Several decision makers and data points etc. may need to be considered. However, on the flip side, an EMIS could be installed without appropriate guardrails where it is unlikely the site can change its energy use.

For example:

- a fish and chip shop - a $2,200 copayment may be a barrier especially if the only thing that site can do to reduce energy is put in new appliances.
- a commercial building site can at least add in various speed drives as an adjunct, rather than a full replacement of any equipment.

b. **If not, please suggest an alternative approach.**

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13. Do you see any potential for the proposed EMIS activity to be misused? If yes, please detail possible solutions.

a. **Yes, please provide further information.**

The proposed guardrails and general nature of the established sector seem reasonable barriers against misuse, including:

- a copayment; and
- these are engineered solutions requiring trained technicians for installation.
- The risk will be that those without site authority to make decisions may do so when other solutions of capability already exists on site or may already be in the commitment pipeline.

Grey areas include:

- what would businesses use if they have solar, e.g. are 60% solar powered. How are the savings then calculated? i.e. if using the bill, that doesn't show total energy consumption

on site and solar use will vary.

Regarding possible business models:

- APs may partner with existing EMIS providers and vice versa.

b. No

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4.4 Approach to determine energy savings

ESIA notes:

- It is reasonable, in accordance with general business practice for this kind of solution, that sign off of the installation cannot occur for 60 days to ensure the system is working.

ESIA seeks clarity:

- If the system is signed up for 10 years, then can the installation be eligible for 10 years of deeming. And if not, why not?

14. Do you agree with the proposed approach for consumers to provide proof of payment for two years in advance?

a. Yes

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b. No, please provide an alternative approach

No.

It is reasonable that such a contract could be paid off over a set period, e.g. monthly, over two years.

ESIA seeks clarity on acceptable payment terms to be eligible for VEEC creation.

15. Do you agree with the suggested timeframes for installation and commissioning of the EMIS product?

a. Yes

Yes, 60 days seems reasonable.

b. No, please provide an alternative approach

-

16. Do you have a suggestion for a more appropriate way to ensure the provided incentives are accurate for this activity?

It may be reasonable is to distinguish if the installation is likely to provide capability versus actual savings.

For example, some EMIS can automate savings into the system e.g. in a real case study scenario for a hotel, each day when the western sun hit building, all the air con would go on at once. Then with the EMIS the air con units were set to stagger instead. This setting alone saved half-a-million dollars a year through automated control.

4.5 Calculating energy emissions savings

17. Do you agree with the proposed method for determining baseline energy consumption?

e. Yes

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f. No, please provide an alternative approach.

No.

- The method will need ongoing tweaks.
- The proposed method seems discriminatory in preferencing NABERS with more incentives by 10%. A fairer approach may be, for example, provide two years average consumption for everyone, then if feedback shows NABERS gets greater results then reward that more.

18. Do you agree with the proposed method for determining incentives for submetering?

a. Yes

-

b. No, please provide an alternative approach.

No.

- The consultation paper incorrectly defines electricity consumption and gas consumption in unit MJ of energy.
- Open options up a bit more based on reasonable practice.
- Consider that aside from submetering such as electric and gas submeters, there are other types of sensors that may be more appropriate, For example, temperature, and for industrials compressed air would typically be considered, and control could be achieved from a controlled meter.
- Consider that sites with a small number of submeters are going to be penalised, whereas they may be strategically placed on the highest consumption points of the site.
- A more reasonable approach may be to start with one incentive for one meter and then multiply with more meters i.e. reward for a basic level and then add more.
- Challenges with incentives may be that EMIS service provision may be by cloud or subscription based and multi-year contracts, and/or on premised solutions.
- Another consideration is that for large providers, a system integrator may to be employed on site.

Regarding the 500MWh threshold:

- a manufacturing/factory site is typically over this, whereas more likely this threshold includes a warehouse or office site that uses limited power such as air conditioning and lighting.
- There may be anomalies where an EMIS would be useful to pick up poor energy management. For example, and real case study where a small business found that the night cleaners put the air conditioning up high early in the evening and then left it on all night, which was stopped.
- Consider other threshold settings in other programs. For example, under the NSW ESS HEER method is 100MWh, which likely excludes a fish and chip but included other retail sites.

4.6 Expected VEEC incentive level

19. Definition of submeters.

The submeter should have provision to store the data but the data should also be able to be stored elsewhere, noting that some EMIS only have sensors and loggers and so can't store the data locally. For example, a lot of industrial meters don't store the data.

20. Do you have any information relating to the expected cost of EMIS products that may help inform the final design of the activity?

a. Yes

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b. No, please provide an alternative approach.

- Given that system size variation will require significant difference in appropriate EMIS, it is hard to give explicit insight into EMIS product costs.
- The final design of the activity needs to consider EMIS vendor insights including the need for an engaged building manager that considers return on investment (ROI) opportunities and acts as an EMIS is just another cost on the energy management dashboard.

For more information regarding this submission, please email ESIA Executive Director, comns@esia.asn.au