The Department of Economic Development, Jobs, Transport and Resources is seeking your input on a proposed new method for determining energy savings for large businesses called the Measurement and Verification (M&V) method.

The VEET scheme

The VEET scheme is a market-based scheme designed to make energy efficiency improvements more affordable, contribute to the reduction of greenhouse gases, and encourage investment, employment and innovation in industries that supply energy efficiency goods and services.

Under the scheme, accredited businesses can create certificates for undertaking activities prescribed in the VEET Regulations. Each certificate is equivalent to one tonne of greenhouse gas reduced or avoided.

The Victorian Government is strengthening the VEET scheme. As part of this, there is a need to create greater opportunities for businesses and other consumers to benefit from the scheme.

Project Based Activities

Until now, the available methods used for determining the energy savings for activities have been ‘deemed methods’. This means that the determination of the energy savings of any given activity has been based on reasonable averages for such things as the normal efficiency of a certain product and the operating hours for which it is used.

However, some situations need a more detailed and customised approach to determining energy savings. For this reason three new measurement methods are being proposed, known as Project Based Activities (PBAs).

These are activities where the number of certificates that can be claimed is specific to a given project. They will often involve the direct measurement of energy consumption and are designed to credit a wide range of technologies. The department is seeking your feedback about each of these proposed new methods. This document explains one of these methods, known as Measurement and Verification, or the M&V method.

Reading this document

This document is intended to be read in conjunction with the proposed amendments to the VEET Regulations to do with the M&V method. These will be added as new Schedule 37. Please refer to the proposed amendments to the Regulations before providing any feedback. These can be found online at [www.energyandresources.vic.gov.au/esi](http://www.energyandresources.vic.gov.au/esi)

The M&V method

The M&V method is a flexible method for incentivising large upgrades in businesses. It lets businesses claim incentives by calculating the energy saved from a specific upgrade using industry-standard measurement and verification techniques.

M&V is the process of using measurement to reliably quantify the savings at a premises from an energy efficiency upgrade. Because accuracy and uncertainty are also quantified, the M&V method rewards accuracy and likewise awards fewer certificates when accuracy is traded off against cost or simplicity. This feature balances scheme risk with method flexibility.

The M&V method allows businesses to create certificates for energy savings before they take place (known as ***forward-creation***) for up to ten years of certificates up front and/or claim them annually.

How the M&V method works

The method requires participants to create a ***baseline energy model***, which characterises their energy use prior to the upgrade, and compare this with their energy consumption after the upgrade in order to calculate net savings. If certificates are to be forward-created, participants must also make an ***operating energy model*** that predicts their typical energy consumption after the upgrade.

*Please note: the need to measure baseline performance means that projects require input from an M&V practitioner before making the upgrade.*

Alignment with other schemes

The M&V method is similar to the Project Impact Assessment with Measurement and Verification (PIAM&V) method from the New South Wales Energy Savings Scheme (ESS), and the Industrial Energy and Fuel Efficiency method from the Commonwealth Emissions Reduction Fund (ERF).

Some differences from these other schemes have been included in order to fit the existing legislative framework of VEET and to suit Victorian conditions and priorities. Key differences compared with PIAM&V include the fact that:

* baseline measurements may be taken after the project is implemented, provided the upgrade can be disabled satisfactorily
* behind-the-meter energy savings from renewables and cogeneration may be credited
* multi-site sampling and simulated baseline models are omitted and will be considered for inclusion at a later date
* interactive energy savings are limited to 10% of the main savings
* negative savings must be reported in order to continue annual creation of certificates.

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| **Question:**The proposed approach is different to the PIAM&V method in the NSW ESS. Is this preferable? |

Eligibility for participation using M&V

Types of projects

It is envisaged that the M&V method will be most suitable for upgrades at sites with high energy consumption, such as large industry. The method is largely technology neutral.
The main requirement is that participants are able to complete the calculation process to a sufficient degree of quality. It recognises greenhouse gas savings from electricity upgrades, gas upgrades and combined upgrades.

Ineligible projects

There are some types of projects that are ineligible. These include:

* upgrades required by legislation
(e.g. where a project triggers Section J of the National Construction Code)
* projects that have already been implemented at the time that the project plan is submitted
* new installations (e.g. greenfield projects) where a baseline cannot be measured
* projects that claim Renewable Energy Certificates (except for solar water heating[[1]](#footnote-1))
* projects located across more than one premises.

Product requirements

If a new product being installed is of a type and size applicable to another VEET activity, it must be listed on the product register maintained by the Essential Services Commission (ESC). For example, if an upgrade of office area lighting is carried out as part of an M&V project, the lights used must be registered for use in Schedule 34 of the VEET Regulations.

Likewise, if a product is removed and that type and size of product is normally required to be decommissioned under another VEET activity, the same decommissioning requirements would apply. It is not necessary to demonstrate decommissioning of other products removed.

These requirements ensure consistency and fairness with other VEET activities.

How to follow the M&V method

Project plan

Participating businesses are required to submit a ***project plan*** to the ESC before implementing (installing) the project.
The project plan must include:

* the address of the premises where the project will be undertaken
* the purpose of the project
* the service or services affected by the project
* a risk management plan for the specific project.

The ESC may not approve a plan if they are not satisfied that the project is reasonably likely to reduce greenhouse gas emissions. This ensures that disingenuous projects do not gain approval.

Project variation

A project plan may be altered before certificate creation, provided that the address, purpose and affected services do not change.

Baseline period

In order to create the baseline energy model, measurements are taken during a period called the ***baseline period*** in order to represent energy use before the upgrade. The baseline energy model is used later in the process to predict how much energy would have been consumed if the upgrade had never been carried out.

The model could cover energy consumption over the whole site or within a defined ***measurement boundary*** covering a part of the site. The model could be a regression model that relates energy consumption to an independent variable such as hourly outside temperature or daily production volume. Alternatively, it could be an average model for situations where there is minimal variation in energy use over time, such as a fixed speed fan.

There is a requirement to collect sufficient measured data to create a satisfactory model. A longer baseline period would generally result in more data and a more accurate model, valid over a wider range of conditions.

The baseline period occurs before the project is implemented. However, if the project can be disabled, it may be possible to collect baseline data after implementation. This will allow some projects to upgrade metering as part of the same works and then collect baseline data while the project is disabled.

Implementation

Implementation is defined as taking place when the project itself is carried out. A project could include:

* installing or removing an energy consuming product
* changing the way an existing energy consuming product is used
* installing or removing a product that affects the energy consumption of another product.

Operating and reporting periods

After implementation, data is collected to measure the resulting energy savings.

If you intend to forward-create certificates you need to create an operating energy model which characterises the energy consumption after the upgrade. Data is collected during the ***operating period*** for this purpose. As with the baseline energy model, you must collect sufficient data with which to create a satisfactory model, and the quality of the model can be improved by investing more into this process.

If you only wish to claim certificates annually based on actual energy consumption in a year following implementation, you don’t need to create an operating energy model; simply measure the energy consumption during the ***reporting period*** for comparison with the baseline. The reporting period is 12 months long and commences after the implementation date or after a previous reporting period.

You may use both forward and annual certificate creation on a single project. This option allows incentives to be accessed up front, and for further incentives to be claimed later if the upgrade performs better than predicted.

Calculating savings

Forward creation of certificates

The number of certificates forward-created is the difference between the baseline energy consumption and the operating energy consumption for a ***normal year***. A normal year is defined as a typical year of operation from which to make the calculations; for example, an average year of production, or a typical year of weather.

The savings are then adjusted according to:

* the ***accuracy factor***, which rewards more accurate models
* the ***decay factor***, which represents how quickly the new product performance degrades over time.

Savings are calculated for up to ten years, based on the lifetime of the project. The lifetime of the project is determined either by the default decay factor or another approved persistence model.

Annual creation of certificates

Annual savings are calculated by deducting the actual energy use measured over the year from the baseline energy use for that year.

The savings are then adjusted according to:

* ***counted savings*** previously claimed through forward creation
* the accuracy factor
* ***previous*** ***negative energy savings***, if energy use increased in the previous year.

Interactive energy savings

Some energy efficiency projects have flow-on benefits; for example, upgrading equipment inside an air-conditioned room could save both equipment energy and air conditioning energy because of a reduced heat load. This is referred to as ***interactive energy savings***.
In some cases, it may not be economical to measure these.

The M&V method allows the justification of interactive energy savings using engineering calculations. The interactive energy savings able to be claimed would be limited to up to 10% of the main energy savings.

Accounting for all savings

It is possible to subtract certificates previously claimed. This might be done for:

* activities using other VEET methods that have occurred within the measurement boundary since the baseline period
* projects that forward create certificates more than once
* projects that annually create after forward creating certificates.

This option provides flexibility and improved cash flow for projects wishing to combine activities that use different VEET methods. It also makes it possible to claim M&V method certificates more than once.

If an M&V project underperforms and increases its energy use in a given year, this must be accounted for in the next annual certificate creation.

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| **Question:**Do you have any comments on this proposal? |

Other issues

Third party assessors

It is proposed that M&V projects be assessed by third party technical specialists and that their recommendations inform decisions of the ESC.

Public register and double-counting

The draft method places the onus on Accredited Persons (APs) to be aware of and account for multiple VEET activities taking place at the same site, possibly by different APs. For example, a business could undertake an M&V project at the same time as replacing refrigerated display cabinets under Schedule 32, provided that the certificates created under Schedule 32 are subtracted from the M&V calculation.

To assist this process, it is possible that the ESC might maintain a public register of M&V projects, to be listed from the project plan stage. However, there are concerns that this could compromise commercial confidentiality.

The department is interested in your view of whether a public register should be maintained and, if so, what information (e.g. project type, site address, name of AP, or other information) should be placed on such a register.

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| **Question:**Are there any other issues that we have not considered? |

Consultation day

There will be a public consultation day for interested parties in June 2016.

Please see the Department’s website for further information including, time, date and location:
[www.energyandresources.vic.gov.au/esi](http://www.energyandresources.vic.gov.au/esi)

How to provide your comments

Responses should clearly state the issue and, where relevant, make reference to specific sections of the draft Regulations.

Submitting by email

Submissions may be emailed to energysaver.incentive@ecodev.vic.gov.au.

Please use the subject:
*VEET: Measurement and Verification*

Submitting by post

Responses may also be provided in writing to:

*VEET: Measurement and Verification*Energy Policy and Programs
Department of Economic Development, Jobs, Transport and Resources
GPO Box 4509
Melbourne VIC 3001

Closing date for submissions

Please refer to the departmental website for the closing date:
[www.energyandresources.vic.gov.au/esi](http://www.energyandresources.vic.gov.au/esi)

Confidentiality

Submissions may be published on the website. Please indicate if the submission, or sections within the submission, is confidential or contains sensitive information that is not for publication.

Authorisation

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1. For consistency with other VEET methods. [↑](#footnote-ref-1)