

# Victorian Energy Upgrades forum

Jeff Cefai, Director  
Essential Services Commission

26 November 2018



# Victorian Energy Upgrades forum – 26 November 2018

Victorian Energy Upgrades forum agenda	
9:30	MC introductions (Jeff Cefai, Director) (5 mins)
9:35	Welcome and opening comment (John Hamill, CEO) (5 mins)
9:40	VEU program update (Jeff Cefai, Director ) (15 mins)
9:55	EPA – e-waste ban (James Johnson) (15 mins)
10:10	Q&A session (5 mins)
10:15	Morning tea (15 mins)
10:30	VEET Regulations amendments – general/overview (20 mins)
10:50	VEET Regulations amendments – transitional arrangements (15 mins)
11:05	VEET Regulations amendments – lighting activities (30 mins)
11:35	VEET Regulations amendments – water and space heating activities (15 mins)
11:50	VEET Regulations amendments – gas efficiency activities (10 mins)
12:00	Panel Q&A session (20 mins)
12:20	Lunch (40 mins)
13:00	PBA Regulations amendments – benchmark rating introduction (45 mins + 15 mins Q&A)
14:00	CLOSE

# Sli.do

How to:

1. Either open the web browser and go to [www.sli.do](http://www.sli.do) or download the sli.do app.
2. Enter the event code **#VEU** to join the event '**Victorian Energy Upgrades forum**'.
3. Select a session.
4. You will now be able to type in and submit your questions. To prioritise your own or other people's questions, click the 'like' button that appears next to each question. Questions are sorted by their popularity, so the most popular ones appear on top.
5. You can also give us feedback about this forum under the '**POLLS**' tab



# Victorian Energy Upgrades forum

John Hamill, CEO

Essential Services Commission



# VEU program updates

Jeff Cefai, Director

Essential Services Commission

# Tenth year of the VEU program

In nearly 10 years of operation, the program has:

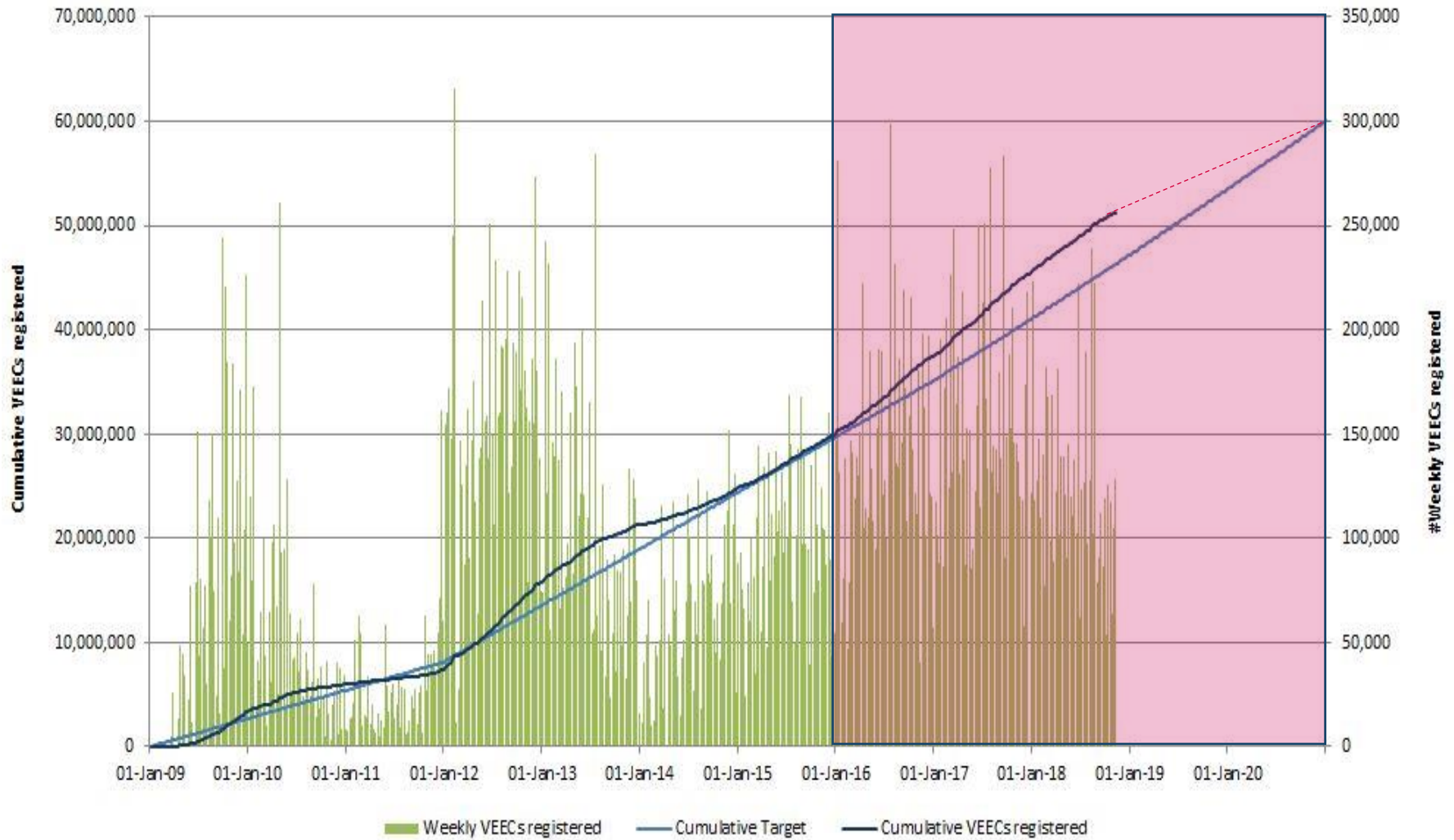
- generated VEECs to meet annual targets for each of the 10 years (over 51million registered)
- supported the installation of over 30 million energy efficient products

In 2018, savings from activities undertaken over the past 10 years are estimated to save Victorian households and businesses more than \$500million.

# Program performance since 2009



# Registered VEECs





# 2016 – 2020 Performance

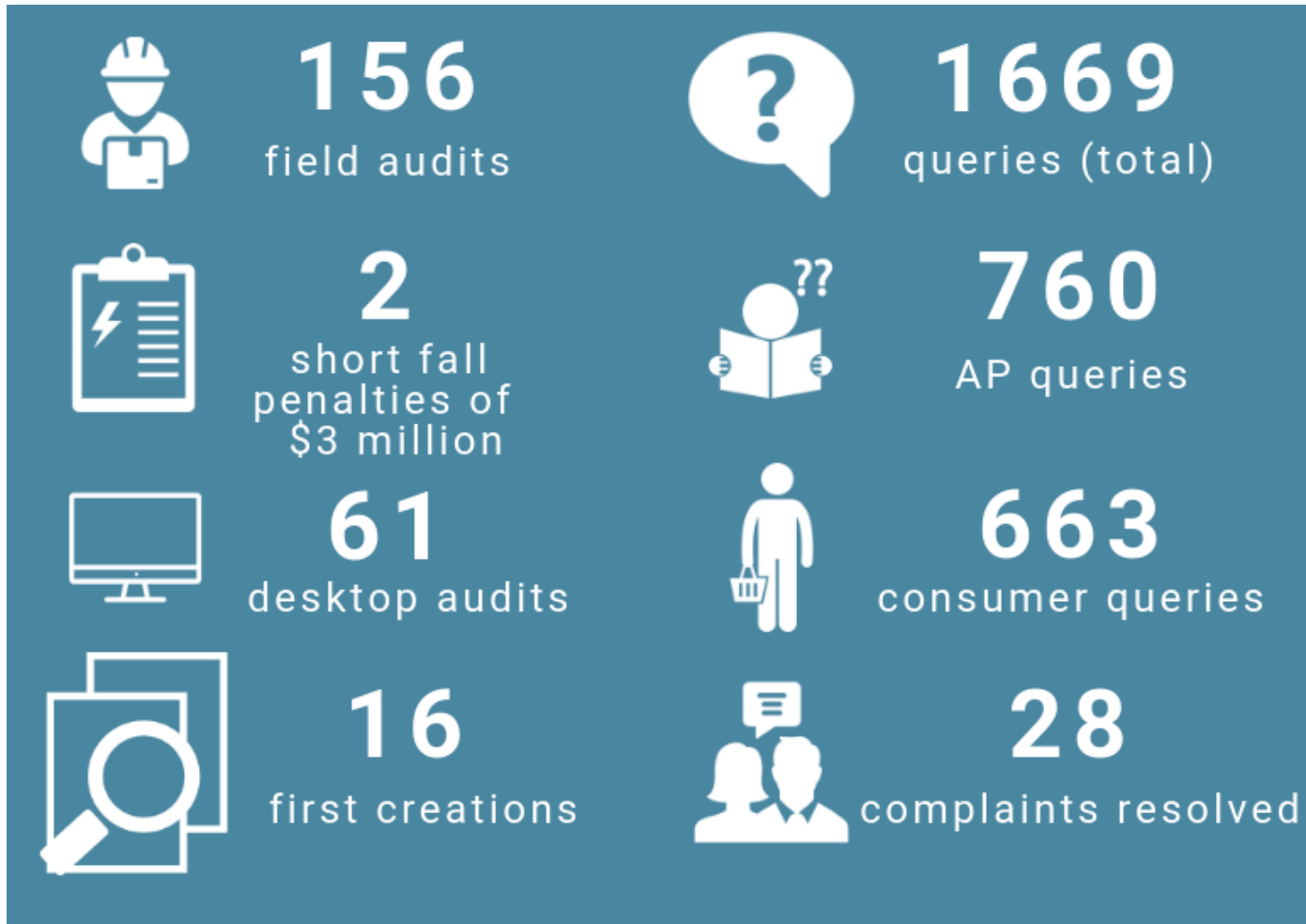
In this quinquennium to date, we have:

- created over 23 million certificates and registered over 21 million certificates
- seen a transition of the scheme from a residential based scheme to a commercial based scheme in terms of certificates
- seen the introduction of project-based activities
- allowed former exempt businesses to opt-in (27 so far)
- Retailers surrendered 5.3 million and 5.9 million certificates for 2016 and 2017 and will surrender in excess of 6 million certificates for the 2018 compliance year

# VEU program update (June – November 2018)

- **More than 62,835 installations undertaken**
  - Residential: 56,466
  - Non-residential: 6,369
  - Regional: 15,716
  - Metro: 47,043
- **VEEC creation**
  - 2.7 million VEECs created (June – November 2018)
  - 2.8 million VEECs registered (June – November 2018)

# Audits and stakeholder contacts (June – November 2018)



# Compliance matters

- Schedule 34 baseline calculation issue
- Preparations for the introduction of activity 21A
- Scheduled activity premises review
- Relevant entity compliance

# Key VEU program administrative changes and updates in 2018

- Release of updated VEET guidelines
- Implementation of discount factor (2 stages)
- Released policy on claiming emerging products under Activity 34
- Released position on claiming for replacement of inoperable products
- Changes to our MST requirements
- Published Register of BCA Determinations
- Released the 2017 performance report
- Additional evidence requirements for Schedule 34 building based lighting upgrades
- Commenced scoping an upgrade of our IT system

# TSG - Project-based activity

- **High levels of stakeholder interest**
- **Average processing times (with the ESC)**
  - Scoping plans: 0.6 days
  - Project plans: 1.2 days
  - Impact report: 7.4 days
- **Good variety of project types**
- **Workshops with all PBA APs and AM&VPs**
- **Further engagement with stakeholders**
- **New methods – benchmark rating**

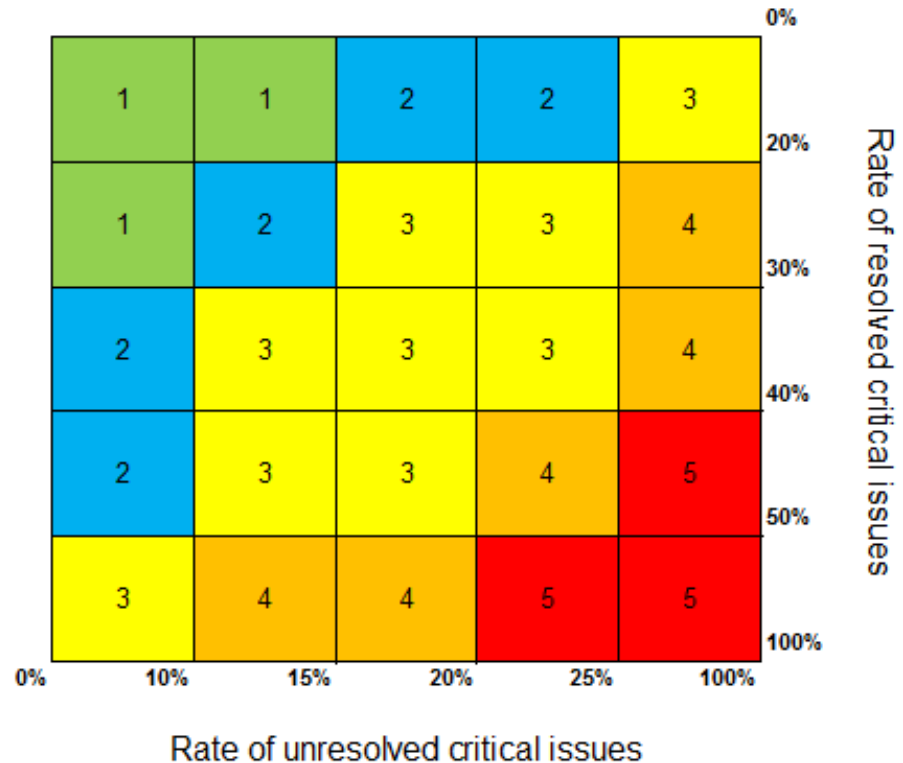
# TSG - Product approvals

- **Approved products since June - November 2018**
  - Total submitted products: 1,529
  - Total approved products: 675 (122 per month)
- **Approved products since 2017/2018 financial year**
  - Total submitted products: 1,745
  - Total approved products: 1,635 (138 per month)
- **Moratorium on product applications**
- **Activity 21A application – status**
- **Open flue gas heaters suspended from register**
- **A number LCP determinations made**

# Registry - Flexible target days trial

- Flexible target days introduced in June
- Applied to building based lighting upgrade activities
- We will be seeking your feedback on the trail

FTD performance rating matrix



Performance rating	1	2	3	4	5
Target days	7 days	14 days	21 days	28 days	42 days



# VEU Registry

**Limited availability 24 December to 2 January**



# Victorian Energy Upgrades




The Department of Environment, Land, Water and Planning develops policy for the Victorian Energy Upgrades program.

We administer the program under the Victorian Energy Efficiency Target Act 2007.

For more information, visit [www.veu-registry.vic.gov.au](http://www.veu-registry.vic.gov.au).



# Contact us

 <b>ESSENTIAL SERVICES COMMISSION</b>	<a href="http://www.esc.vic.gov.au">www.esc.vic.gov.au</a> <a href="http://www.veu-registry.vic.gov.au">www.veu-registry.vic.gov.au</a>
	/company/essential-services-commission
	@EssentialVic

# Managing e-waste in Victoria

26 November 2018

James Johnson



EPA  
VICTORIA

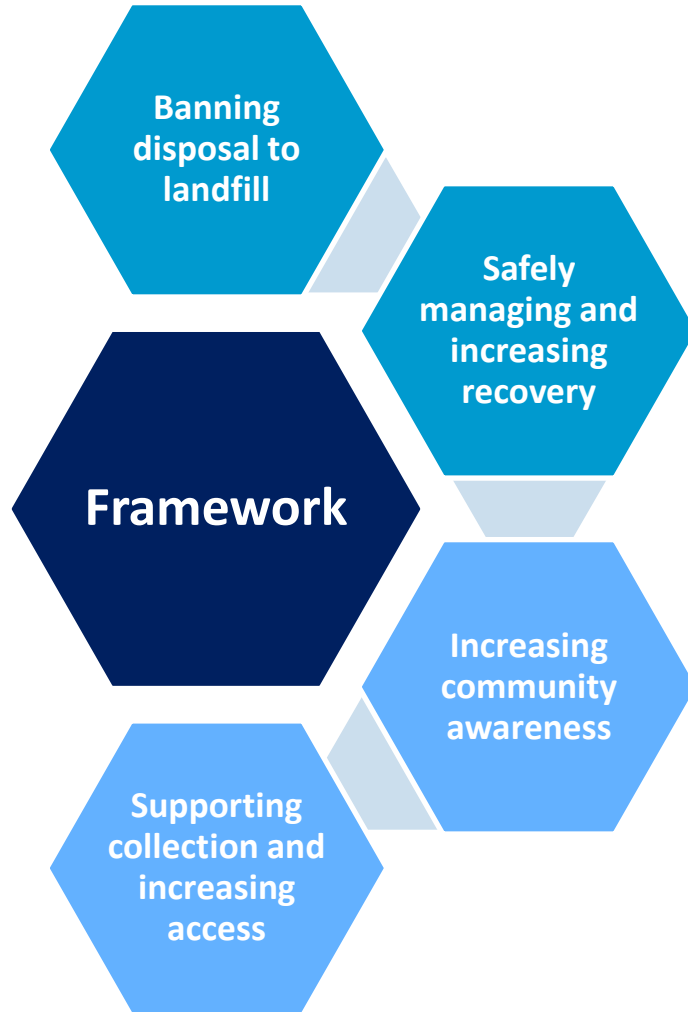
Environment  
Protection  
Authority Victoria



VICTORIA

State  
Government

# Managing e-waste in Victoria - Framework



# Waste Management Policy (E-waste)

General requirement to take all reasonable steps to...

...minimise risk of harm

...prevent **breakage** or spoilage

...maximise **e-waste recovery**

Understand e-waste risks.  
Manage risks from e-waste.

Handle and store carefully to minimise risk and enable recovery.

Ensure your service recovers materials; separate as required.

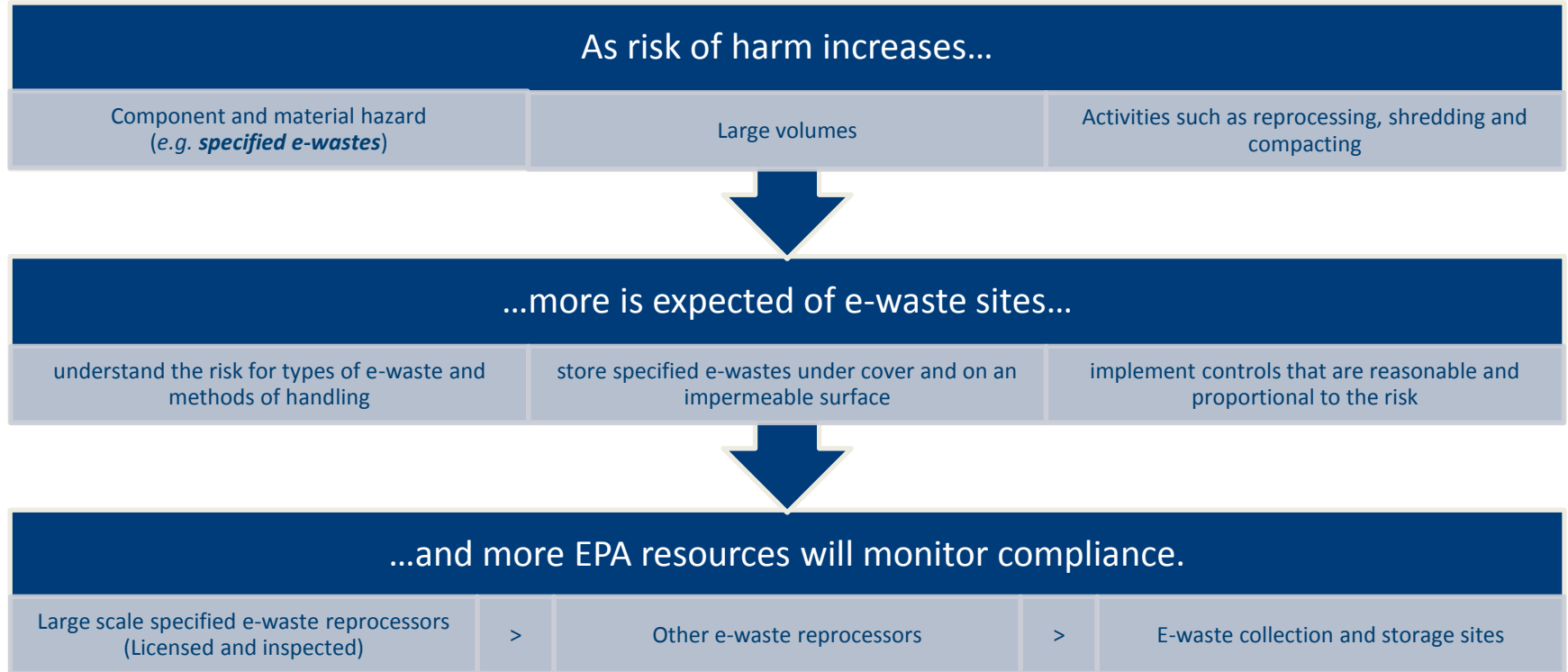
E-waste service providers requirements

Minimise duration of storage

Keep records for bulk movements of **specified e-wastes**

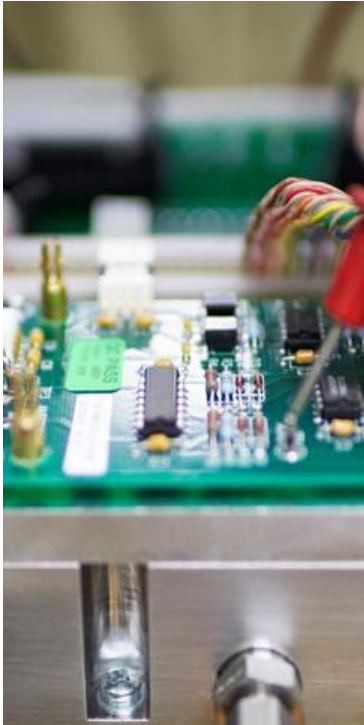
Material recovery standard for reprocessors

# Reasonable steps to prevent harm?



# Specified e-wastes

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Specified e-waste means:

- cathode ray tube monitors and televisions
- flat panel monitors and televisions
- information technology and telecommunications equipment
- **lighting**
- rechargeable batteries
- photovoltaic panels



# Management of specified e-waste

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- Impermeable surface
- Weatherproof cover
- Controls to prevent hazardous material entering stormwater (for large
- Limit breakage (training / equipment)
- Limit duration of storage

# Taking e-waste to a better place

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- As per disposal requirements for activities involving decommissioning of lighting equipment requirements provided by Essential Services Commission.

# 2018 VEET Regulations – 10 Dec 2018

Maureen Goey – Manager, P&D

Overview and ‘Other’ Activities

26 November 2018



Victorian  
Energy  
Upgrades



# Overview

- **What** is the scope of changes?
- **When** will changes be introduced?
- **What changes** (overview)?
  - Accreditation
  - Documents
  - Website and Registry system
- **Activity changes**
  - Space conditioning
  - Water efficiency
  - Appliances
  - Other

# Scope of changes

New regulations consist of two documents - 2018 VEET Regulations and 2018 VEU specifications

Authorised Version No. 024  
**Victorian Energy Efficiency Target Regulations 2008**  
 S.R. No. 158/2008  
 Authorised Version incorporating amendments as at 1 August 2017

**TABLE OF PROVISIONS**

Regulation	Page
<b>Part 1—Preliminary</b>	<b>1</b>
1 Objectives	1
2 Authorising provisions	1
3 Commencement	1
4 Definitions	2
5 Standards	11
<b>Part 2—Prescribed activities</b>	<b>12</b>
6 Prescribed activities	12
6AA Weather sealing activities	19
6A Manner in which right to create a certificate may be assigned in certain cases	21
6B Record keeping in relation to assignments of rights made by oral notice	22
6C Method and variables for calculating emissions reduced by prescribed activity	22
7 Time at which prescribed activity is undertaken and reduction in greenhouse gas emissions occurs	23
8 Certificate not to be created more than once for same product or activity in residential premises	23
8A Certificate not to be created more than once for same product installed in business or non-residential premises	25
9 Register to be kept by the ESC	25
10 Conditions and circumstances under which a certificate cannot be created	26
10AA Notification of intention to undertake prescribed activity at scheduled activity premises	29
10A Discount factor	29

Authorised by the Chief Parliamentary Counsel  
 i

Old

STATUTORY RULES  
 SR No.  
 Victorian Energy Efficiency Target Act 2008

**Victorian Energy Efficiency Target Regulations 2018**

The Governor in Council makes the following Regulations:  
 Dated:

Responsible Minister:  
 LILY D'AMBROSIO  
 Minister for Energy, Environment  
 and Climate Change

Clerk of the Executive Council

**PART 1—PRELIMINARY**

**1 Objectives**  
 The objectives of these Regulations are to provide for—  
 (a) activities that result in a reduction of greenhouse gas emissions that would not otherwise have occurred if the activities were not undertaken; and  
 (b) the shortfall penalty rate; and  
 (c) the method and variables to calculate the carbon dioxide equivalent of greenhouse gases to be reduced by a prescribed activity; and  
 (d) any other matter or thing authorised or required to be prescribed or necessary to be prescribed for carrying the Act into effect.

**2 Authorising provision**  
 These Regulations are made under section 75 of the Victorian Energy Efficiency Target Act 2007.

**Victorian Energy Upgrades Specifications 2018**

Draft

VICTORIA  
 State Government

New

New

# What's in...what's out

Out ☒☒☒	In ☑☑☑
Schedules	Parts
2B – Solar retrofit kit	37 to 42 - Gas efficiency methods
4B - Water heating - solar pre-heater	Fan motors in air handling systems under Activity 33
19 - Destruction of pre-1996 refrigerator (from 10 Dec 2020)	
29 - Standby power controller	
35 - Low flow trigger nozzle	
Open flue heaters under activity 9	
Chimney balloon under activity 15	
Gas clothes dryer under activity 25	

# Key changes









- Revised GHG equations for all 40+ activities (aside from activity 21B to 21F – lighting)
- Fresh start for all activities (except for activity 17 for first 6 months)
- Regulations only require products to be listed on Register of Products at time of creation (not installation)
  - Exception for GEMS, AEMO and gas efficiency products
  - AP carries ‘risk’ if installing unlisted products
- Separation of activity 34 into 3 distinct activities (27, 34 and 35)
- Major change to activity 21A to allow CFL replacement

# Key changes

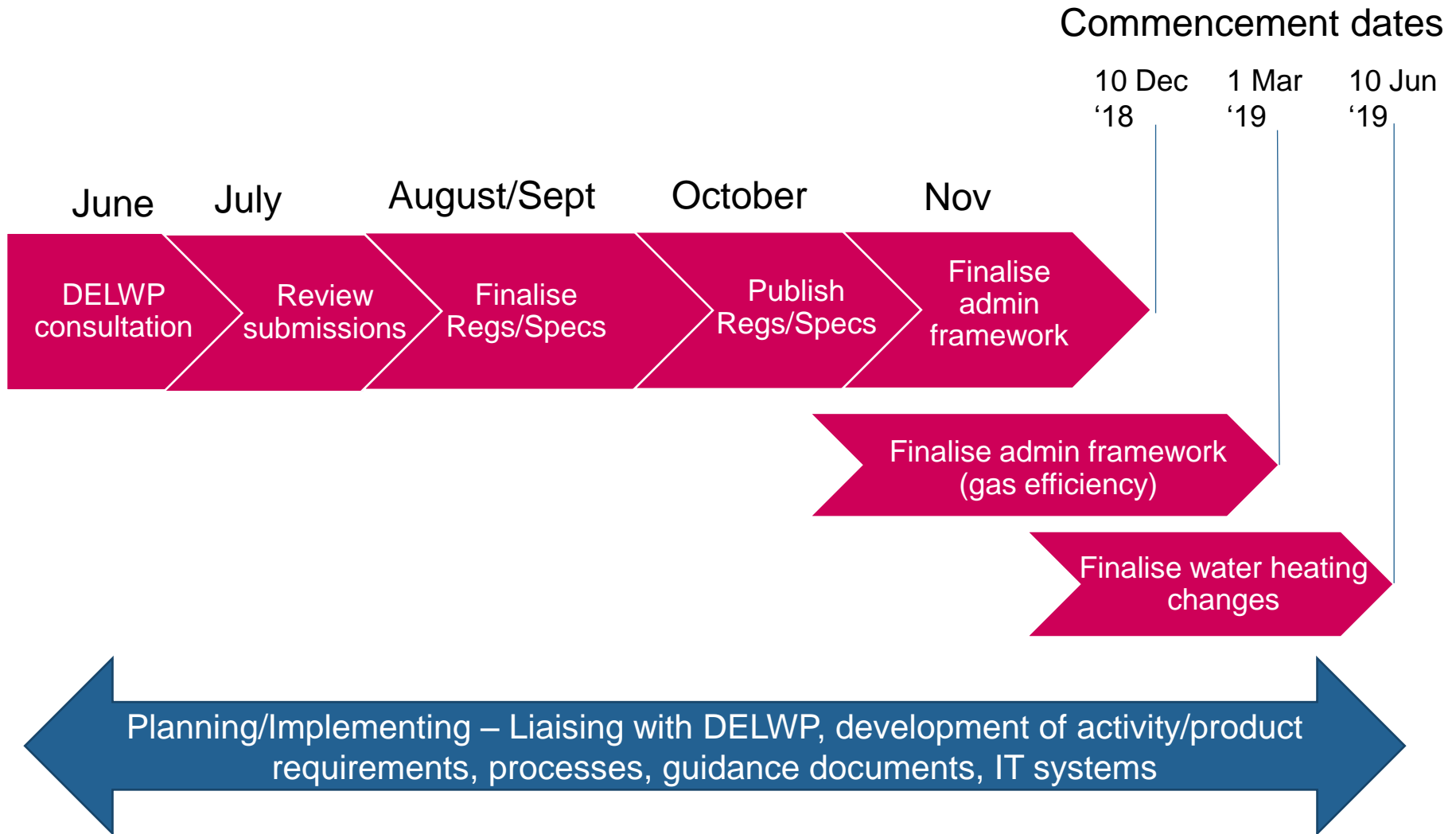
- Changes to product requirements
- Changes to installation requirements
- Updates to standards
- New terminology/updated definitions
- Transitional arrangements



# Current vs proposed VEECs – overview

Activity no.	Activity	Changes in VEECs
1 to 4, 21A	Water heating and activity 21A	
5 to 10, 23 and 28	Space heating and cooling	 
12, 13, 14, 15, 24, 30, 31, 32, 33	Insulation, windows, weather sealing, tv, in home displays, motors, refrigerated display cabinets, fan motor upgrades,	
17, 22, 25, 26	Low flow shower roses, refrigerators and freezers, clothes dryers, pool pumps	
21	Lighting (activities 21B to F)	No change
34	Building based lighting upgrade	 
27 and 35	Non-building based lighting upgrade and public lighting	

# Key timelines



# Transitioning from 2008 to 2018 Principal Regulations

All stakeholders should:

- understand changes to product requirements, activity requirements, compliance requirements, VEEC values etc.
- understand how changes may impact your business and plan accordingly
- understand risks to your business
- be aware of transitional arrangements

# Accreditation/Approval

2008 activity accreditation = 2018 activity accreditation for most activities. Exception per table below and 21A.

Current accreditation	New accreditation (from 10 December)	Eligible activities (from 10 December)
Evaporative air conditioner or space heating	Space heating and space cooling	All space heating and cooling activities (5, 7, 9, 10, 23 and 28)
Non-building based lighting upgrade	Non-building based lighting upgrade	35(18) – Non-building based lighting upgrade
	Public lighting upgrade	27(18) – Public lighting upgrade

# Key guidance document changes – for APs

Obligations and  
Program Guide for  
APs

Change to VEU  
program name

## Activity guides

Water  
heating/Space  
heating and  
cooling

Space  
conditioning,  
shower rose  
and 21 lighting

Appliances

Building  
based  
lighting

Non-  
building  
based  
lighting

Public  
lighting

1. Activity requirements
2. Product criteria
3. Training/licensing requirements
4. Eligible environments and Installation limits
5. Evidence requirements

1. Eligibility criteria
2. Calculation variables
3. Installation personnel requirements
4. Activity requirements
5. Recordkeeping and evidence requirements
6. Activity process

# Changes to VEEC creation upload forms

Majority of upload forms have been updated – you must review released upload forms in detail for field changes.

- Removed floor space (m<sup>2</sup>) from most business/non-residential forms – aside from lighting upgrade activities
- ABN/ACN fields made mandatory
- Changes to include separate fields for electrician and plumber information for relevant activities (e.g. space heating, water heating)
- Changes to be released in 2019 – inclusion of Qty field and additional brand, model fields

# Changes to VEEC assignment forms

- All forms have been updated. You must review new forms and incorporate changes for use from 10 December
- Updates include
  - to Section 1 (consumer information)
  - to include decommissioning declaration clause (where relevant)
- We will not be reviewing/approving forms. AP's responsibility to ensure form contains correct information

# Key document changes – for product applicants

Application Guide  
for Product  
Applicants

Change to VEU  
program name

## Product application guides

Water  
heating/Space  
heating and  
cooling

Space  
conditioning, and  
water efficiency

Appliances

Lighting

1. Product attribute (for lighting products)
2. Product criteria
3. Documentary evidence
4. Minimum test sample size (where relevant)
5. For lighting, specific instructions for submitting product applications



# Website changes

## Changes already implemented

- Change to [veu-registry.vic.gov.au](http://veu-registry.vic.gov.au) URL
- Change to email box: [veu@esc.vic.gov.au](mailto:veu@esc.vic.gov.au)




## Changes to be released for 10 December

- All content pages (including all our guidance documents and forms) to be published at [www.esc.vic.gov.au/veu](http://www.esc.vic.gov.au/veu)
- Only public registers and calculators to be maintained on VEU Registry ([www.veu-registry.vic.gov.au](http://www.veu-registry.vic.gov.au))
- All account transactions remain via VEU Registry







# Registry changes

- Changes to all activity names and product names
- For activity names:-
  - Activities will either have (08), (18), or no mention of year
  - (08) e.g. 21A(08) = 2008 Regulations only
  - (18) e.g. 21A(18) = 2018 Regulations only
  - (no year) e.g. 17 = both 2008 and 2018 Regulations
- All product names under 2018 Regulations have been updated to state (18) e.g. 15(18) – Weather sealing




# Space conditioning activities

Activity	Requirements/documents changes	VEEC calculations
Underfloor insulation(12) – administrative freeze pending ceiling insulation reintroduction		
Window (13) and (14)	Minimal document changes	
Weather sealing (15)	Minimal document changes <del>Chimney balloon</del>	 Higher abatement requires over 5 years
Gas ductwork (28)	Product categorised as rigid or flexible  Minimal document changes	





# Appliances activities

Activity	Requirements/documents changes	VEEC calculations
Destruction of pre-1996 refrigerator (19)	2018 activity = 2008 activity To be removed 10 June 2020 Minimal document changes	No change
Refrigerator and freezer (22)	 star rating (0.5 +)  total volume (100 to 700l) Minimal document changes	
Television (24)	Minimal document changes	
Clothes dryer (25)	 star rating (5 to 7) Removes gas dryer Minimal document changes	

# Water efficiency activities

Activity	Requirements/documents changes	VEEC calculations
Low flow shower rose (17)	<p>↓ below 9 to below 7.5 litres flow</p> <p>Minimal document changes</p>	
To 9 June 19, '2008' products eligible , abatement = 2018 VEEC values		
Pool pump (26)	<p>↑ stars (3 to 7)</p> <p>↑ maximum input power (1,500W to 2,500W)</p> <p>Minimal document changes</p>	
Water efficient pre-rinse spray valve (36)	<p>↑ stars (4 to 6)</p> <p>Replace 'cleanability' test by requiring 'tap equipment' label</p> <p>Minimal document changes</p>	

# Other activities

Activity	Requirements/documents changes	VEEC calculations
In-home display unit (30)	Minimal document changes	
Motor (31)	Minimal document changes	
Refrigerated display cabinet(32)	Minimal document changes	
Refrigeration/ventilation fan motor (33)	<p>Addition of fan installation in air handling system)</p> <p>Doc changes to reflect addition - addition of electrician and plumber fields to upload forms</p>	

# Feedback

- All key documents released in draft on website
- Short time frame to finalise documents for 10 December
- Nevertheless, please provide feedback on documents/requirements for us to consider

**By email: [veu@esc.vic.gov.au](mailto:veu@esc.vic.gov.au)**

# VEET Regulations Amendments

Transitional Arrangements

David Ferrari – Technical Supervisor

26 November 2018



Victorian  
Energy  
Upgrades





# Overview

- Guidance documents
- Changes to product categories, new performance criteria, and the process for migrating and pre-populating the product lists
  - Trivial migrations
  - Revocation of schedules
  - GEMS products
  - Migrations with application of new requirements (filters)
  - Water heaters
  - Lighting

# Guidance documents

The 'Explanatory Note – lodging a product application' document has been separated into five 'Product Application Guides':

1. Application Guide for Product Applicants
2. Lighting Product Application Guide
3. Water Heating and Space Heating/Cooling Product Application Guide
4. Space Conditioning and Water Efficiency Product Application Guide
5. Appliance Product Application Guide

# Performance criteria and migration process

In most cases, the transition is trivial, e.g.

Old product category	New product category
Schedules 1A, 1B, “1F & 3B”	1A, 1B, “1F & 3B”
Schedules 5 & 6	5A
Schedules 7 & 8	7A
Schedule 12	12A
Schedule 13	13A
Schedule 14	14A
Schedule 15A	15A
Schedule 15B	15B
...	...
Schedule 33	33A
Schedule 36	36A

# Performance criteria and migration process

## **Product Schedules to be revoked:**

- 2 Water heating – solar retrofit kit
- 4 Water heating – solar preheater
- 11 Ceiling insulation
- 29 Standby power controller
- 35 Low flow trigger nozzle

# Performance criteria and migration process

## **Pre-populating GEMS product lists**

- Product category 7 (Ducted air to air heat pump)
- Product category 10 (Room air to air heat pump)
- Product category 22 (Refrigerator and/or freezer)
- Product category 24 (Television)
- Product category 25 (Clothes dryer)
- Product category 31A (Motor\*)
- Product category 32 (Display cabinet)

# Performance criteria and migration process

## New requirements

- Product category 7 (Ducted air to air heat pump):  
if  $RTHC < 18$  kW, require  $ACOP > 3.9$
- Product category 9 (Gas or LPG space heater):  
products must have room sealed flue
- Product category 10 (Room air to air heat pump):  
if  $RTHC < 3$  kW, require  $ACOP > 4.2$
- Product category 15 (Weather sealing):  
chimney balloons will be excluded

# Performance criteria and migration process

## **New requirements**

- Product category 23 (Ducted evaporative cooler):  
Revised minimum effective energy efficiency ratio of 20 kW
- Product category 26 (High efficiency pool pumps):  
Revised minimum star rating: 7 stars

# Performance criteria and migration process

## New requirements

- Product category 17A (Shower roses):

Revised criteria:

Minimum 3 stars.

Flow rate range of E

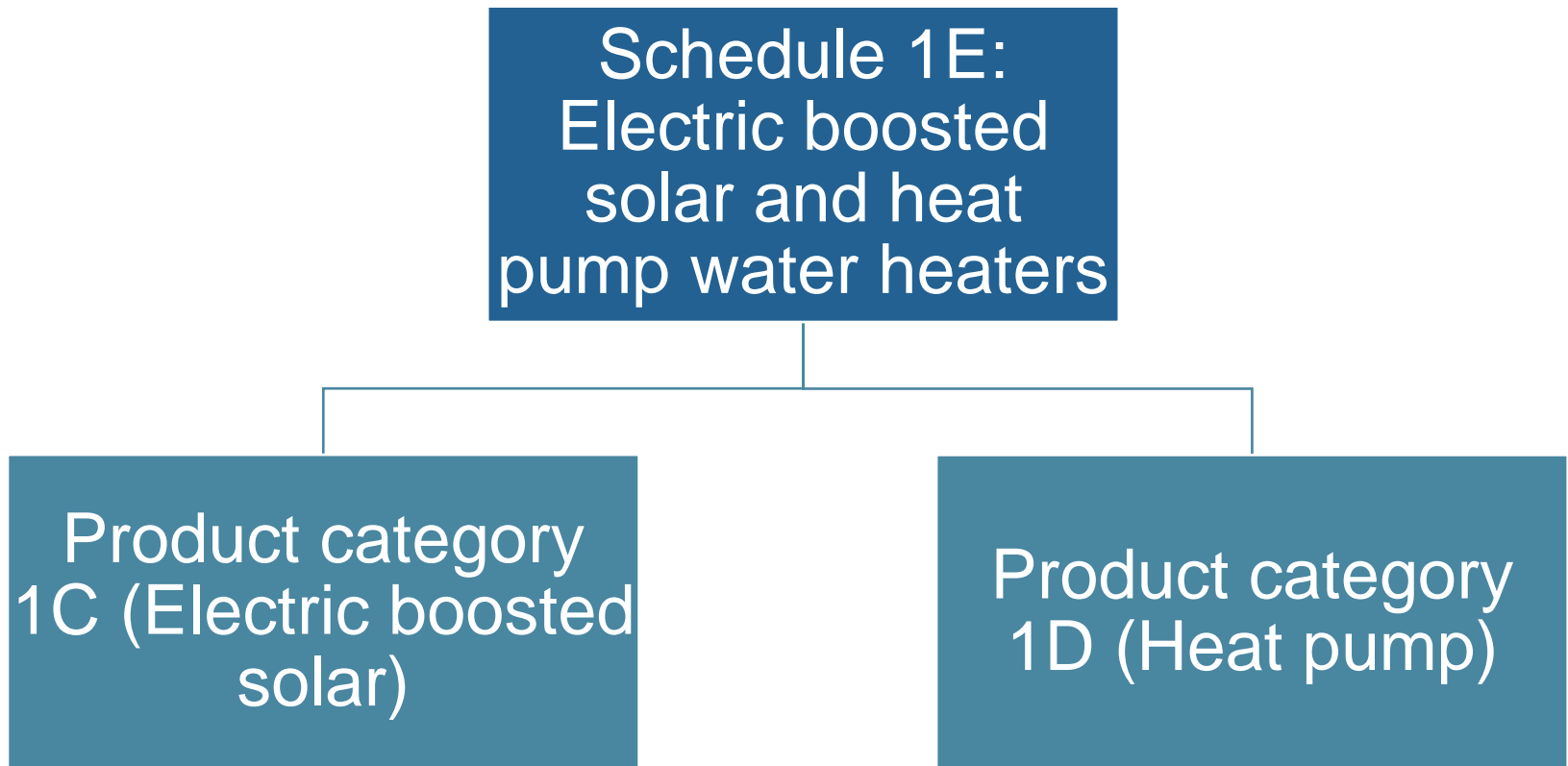
- Product categories 28A and 28B (Flexible ductwork and Rigid ductwork):

New construction and fittings requirements



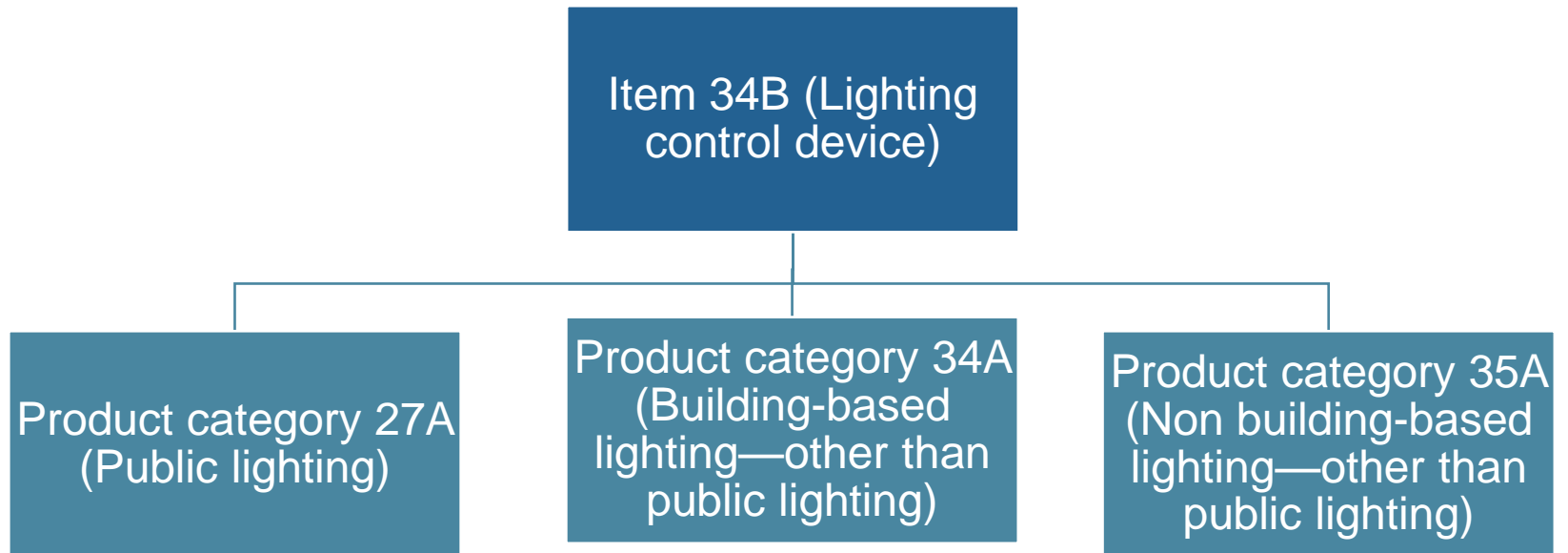
# Performance criteria and migration process

## Water Heaters



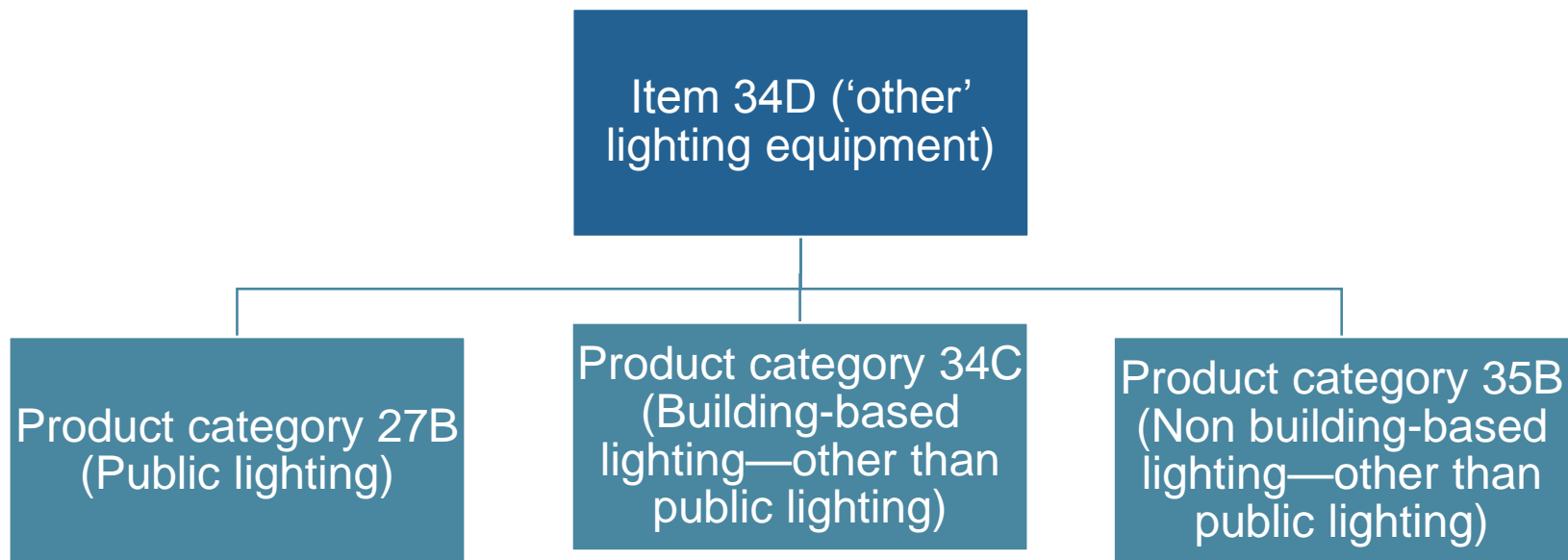
# Changes to product categories

## Lighting



# Changes to product categories

## Lighting



# Performance criteria and migration process

- Product categories 21A-F:
  - CFLs no longer eligible
  - New minimum efficacy
  - New efficacy bands

# Performance criteria and migration process

- Product category 21C and 21E (12V non-integrated lamps and lamps with integrated driver + GU10 base):  
Revised minimum beam angle: 55° for residential
- Product category 21F (Mains voltage LED integrated downlight):  
Revised minimum beam angle: 40° for residential

# Performance criteria and migration process

- Product category 21A (LED GLS Lamp):
  - Revised minimum efficacy
  - New ESC requirement for omnidirectionality
    - Proposed introduction with a transition period

# 21 Lighting

Geoff Lamb – Policy Officer

26 November 2018



## Activities 21B to F

- **No changes in VEEC values**
- **Product changes as per previous presentation**
- **Change in activity requirement around disposal of lighting equipment in licensed disposal facility – prior to VEEC creation**
- **Minor document changes**
  - **Upload forms**
  - **Assignment forms**



# Activity 21A compliance: background

- **Short lead time for regulation changes**
- **Policy considerations:**
  - **VEU product quality better than BAU**
  - **Protect program integrity**
  - **Balance compliance assurance, regulatory burden and predictable business environment**

# Activity 21A compliance: introduction

**Compliance risks for new  
activity 21A include:**

- **Product quality**
- **Installer  
training/licensing**
- **AP management/audit**



# Activity 21A compliance: product quality

## Risks:

- Falsified test reports, dissimilar products, low quality production components

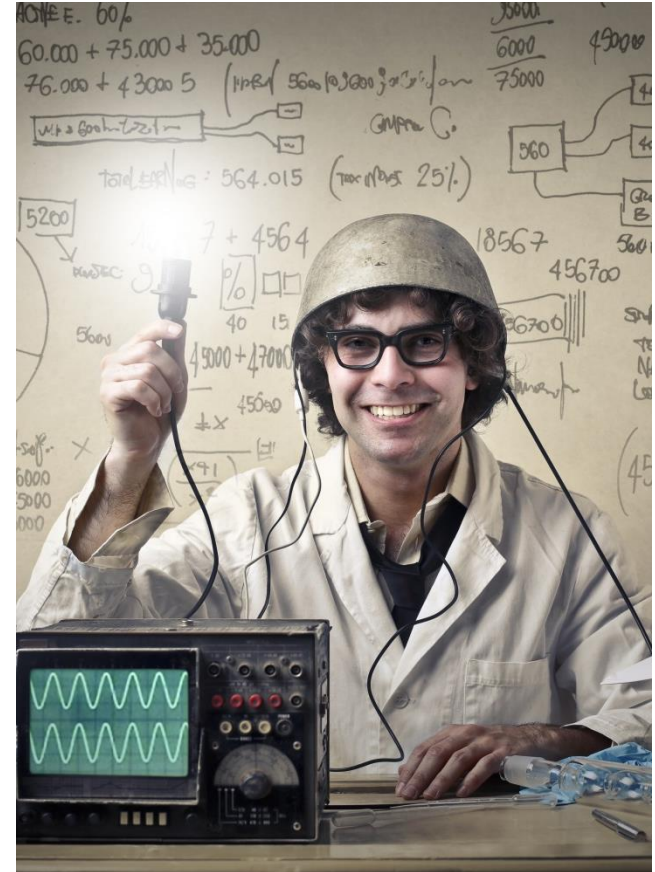
# Activity 21A compliance: product quality

## Risks:

- Falsified test reports, dissimilar products, low quality production components

## Treatments (AP requirements ***bold italic***):

- Our existing lab report checks
- ***New light distribution test report mandatory after transition period***
- ***During transition, lamps not meeting test may only be installed in 'specified' environments***
- Increase our performance check testing
- ***Strongly encourage AP check tests***
- ***Product batch details upon request***



# Activity 21A compliance: installer training/license

## Risks:

- Electrocution and mercury, recycling requirements

# Activity 21A compliance: installer training/license

Risks:

- Electrocution and mercury, recycling requirements

Treatments (AP requirements ***bold italic***):

- ***Installer training/licensing (December consultation)***
- ***Electricians only until review complete***
- ***Decommissioning and recycling requirements as for other lighting activities***



# Activity 21A compliance: AP management/audit

## Risks:

- Unapproved/lower efficiency product installed, fraudulent creations

# Activity 21A compliance: AP management/audit

## Risks:

- Unapproved/lower efficiency product installed, fraudulent creations

## Treatments (AP requirements ***bold italic***):

- Increase our phone and field audits
- ***Geo-tagged photos of installation environments***
- Augment our registry processes, including:
  - ***re-approval for 21A APs***
  - ***geo-tagged photo of installer***





# Activity 21A compliance: new AP requirements

- ***New light distribution test report mandatory after transition period***
- ***During transition, lamps not meeting test may only be installed in 'specified' environments***
- ***Strongly encourage AP check tests***
- ***Product batch details upon request***
- ***Installer training/licensing (December consultation)***
- ***Electricians only until review complete***
- ***Decommissioning and recycling requirements as for other lighting activities***
- ***Geo-tagged photos of installation environments***
- ***Re-approval for 21A APs***
- ***Geo-tagged photo of installer***

# Activity 21A compliance: AP next steps

- 1. Read information bulletin to be released later today**
- 2. Ensure your business processes and the products you intend to install comply with requirements**
- 3. Only after completing 1 and 2, apply for 21A re-approval (to [veu@esc.vic.gov.au](mailto:veu@esc.vic.gov.au))**



# Activity 21A compliance

**A closing thought...**

**...but first two anecdotes...**

# Activity 21A compliance

## Anecdote 1:

**My favourite TV show in my tweens was Get Smart. Agent 86, having finally caught the bad guys, would always say...**



# Activity 21A compliance

## Anecdote 1:

My favourite TV show in my tweens was Get Smart. Agent 86, having finally caught the bad guys, would always say...

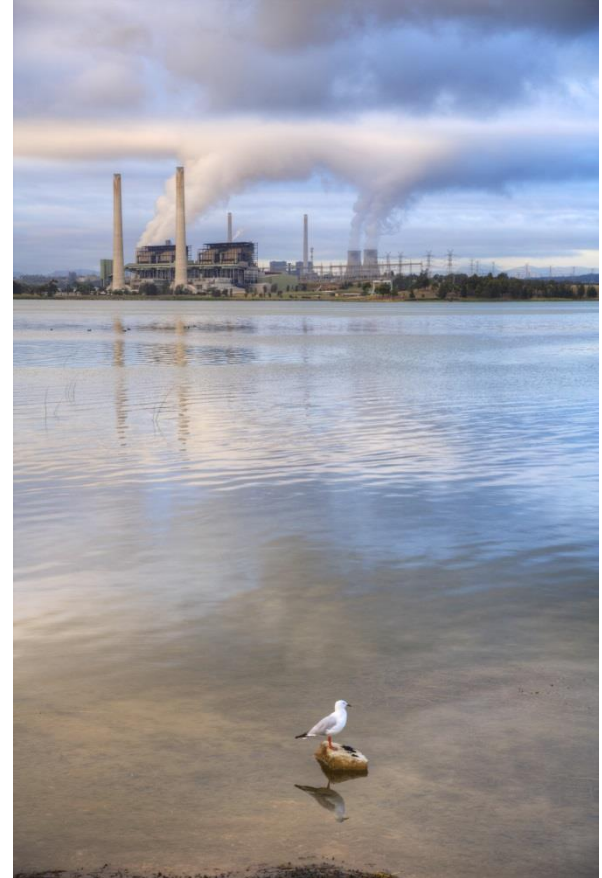
**'If only he'd used his genius for goodness and niceness, instead of evil!'**



# Activity 21A compliance

## **Anecdote 2:**

**Liddell power station – I was  
a graduate engineer working  
on boiler refurbishment...**

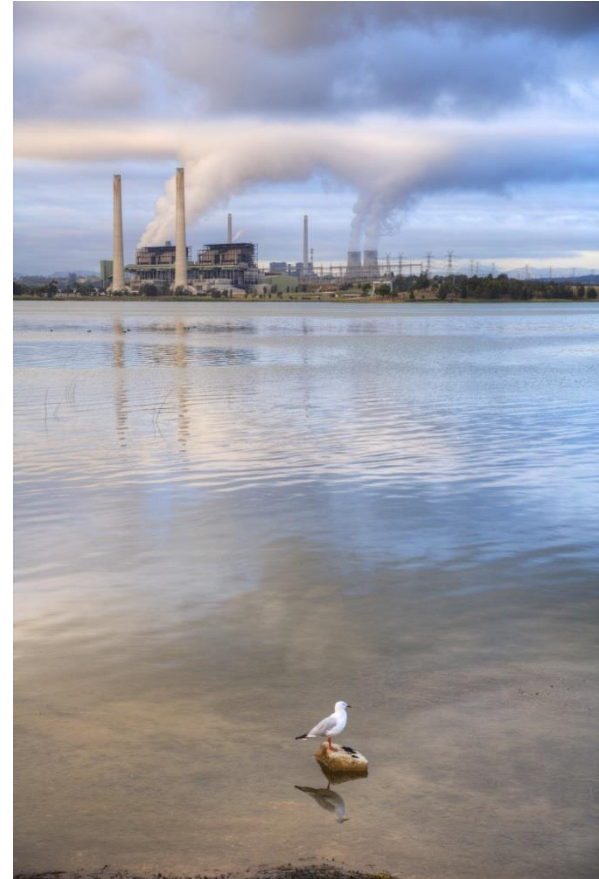


# Activity 21A compliance

## Anecdote 2:

Liddell power station – I was a graduate engineer working on boiler refurbishment...

**...my site manager had a staff of supervisors and QA professionals. Regardless, he would disappear into the boiler between morning tea and lunch every day; checking, inspecting, talking to boilermakers, finding out for himself...**



# Activity 21A compliance

## Conclusion:

- **People who commit fraud are wily**
- **You will need your best people to find them, including yourself**
- **Copy our compliance regime, find them before we do, and protect your business!**





# Non-residential lighting upgrade activities

Michelle Barrile – Project Lead

Activity 27, 34 and 35

26 November 2018



Victorian  
Energy  
Upgrades



# What we will cover

## Changes to activities:

- Public lighting upgrade: Activity 27
- Building based lighting upgrade: Activity 34
- Non-building based lighting upgrade: Activity 35

## Proposed:

- Accreditation requirements
- Guidance documents and forms
- Activity and evidence requirements
- ESC determinations
- Recycling requirements

# Activity structure changes

**2008 VEET Regulations:**  
Lighting upgrade  
(Schedule 34)

**2018 VEET Regulations:**  
Public lighting upgrade  
(Activity 27)

Building based lighting  
upgrade (Activity 34)

Non-building based  
lighting upgrade  
(Activity 35)

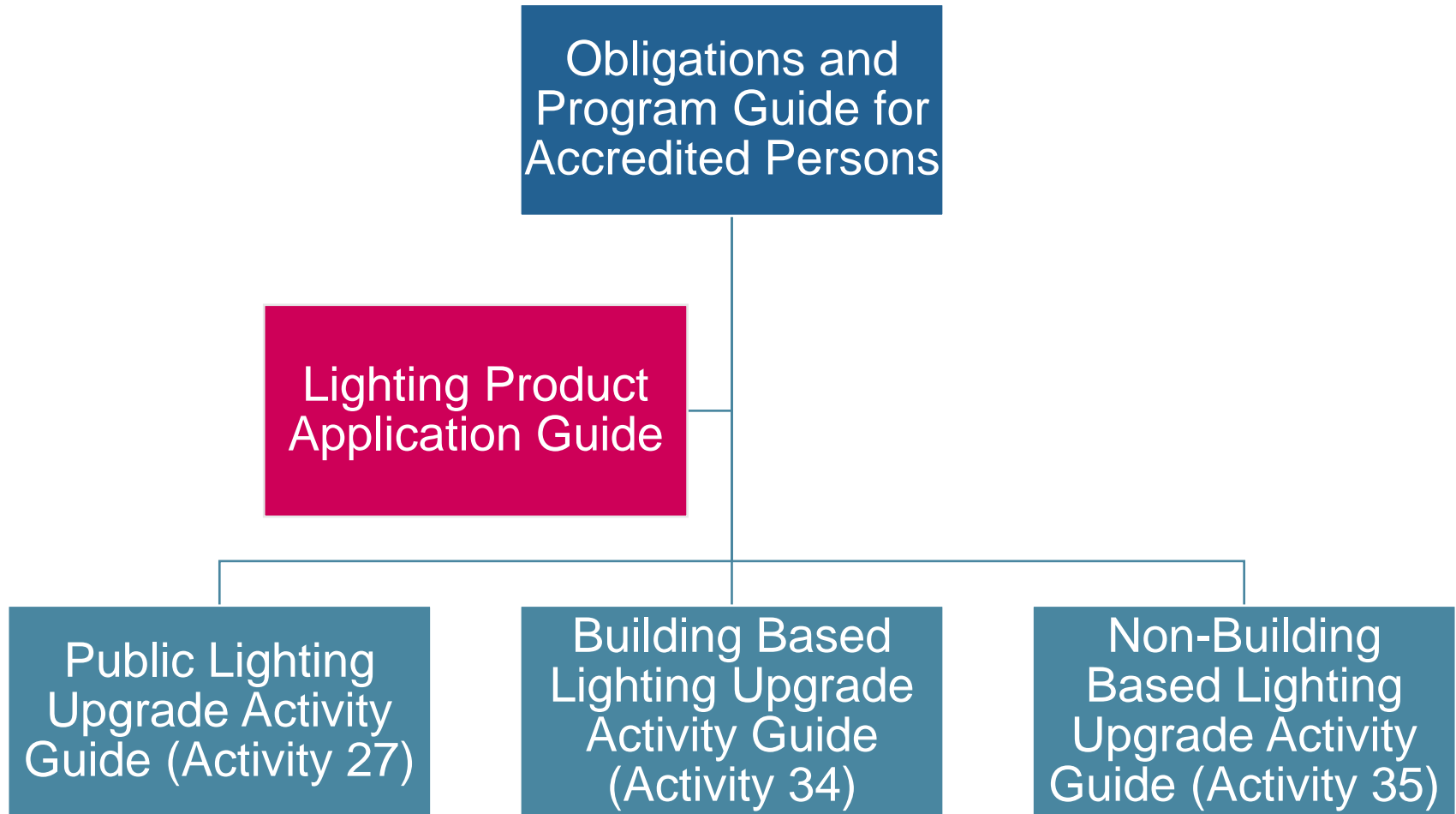
# Key activity changes

- T5 adaptors no longer eligible as an upgrade product
- Different format and inputs for GHG equation
- Updated asset lifetime references
- Updated space types
- Lamp circuit power (LCP) values grouped and altered
- AEMO load table can be used to determine LCP for public lighting
- Discount factor incorporated
- Compliance with relevant part/s of AS/NZS 1680 series
- Deviations to lighting standards allowed for activity 27 and 35

# Accreditation changes

Activity	Changes
Building based lighting upgrade	No change to accreditation status or application process
Non-building based lighting upgrade	No change to accreditation status or application process
Public lighting	<ul style="list-style-type: none"><li data-bbox="962 646 1765 925">• <b>Before 10 December 2018:</b> Accredited persons approved under non-building based lighting are automatically accredited under public lighting.</li><li data-bbox="962 932 1765 1210">• <b>From 10 December onwards:</b> Accredited persons must apply for accreditation under public lighting and must complete the relevant application form</li></ul>

# Changes to guidance documents



# Changes to assignment forms and supporting documentation

You are no longer required to complete the following:

- Data summary
- Documentation pack coversheet template

**You must complete and submit the following from 10 Dec 2018:**

Public lighting	Building based lighting	Non-building based lighting
VEEC assignment form	VEEC assignment form	VEEC assignment form
Compliance declaration	Compliance declaration	Compliance declaration
Supporting evidence	Supporting evidence	Training identification matrix and installer qualifications declaration
		Supporting evidence

# Changes to VEEC creation upload forms

- Space type fields consolidated for activity 34
- Lamp category field removed
- Asset lifetime reference (ALR) fields simplified – one set for both baseline and upgrade

ALR fields for activity 27	ALR fields for activity 34 (NJ6) and activity 35	ALR fields for activity 34 (J6)
Lighting control device	Delamping	Delamping
Luminaire decommissioning	Lighting control device	Lighting control device
Luminaire replacement	Luminaire decommissioning	Luminaire decommissioning
	Luminaire replacement	Luminaire replacement
	Modification	Modification
	Other	Other
	Retrofit	Retrofit
		New installation



# Activity and evidence requirements

- Evidence requirements have been tailored according to activity type, persons involved and associated levels of risk.

Activity	Eligibility/persons involved
Non-building based lighting	Private businesses, councils upgrading private outdoor spaces or outdoor sporting fields
Public lighting	Distributors, councils and responsible road authorities (RRA) defined under the Road Management Act (2004)

# Evidence requirements

- Evidence requirements that apply from 10 December 2018 are now contained in the activity guides.

## Appendix B: Evidence checklist

Evidence type	Document	Description
Evidence of assignment of right to create VEECs	Assignment form	A completed and signed assignment form.
Evidence of commercial transaction and energy consumer	Tax invoice	A valid tax invoice for the work carried out.
Evidence of space type	Geo-tagged photographs	<ul style="list-style-type: none"><li>• Geo-tagged photographs of the outside of the premises</li><li>• Geo-tagged photographs identifying each upgraded space type</li></ul>

# Building based lighting upgrade conditions

- The lighting upgrade must achieve minimum illuminance and recommended level of maintained illuminance requirements in the **relevant part of AS/NZS 1680** (unless ESC determines it doesn't need to)
- You must ensure that you select the correct part of the AS/NZS 1680 standard that applies to the given purpose/task relating to the lighting upgrade.

# Non-building based lighting upgrade conditions

- A lighting design must be prepared by a qualified lighting designer
- Lighting design must be submitted to ESC along with a declaration by the lighting designer stating:
  - **If AS/NZS 1158 applies** the light output specified in the lighting design complies with AS/NZS 1158, or deviates from AS/NZS 1158 (deviations must be justified)
  - **if AS/NZS 2560 applies** that lighting design complies with AS 2560, or specify why its unreasonable to expect lighting upgrade to achieve the requirements of AS 2560
  - the energy consumer accepts the lighting design.

# Lighting designer requirements (activity 35)

## **Lighting designer must hold one of the following qualifications:**

- Member of the Illuminating Engineering Society of Australia and New Zealand (MIES), or
- Fellow of the Illuminating Engineering Society of Australia and New Zealand Limited (FIES), or
- Registered Lighting Practitioner (RLP) - Illuminating Engineering Society of Australia and New Zealand.

# Lighting design requirements: Compliance with AS/NZS 1158 or AS 2560

**Lighting design** prepared by the lighting designer must:

- set out the location and specifications of all existing and new lighting equipment
- **AS/NZS 1158 only:** provide detail that all required light technical parameter values have been met
- **AS 2560 only:** provide detail that the lighting criteria values associated with the level of play have been met.

**Compliance declaration** prepared by the lighting designer declaring that:

- the lighting output (specified in the lighting design) complies with AS/NZS 1158 or AS 2560
- requirements (specified in the standard) have been met
- the energy consumer accepts the lighting design

# Lighting design requirements: AS/NZS 1158 or AS 2560 deviation

**Lighting design** prepared by the lighting designer that:

- sets out the location and specifications of all existing and new lighting equipment
- provides for the light output to be either equivalent or superior to the replaced lamp or luminaire.

**Compliance declaration** prepared by the lighting designer declaring that:

- the light output deviates from AS/NZS 1158 or AS 2560
- **AS/NZS 1158:** deviations are justified
- **AS 2560:** the rationale why it is unreasonable to expect the upgrade to achieve the requirements of AS 2560
- the energy consumer has accepted the lighting design.

# Public lighting conditions

- A lighting design must be prepared by a qualified lighting designer.
- Lighting design must be submitted to ESC along with a declaration by the lighting designer stating:
  - the light output specified in the lighting design complies with AS/NZS 1158 or deviates from AS/NZS 1158 (deviations must be justified)
  - the energy consumer accepts the lighting design.



# Lighting designer requirements (activity 27)

- **Lighting designer** (also referred to as design consultant) can be any individual approved by the distributor, responsible road authority(RRA) or council.
- Responsible for preparing and signing off on the lighting design and the AS/NZS 1158 compliance declaration, including preparing any supporting documentation.

# Lighting design requirements – AS/NZS 1158 compliance

**A lighting design** prepared by the lighting designer that:

- sets out the location and specifications of all existing and installed lighting equipment
- includes information demonstrating that all the required values of the light technical parameters have been met.

**Compliance declaration** prepared by the lighting designer that declares:

- that the lighting output complies with the relevant part/s of AS/NZS 1158.
- requirements (specified in the standard) have been met
- the energy consumer has accepted the lighting design.

# Lighting design requirements – AS/NZS 1158 deviation

**A lighting design** prepared by the lighting designer that:

- sets out the location and specifications of all existing and installed lighting equipment
- meets requirements of the asset owner and energy consumer
- provides for the light output to be either equivalent or superior to the replaced lamp or luminaire.

**Compliance declaration** prepared by the lighting designer that declares:

- that the lighting output of the upgrade (specified in the lighting design) deviates from AS/NZS 1158
- deviations to the standard are justified in accordance with the standard
- the energy consumer has accepted the lighting design.

# Exemption application process

- **If AS/NZS 1680 applies (activity 34):** submit an application to the ESC specifying why its unreasonable to expect the minimum/recommended illuminance requirement to be met
- **If AS/NZS 1158 or AS 2560 applies (activity 35):** submit an application to the ESC specify why the lighting upgrade is not of a kind for which AS/NZS 1158 or AS 2560 is designed
- propose an alternative standard (with rationale)
- provide evidence that the proposed standard is equivalent to the intent of the principal standard and appropriate for the installation environment
- provide supporting information relating to the technical aspects of the upgrade (e.g. lux levels)

# Lighting recycling requirements

- You must obtain and maintain a recycling invoice from a licensed recycling facility for the decommissioned lighting equipment **prior to VEEC creation.**

Type of lighting equipment	Eligible disposal facilities
Mercury-containing equipment: lamps which uses mercury for their operation and any other lighting equipment potentially contaminated with mercury as a result of in-house recycling or disassembling attempts	A licensed recycling facility: A facility licensed by the EPA to accept D121 waste for the purpose of recycling at that facility (i.e. has a license with treatment code R4 for D121 waste)

# Feedback

- We are committed to actively reviewing our requirements and welcome stakeholder feedback.
- Contact the VEU team by email [veu@esc.vic.gov.au](mailto:veu@esc.vic.gov.au) to provide any comments/feedback.

# Water heating and space heating/cooling

Meg Harris and Marcus Egan

Activities 1, 3, 5, 7, 9, 10, and 23



# What we will cover

- Changes in water heating activity structure
- Changes in space heating and cooling activity structure
- Guidance documents
  - Assignment form changes
  - Upload form changes
  - Evidentiary requirement changes



# Changes in water heating activity structure

2008 regulations	2018 regulation
1A – Gas/LPG storage replacing electric	No change
1B – Gas/LPG Instantaneous replacing electric	No change
1E – Electric boosted solar replacing electric	1C – Electric boosted solar replacing electric
	1D – Heat pump replacing electric
	1E – left blank
1F – Gas/LPG boosted solar replacing gas/LPG	No change
2 – Solar retrofit kit	Removed
3B – Gas/LPG boosted solar replacing gas/LPG	No change
4 – Solar pre-heater	Removed

# Changes in space heating and cooling activity structure

Current schedule	New activity scenario	Decommissioning	Upgrade
5	5A(i)	Ducted gas heater	High efficiency ducted gas heater
6	5A(ii)	Central electric resistance heater	
20	5A(iii)	No other central heating	
-	6A 6B	Blank	Blank
7	7A(i)	Ducted air to air heat pump	High efficiency ducted air to air heat pump
8	7A(ii)	Central electric resistance heater	
-	7A(iii)	No other central heating	

# Changes in space heating and cooling activity structure cont

Current schedule	New activity scenario	Decommissioning	Upgrade
9	9A(i)	Hardwired electric room heater	Gas/LPG room heater
	9A(ii)	Gas/LPG room heater	
	9A(iii)	Plug in electric or wood fire heater	
10	10A(i)	Hardwired electric room heater	High efficiency air to air heat pump
	10A(ii)	Room air to air heat pump or other room heater	
	10A(iii)	Plug in electric or wood fire heater	
	10A(iv)	Refrigerative room air conditioner and hardwired electric room heater	
	10A(v)	Refrigerative air conditioner and plug in electric room heater	
	10A(vi)	Refrigerative room air conditioned and gas/LPG room heater	

# Changes in space heating and cooling activity structure cont

Current schedule	New activity scenario	Decommissioning	Upgrade
23A 23B	23A	Refrigerative air conditioner (ducted and non-ducted)	Ducted evaporative cooler

# Assignment form changes

## Water and space heating/cooling

### Activities 1(A-F), 3B, 5A and 7A, 9A, 10A, 23A

- Electrician and plumber details
- Space heating – new table for decommissioning
- Consumer and installer declaration changes
- Area(m<sup>2</sup>) removed (business)

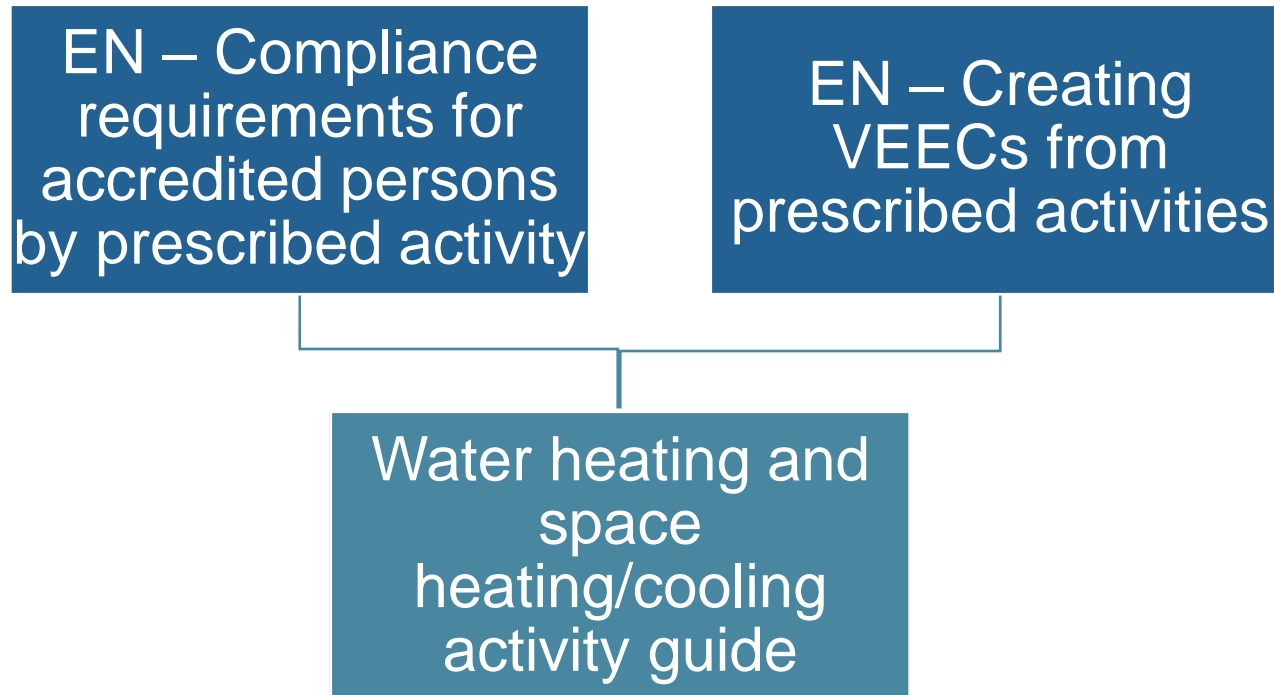
# Upload form changes

## Water and space heating/cooling

**Activities 1(all), 3B, 5A and 7A, 9A, 10A, 23A**

- Space heating and cooling – scenario field
- Addition of electrician and plumber details
- Certificate field name changes
- Floor space(m<sup>2</sup>) removed
- ABN/ACN made mandatory (business)

# Activity guide



# Activity guide – new evidentiary requirements

## Water and space heating

### Activities 1(A-F), 5A(i-iii) and 7A(i-iii)

#### **Geo-tagged photographs of the installed product showing:**

- the installed unit after installation
- the brand, model and serial number of the installed product.

#### **Compliance certificates to list:**

- Brand, model and serial number of installed product



# Activity guide – evidentiary requirements

## Space heating

### Activity 9A(i-iii) gas/LPG room heater

Evidence	Scenario
VBA compliance certificate detailing the: <ul style="list-style-type: none"><li>• installation details</li></ul>	9A(i)
VBA compliance certificate detailing the: <ul style="list-style-type: none"><li>• installation details</li><li>• and the decommissioning details</li></ul>	9A(ii) 9A(iii)
ESV COES detailing the: <ul style="list-style-type: none"><li>• decommissioning details</li></ul>	9A(i)
Geo-tagged photographs showing: <ul style="list-style-type: none"><li>• the existing unit before decommissioning to prove eligibility</li><li>• the unit rendered permanently inoperable</li><li>• the brand, model and serial number of the decommissioned product</li><li>• the installed unit after installation</li><li>• the brand, model and serial number of the installed product</li></ul>	9A(i-iii)




# Activity guide – evidentiary requirements

## Space heating

### Activity 10A(i-vi) Room air to air heat pump

Evidence	Scenario
VBA compliance certificate detailing the: <ul style="list-style-type: none"><li>• Installation details</li></ul>	10A(i)
VBA compliance certificate detailing the: <ul style="list-style-type: none"><li>• installation details</li><li>• and the decommissioning details</li></ul>	10A(ii) 10A(iii) 10A(iv) 10A(v) 10A(vi)
ESV COES detailing the: <ul style="list-style-type: none"><li>• decommissioning details</li></ul>	10A(i) 10A(iv)
Geo-tagged photographs showing: <ul style="list-style-type: none"><li>• the existing unit before decommissioning to prove eligibility</li><li>• the unit rendered permanently inoperable</li><li>• the brand, model and serial number of the decommissioned product</li><li>• the installed unit after installation</li><li>• the brand, model and serial number of the installed product</li></ul>	10A(i-vi)

# Contact us

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	<a href="https://www.linkedin.com/company/essential-services-commission">/company/essential-services-commission</a>
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# Gas efficiency activities

German Ferrando-Miguel –  
Policy Lead

26 November 2018



Victorian  
Energy  
Upgrades



# Outline

What are the activities covered

What is the approach we are taking

What are the decisions we have made

What are the aspects we are exploring

What is the feedback we are seeking

## Activity 37 – Gas-fired steam boilers

1. Replace 10 year old boilers, preferably pre-1990 with old burners
2. Install new steam boiler, 80% gross thermal efficiency as minimum, but preferably 85%
3. Has a gas/air ratio control system if over 3,700 MJ/hour
4. Also has a combustion trim if over 7,500 MJ/hour

### **Multiple options:**

- Replace like for like in terms of consumption
- Replace one large for multiple small
- Replace multiple small for one large

## Activity 37 - considerations

1. Critical to have ESV approval as type B
2. New steam boiler must be for the same purpose as old
3. Testing before and after determined in accordance with British Standards
4. Use of “gross thermal efficiency” definition as in BS845-2

# Activity 38 – Gas-fired hot water boilers or water heaters

1. Replace 10 year old products, preferably pre-1990 with old burners
2. Install new equipment, 85% gross thermal efficiency as minimum, but preferably 90%
3. Has a gas/air ratio control system if over 3,700 MJ/hour
4. Also has a combustion trim if over 7,500 MJ/hour

## **Multiple options:**

- Replace like for like in terms of consumption
- Replace one large for multiple small
- Replace multiple small for one large



# Activity 38 - considerations

1. Critical to have ESV approval as type B
2. New product must be for the same purpose as old
3. Three scenarios, depending on product decommissioned
4. Testing before and after determined in accordance with British Standards
5. Use of “gross thermal efficiency” definition as in BS845-2

## Activity 39 – Gas/air ratio control

1. Install on a burner of a type B appliance
2. Maximum of one per burner
3. Not available if installed on a burner of product installed as part of activity 37, 38 or 40

### **Considerations:**

- Critical to have ESV approval

# Activity 40 – Combustion trim system

1. Install on a burner of a type B appliance
2. Maximum of one per burner
3. Not available if installed on a burner of product installed as part of activity 37 or 38

## **Considerations:**

- Critical to have ESV approval

## Activity 41 – Gas burner

1. Replace 10 yr old burner and install burner on a type B equipment
2. Must have air/ratio control and gas trim system if product “burns” over 3,700 MJ/hour

### **Considerations:**

- Critical to have ESV approval
- Must be new, installed in same unit the old one was
- Pro-rata if more than one old burner replaced

# Activity 42 – Economizers

Complies with AS 1228

AND

1. Install condensing type economiser on a type B appliance (non-condensing one)
2. Moves combustion products into stainless steel stack
3. If not designed to run dry, it has an automated system to keep minimum flow rates

OR

1. Install non-condensing type on a type B appliance (non-condensing one)
2. If not designed to run dry, it has an automated system to keep minimum flow rates

# Activity 42 – considerations

- Must be sized for expected peak consumption of type B appliance (or group of appliances)
- If not sized up, use design capacity of economiser

# How to regulate these activities?

1. These are all new activities, complementary to project-based activities.
2. APs will need to apply for accreditation
3. ESV approval is already an entry barrier. Products don't need to be in our Register of Products
4. What is the likely uptake?
  - Infrastructure installations still require a substantial capital investment
  - Parts installations may need a bit more attention

# Our approach

We have a bit more time, only start from 1 March 2019

Large infrastructure/investment (type B only):

1. Steam boilers
2. Water boilers and heaters

Parts and components (for type B only):




1. Gas/air ratio controls
2. Combustion trimmers
3. Burners
4. Economizers



# What else should we consider?

1. Performance measurement and standards?
2. All creations to be checked individually?
3. Retrospective audits program?
4. Evidence requirements?
5. What information do we require to create VEECs?

# Contact us

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	<a href="https://www.linkedin.com/company/essential-services-commission">/company/essential-services-commission</a>
	<a href="https://twitter.com/EssentialVic">@EssentialVic</a>



# PBA Benchmark Rating

Victorian Energy Upgrades  
Forum - C/18/28910

Andy Sharp – Technical Services Manager

Phil Woodward – Technical Lead, PBA

26 November 2018



# Agenda

1. Introduction
2. Background to PBA
3. M&V – Update (changes)
4. Benchmark rating – what is it
5. Who can do it
6. Benchmarking instruments
7. Our process
8. Comparison with M&V
9. Expected uptake
10. Timelines (when things happen)
11. Important things to understand
  - Unaccounted energy
  - Evidence of similar configuration
  - Counted savings
  - Using the reverse calculator
12. Where to get further info
13. Questions



# What are project-based activities (PBA)?



# What are Project-based activities (PBA)?

A broad range of bespoke energy efficiency projects in the following environments:

- residential (~Treatment and Control)
- commercial (~Benchmark rating)
- industrial (~Measurement and Verification).

## **Project-based**

Multiple energy efficiency measures contained within one project.

## **Technology neutral**

Can be (almost) anything as long as (electricity or gas) abatement can be achieved.

# How is PBA different?

PBA is different from existing Victorian Energy Upgrades activities in the following key ways:

# Measurement



Actual before and after measurements are used to calculate certificates (VEECs)



# Technology



Activities are not limited to specific technologies.

# “Upgrade”



Projects don't need to be an “upgrade”. They can be process, set-point, or behaviour changes, or any other eligible abatement.

# Product List



There is no requirement to use products from a list approved by the ESC, except for where lighting equipment has been installed.

# Decommissioning



There is no decommissioning requirement, except for where lighting equipment has been installed.

# PBA uses different 'methods'

Method	Effective date
Measurement and verification	19 June 2017
Benchmark rating (e.g. "NABERS")	11 December 2018
Treatment and control	TBC
Other	?



# Measurement and verification

Update



# Measurement and Verification - Update

## **PBA regulations amended 11 Dec**

- **This also affects the M&V method:**
  1. AM&VPs must be independent from project
    - Must be independent from AP if doing detailed verification report
    - Not necessarily independent from AP for basic verification report (must still be independent from the project)
  2. Lighting products must be approved by the time VEECs are created.
  3. Various other structural changes to account for introduction of benchmark rating.

# Benchmark rating

What is it?





# Benchmark rating

## What is it?

- **The BR method:**
  1. Uses an existing benchmark rating method to measure the performance of a building before and after an activity
  2. The benchmark administrator approved to undertake these activities is the National Australian Built Environment Rating System (NABERS)
  3. This means that the difference between the 'before' and 'after' NABERS ratings can be used to generate certificates.

# Benchmark rating

## Who can do this?

- **Approved assessors:**

1. Ratings assessments must only be undertaken by assessors approved by the benchmark administrator (NABERS).
2. Assessors must be approved for the specific benchmarking process by the benchmark administrator.

- **Creating certificates:**

1. Must be approved as an Accredited Person for the PBA activity.
2. Only APs can create certificates.

# Benchmark rating

## Benchmarking processes

- These are listed in the Benchmark rating specifications:
  1. NABERS Energy rating – Data centres – IT equipment
  2. NABERS Energy rating – Data centres – Infrastructure
  3. NABERS Energy rating – Data centres – Whole facility
  4. NABERS Energy rating – Hotels
  5. NABERS Energy rating – Offices – Tenancy
  6. NABERS Energy rating – Offices – Base building
  7. NABERS Energy rating – Offices – Whole building
  8. NABERS Energy rating – Shopping centres
  9. NABERS Energy rating – Hospitals
  10. NABERS Energy rating – Apartment buildings



# Our Process



# Our process

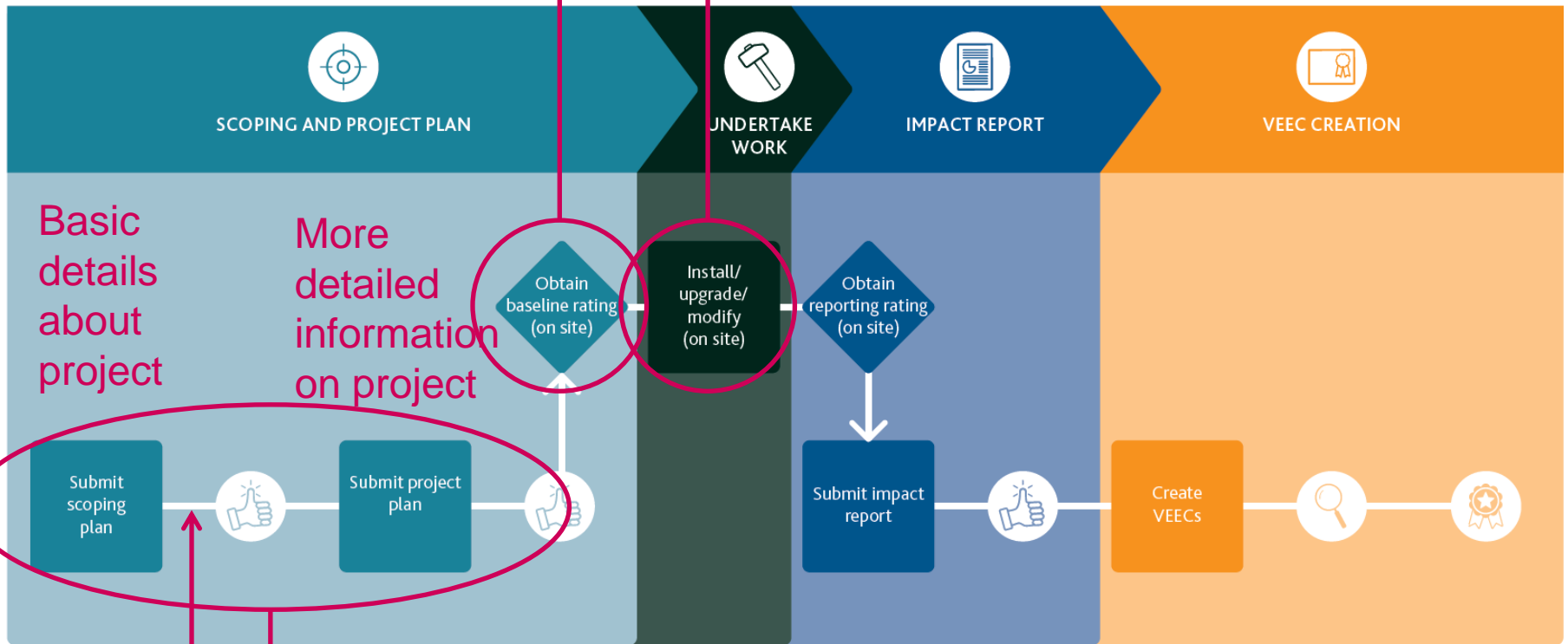
## Benchmark rating method

- Very similar to M&V method – 3 touch points:
  1. Scoping plan
  2. Project plan
  3. Impact report

No requirement for 3<sup>rd</sup> party verification

# Benchmark rating process - map

This can be started before submitting a scoping plan



Can start work once scoping plan is submitted

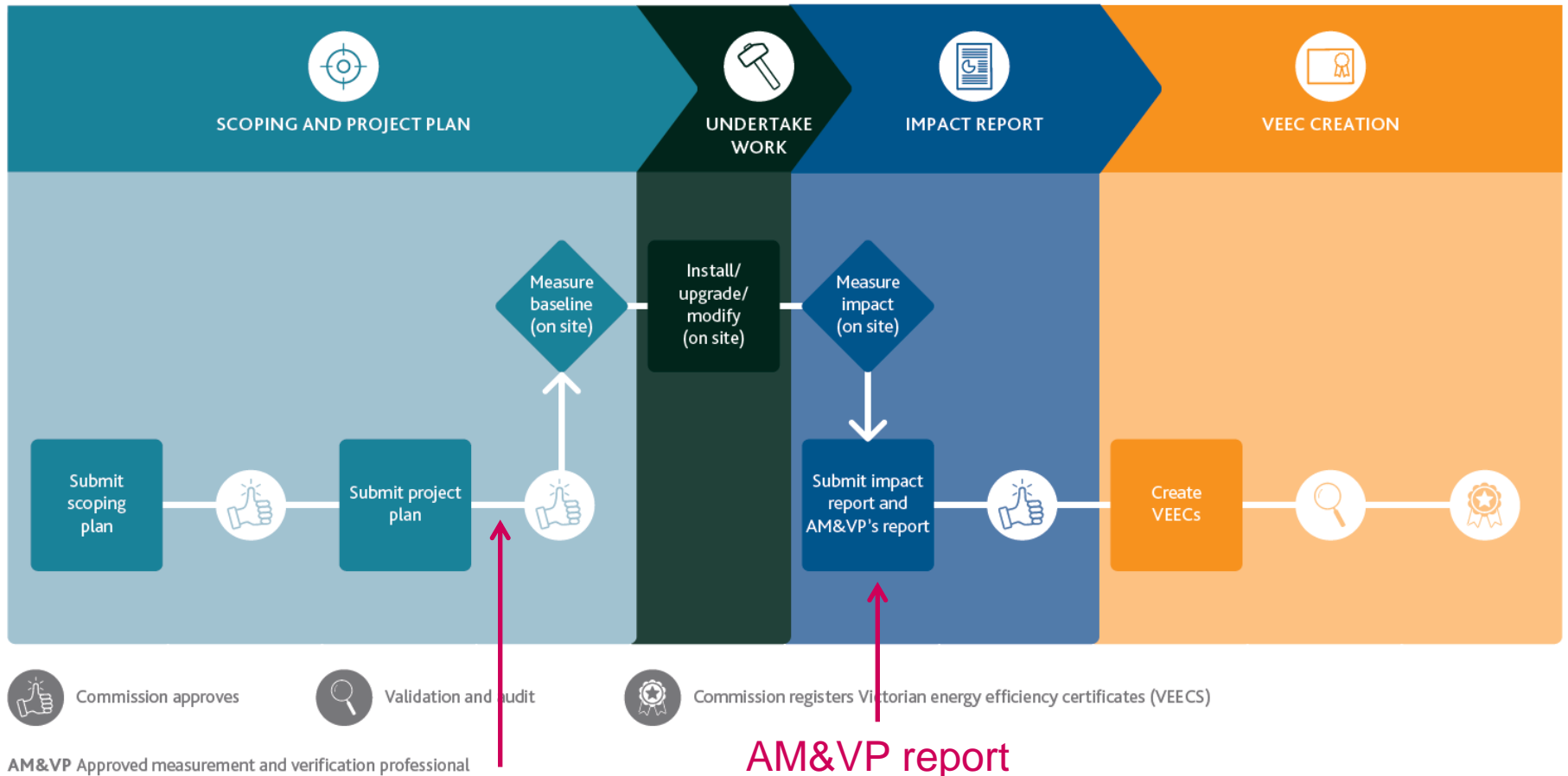
These can be applied for as a combined application



# Comparison with M&V



# M&V process - map



Can start work once scoping plan is approved AND project plan is submitted



# Expected uptake



# Expected uptake

## No size requirements or limits

- Given the minimum cost of participation will be 2 x NABERS reports:
  1. Likely to see many smaller incremental upgrade projects
- Those undertaking NABERS anyway:
  1. There are a number of organisations who regularly undertake NABERS assessments
- Choice of method:
  1. Can choose between M&V or benchmark rating – whichever is most suitable

# Timelines



# Timelines

## **Benchmark rating method must cover specific timeframes**

- **Baseline period:**

1. Is a 12 month period before activity starts but this cannot end more than 18 months before activity starts

- **Reporting period:**

1. Is a 12 month period IMMEDIATELY after activity ends or immediately after another reporting period ends.
2. This means ANNUAL CREATION only.

- **Total project period is up to 8 years.**

\*Note that NABERS has own rules about when you can apply for the rating certificate, how long they are valid and how much data needs to go into making a 12 month rating.

# Important things to understand

- Unaccounted energy
- Evidence of similar configuration
- Counted savings
- Using the reverse calculator

# Unaccounted energy

## What is it?

- **Configuration changes:**

1. Changes in metering configuration (including changes in included space).

- **Renewable energy:**

1. Can be included in savings unless that is also claiming benefit under another prescribed scheme. Unaccounted energy accounts for the certificates created under other schemes.

**NOTE** – Exporting energy is allowed but is not included in any certificate calculation.

# Evidence of similar configuration

## **NABERS can allow configuration to change**

- **For the purposes of VEU:**
  1. Configuration of metering **MUST** be the same (i.e. cover the **SAME SPACE** between baseline and reporting periods)
  2. You can use '**unaccounted energy**' to adjust for this
  3. To do so, you must measure any change using appropriate additional energy metering and space variable (e.g. dimensions).
- **Example – an underground car park is common to be included/excluded in NABERS:**
  1. If this was included in the baseline, but excluded in the reporting period, the car park **MUST** be measured over the full reporting period in order to use this in the unaccounted energy calculation along with the adjusted floor area (and any other relevant variable).

# Counted savings

## What is it?

- Reduction in GHG savings relating to:
  1. Certificates already created
  2. Adjustments to correct for other unrelated activities
  3. Adjustments to correct for the number of years that savings coincide with remaining eligible reporting periods.



# The reverse calculator

## Accounts for changes in buildings over project lifetime

- **Calculates max energy building can consume for a given rating:**
  1. Shows what the energy consumption of the building **WOULD** have been if the project had not happened (Just like normalising to the reporting period conditions in the M&V method).

**NOTE** – GreenPower must be excluded. Ensure you use the NABERS ratings that ignores GreenPower when using the reverse calculator (i.e. the figures for 0% GreenPower).

# The reverse calculator

## How it is used

- **Baseline energy rating is used with:**
  1. Data variables collected from the reporting period
- **This gives an adjusted baseline accounting for current operating conditions**
  1. This can then be compared with the actual reporting period energy consumption under like-for-like conditions.



Where to get  
further info



# Victorian Energy Upgrades

The Department of Environment, Land, Water and Planning develops policy for the Victorian Energy Upgrades program.

We administer the program as the 'Victorian Energy Efficiency Target scheme' under the *Victorian Energy Efficiency Target Act 2007*.

For more information, visit:

**[esc.vic.gov.au/veu](http://esc.vic.gov.au/veu)**

**[veu-registry.vic.gov.au](http://veu-registry.vic.gov.au)**



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# Q&A

