Victorian Energy Upgrades forum

Essential Services Commission

28 May 2019

ESSENTIAL SERVICES COMMISSION

Victorian Energy Upgrades forum

Jeff Cefai, Director

Essential Services Commission

Victorian Energy Upgrades forum – 28 May 2019

Time	Agenda item		
9:30	MC introductions (Jeff Cefai, Director) (5 min)		
9:35	Welcome and opening comment (John Hamill, CEO) (5 min)		
9:40	VEU program update (Jeff Cefai, Director) (15 min)		
9:55	Policy update from the Department of Environment, Land, Water and Planning (15 min)		
10:10	VEU audit and compliance presentation (20 min)		
10:30	Energy Safe Victoria presentation (15 min)		
10:45	Q&A session (10 min)		
10:55	Morning tea (15 min)		
	Workshops		
	Stream A: Training Room, Level 2	**Stream B:** Hughes Room, Level 2	**Stream C:** Lecture Room, Level 1
11:10	A1: Upcoming regulatory changes (30 min)	B1: Project-based activities (PBA) workshop (60 min)	C1: Accreditation and VEEC assessments (60 min)
11:40	A2: Stakeholder engagement (30 min)		
12:10	A3: Product applications (30 min)	B2: New gas efficiency activities (30 min)	C2: New IT system (30min)
12:40	Lunch and networking		
13:30	DELWP information session on proposed changes to Measurement and Verification (M&V) Specifications (60min)		
14:30	CLOSE		

Sli.do

How to:

1. Either open the web browser and go to www.sli.do or download the sli.do app.
2. Enter the event code #**VEU** to join the event '**Victorian Energy Upgrades forum 28 May 2019**'.
3. 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.

ESSENTIAL SERVICES COMMISSION

Victorian Energy Upgrades forum

John Hamill, CEO

Essential Services Commission

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VEU program updates

Jeff Cefai, Director

Essential Services Commission

Tenth year of the VEU program

1. In our 10 years of operation, the program:

- has generated VEECs to meet annual targets for each of the 10 years (over 54 million registered)
- continued savings for residential and business customers.

2. In the next phase of the program, we will:

- improve the efficiency of our systems and processes
- strengthen partnerships with regulated businesses and improve the transparency of our decision-making process
- strengthen our risk-based and compliance-focused operational framework.

Program performance since 2009

4,157,557
total activities

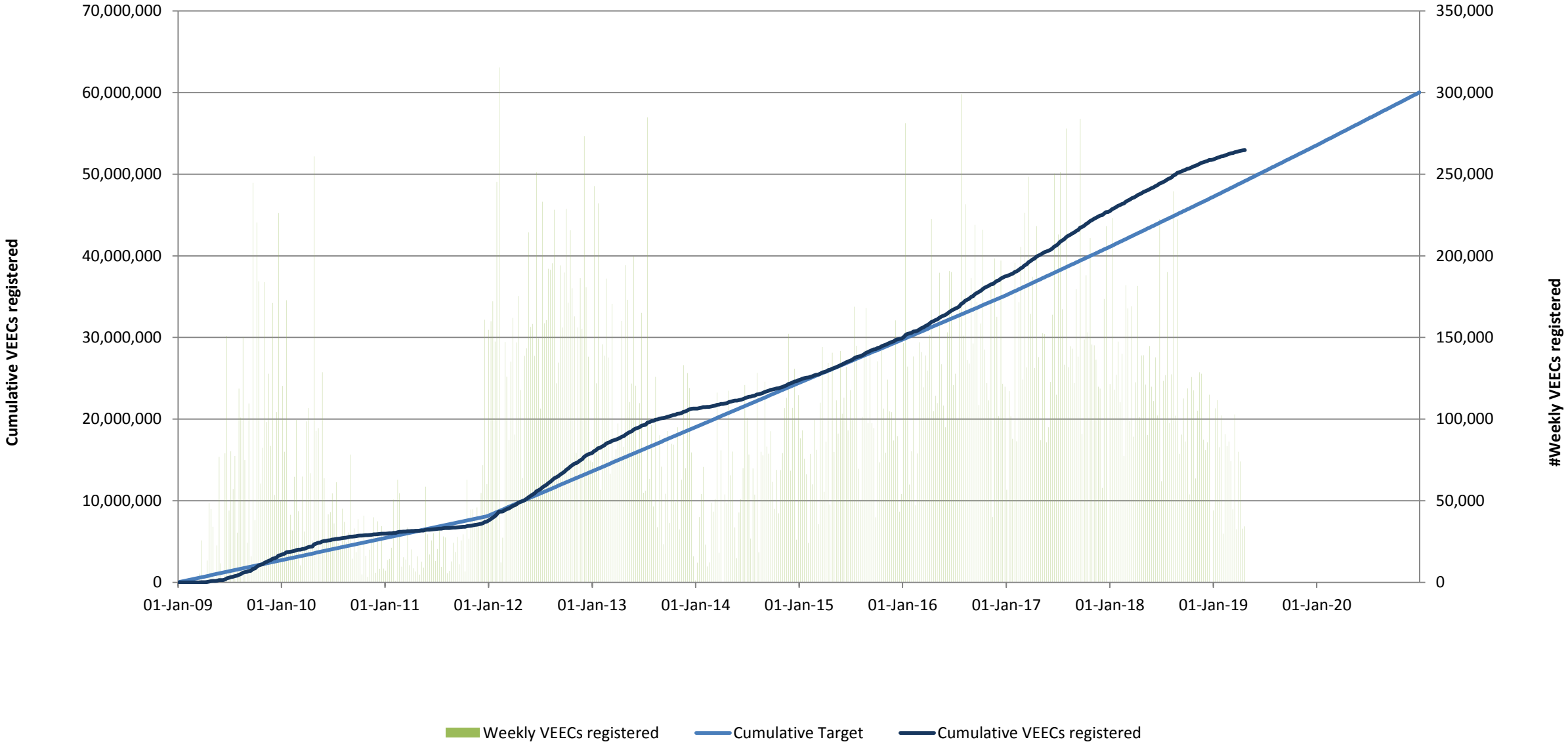
3,999,757
residential

157,800
non-residential

19,162
products approved

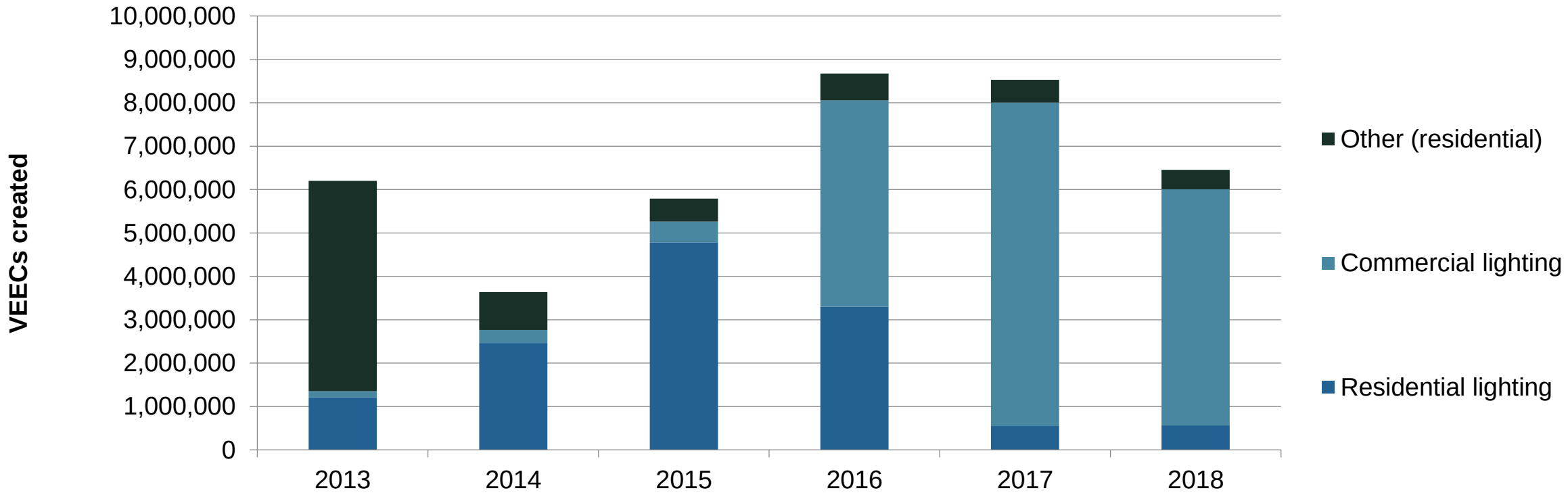
3,120
approved installers

Registered VEECs

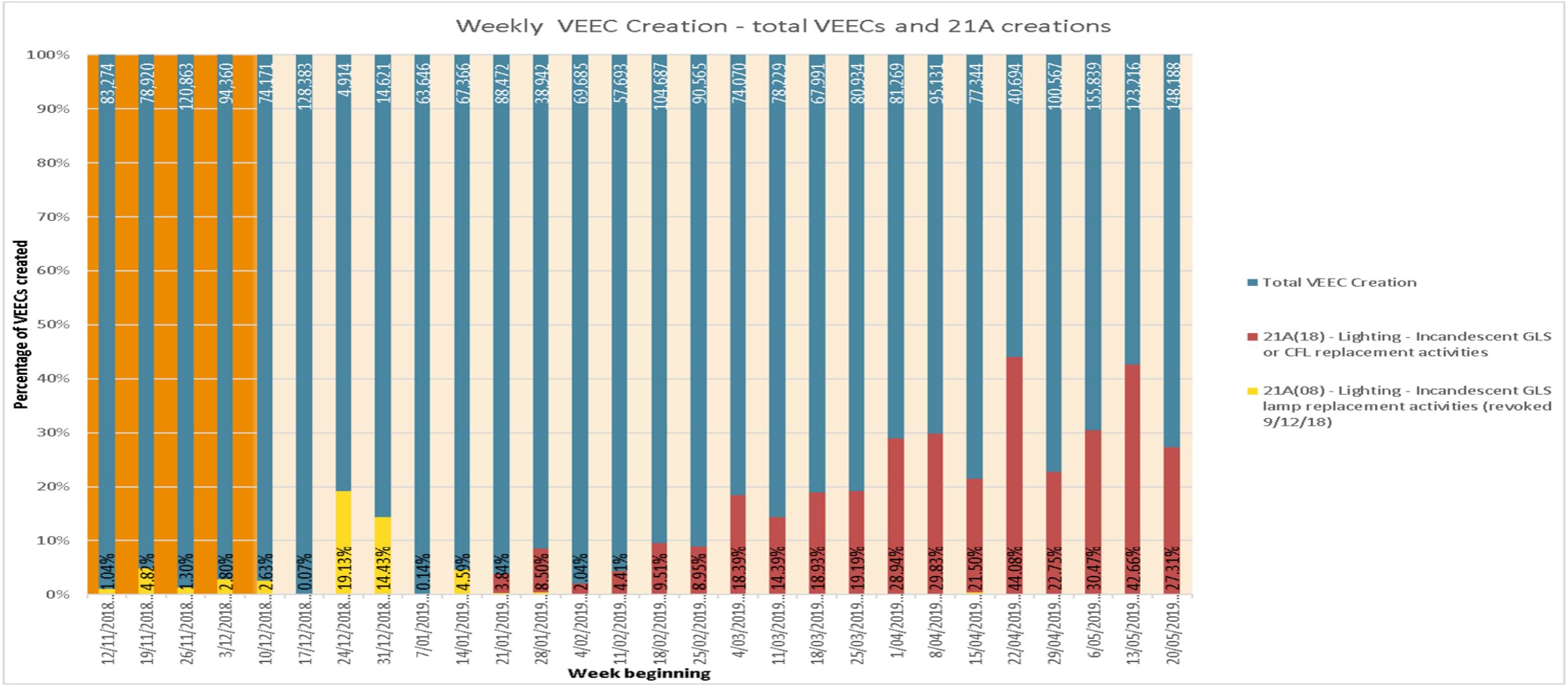


Program performance - last 6 years

1. From residential lighting to commercial lighting to….



Weekly VEEC creation – total VEECs and 21A creations

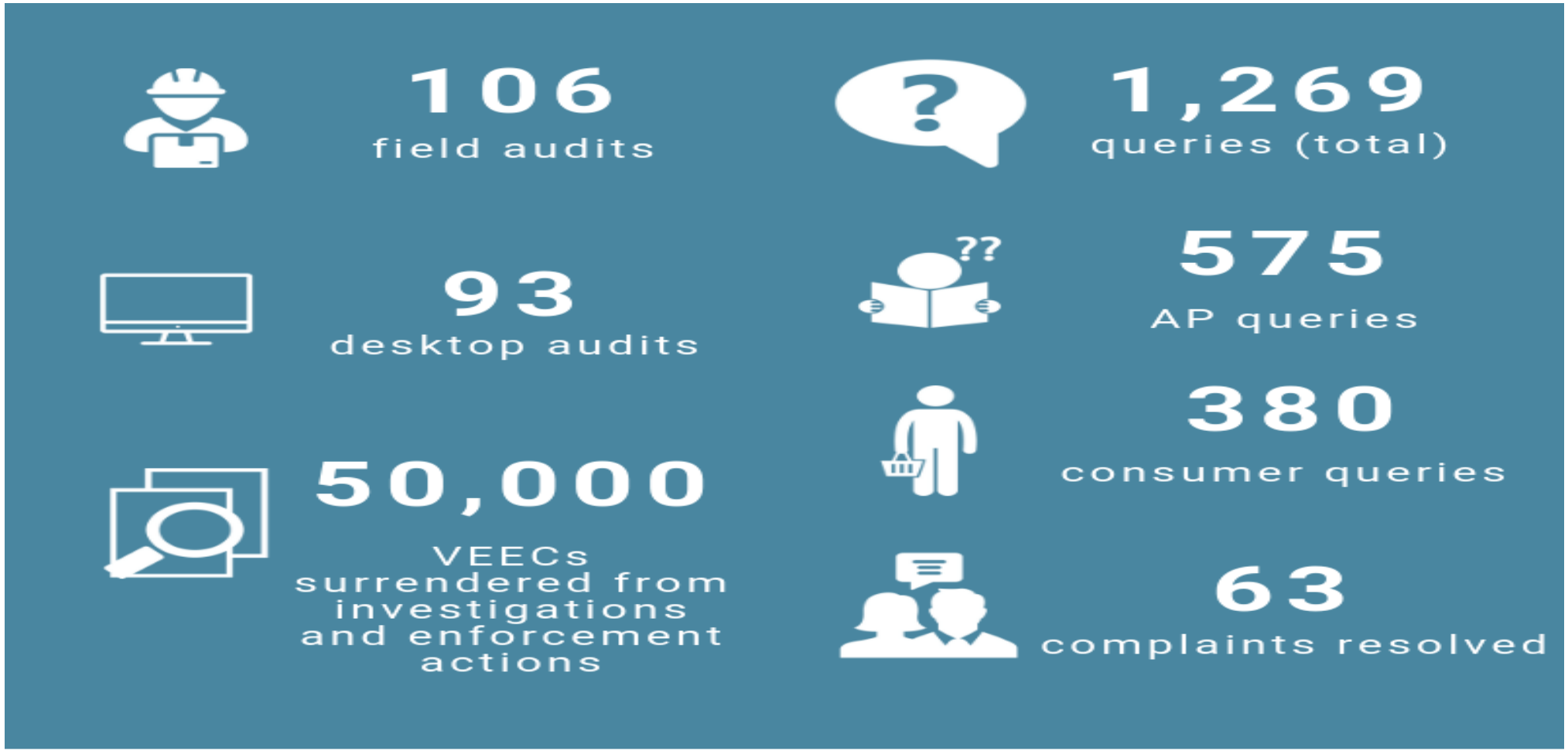


VEU program update (December 2018 – April 2019)

- **More than 65,892 installations undertaken**
  - Residential: 63,457
  - Non-residential: 2,435
  - Regional: 7,721
  - Metro: 58,171

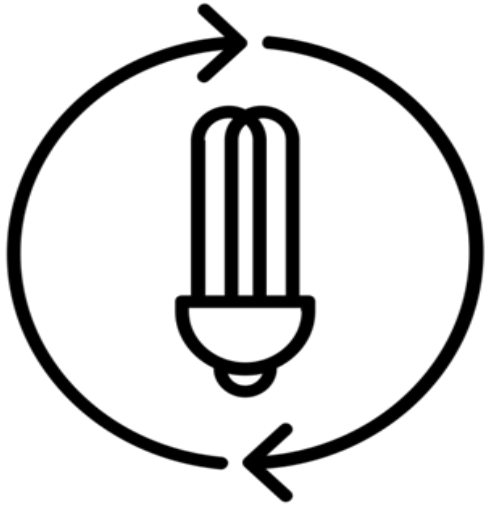
- **VEEC creation** (December 2018 – April 2019)
  - 1.521 million VEECs created
  - 1.507 million VEECs registered

Audits and stakeholder contacts
(December 2018 – April 2019)



Compliance matters – Activity 21A update

1. Requirement for installers to be electricians
2. Extension of non omni-directionality transition period by one month to 31 July
3. Product check testing proceeding - remains a high priority
4. 31 AP's re-approved
5. First creation assessments ongoing.



Other compliance matters

1. New decommissioning requirements
2. Relevant Entity surrender obligations
3. Use of sub-contractors
4. Investigations and enforcement actions

Key VEU program administrative changes and updates since November 2018

1. Implementation of 10 December regulatory changes (major change further to 10 year regulation review) – deemed activities
2. Implementation of 11 December regulatory change – introduction of benchmark rating as a PBA method
3. Transition of program content to the commission website
4. Implementation of 6 new gas efficiency activities on 1 March 2019

Key VEU program administrative changes and updates since November 2018

5. Released clarification and updates to our requirements for lighting activities
6. Updates made to our process to refer suspected non-compliant VEU activities to Energy Safe Victoria
7. Consultations released and decisions made on the following:
   - Activity 21A training and licensing requirements
   - Extension on non omni-directional lamps (activity 21A) transition period
   - VEET guidelines 2019
8. Completed review of the Register of Scheduled Activity Premises (SAP).

Key upcoming VEU program changes

1. Implementation of 10 June specification changes
   - For water heating and shower rose activities (published on 10 December)
2. Implementation of Victorian Government's e-waste ban to landfill under the program

Key upcoming strategic initiatives

1. IT systems project
2. Developing our data analytics capabilities
3. Developing our stakeholder and program engagement initiatives

TSG - Project-based activities

- **High levels of stakeholder interest**
- **Average processing times (with the ESC)**
  - Scoping plans: 0.5 days
  - Project plans: 0.7 days
  - Impact report: 4.2 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 November 18 – April 19**
  - Total submitted products: 401
  - Total approved products: 1,214
- **Approved products in 2018/2019 financial year**
  - Total submitted products: 1,844
  - Total approved products: 2,336
- **22 of 36 activity 21A products are omni-directional**
- **In-house check testing capability – commenced**
- **LCP determinations – 21 requests processed**
- **Introduction of zone 5 (Alpine) for heat pumps**

Registry

1. Marketing and door knocking complaints
2. 99% of stakeholder queries resolved within 30 days
3. 90% of certificate claims processed within target timeframe
4. Flexible target day trial review

Victorian Energy Upgrades Policy Update

28 May 2019

Emma Jacobs

VICTORIA State Government | Environment, Land, Water and Planning

Climate and energy policy in Victoria

- Climate change targets to be set by **March 2020**
- Sector pledges by **August 2020**

Solar Homes

Victorian Renewable Energy Targets

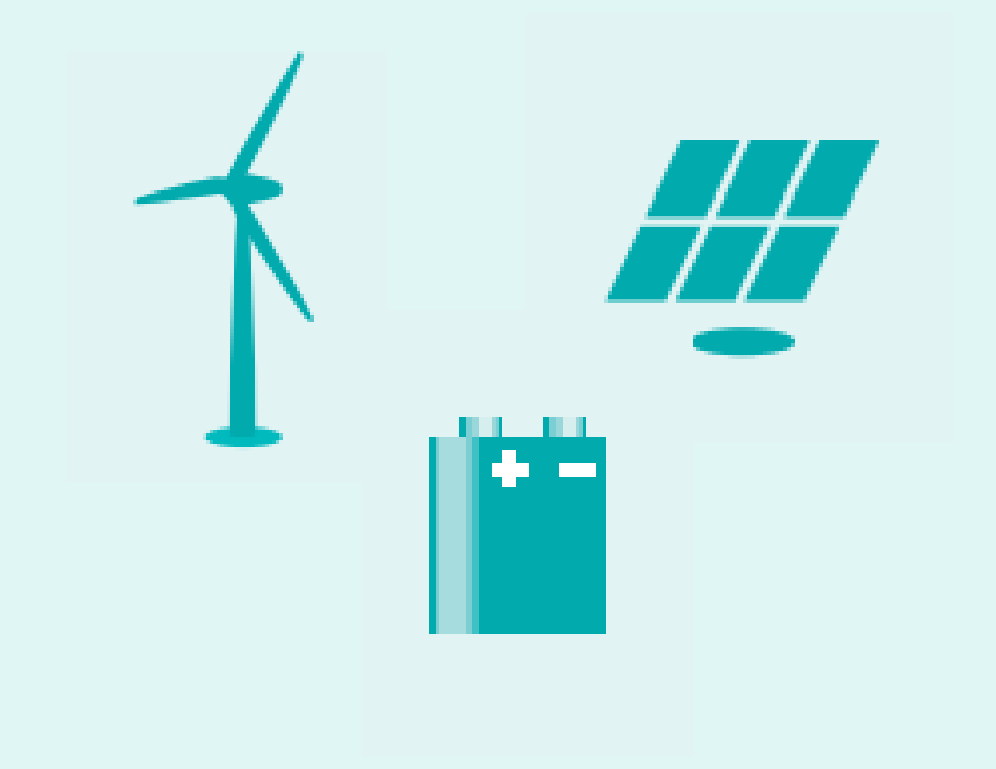
- 25 per cent by 2020
- 40 per cent by 2025
- 50 per cent by 2030

Building standards increases

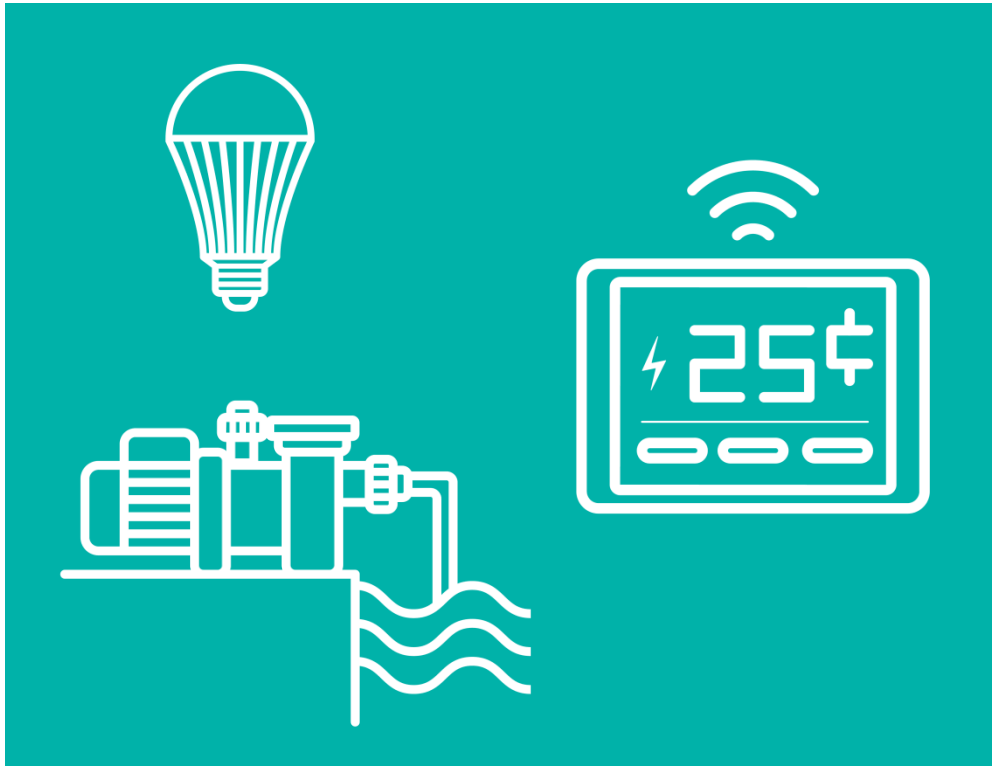
- Commercial in 2020
- Residential in 2022

The energy market is in a state of transition and this involves many changes which affect the program, for example:

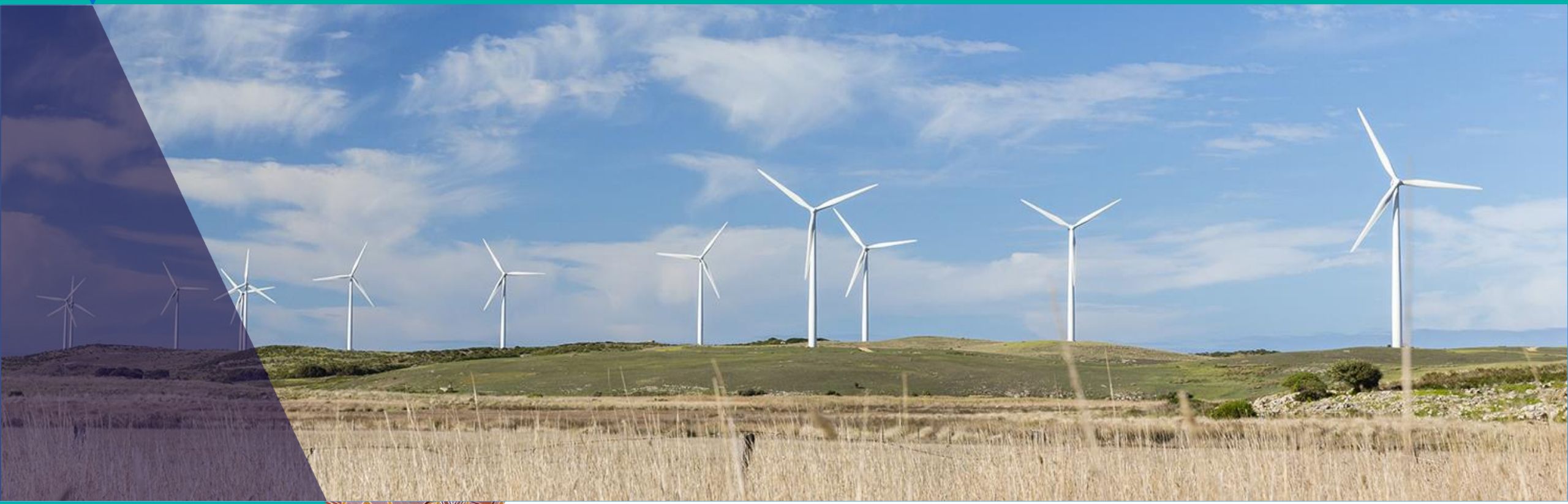
Changes in supply



Changes in demand



Target setting



Regulatory Impact Statement (RIS) process and indicative timing

Pre-RIS consultation (Completed Oct 2018)

Research on options (underway)

Prepare RIS (underway)

Minister approves RIS (mid 2019)

Consultation (Minimum of 28 days)

Decision made by Minister

Notification of decision (end 2019)

Regulations made to set targets (must be by May 2020)

What we are looking at as part of this process?

How will the energy system change by 2025?

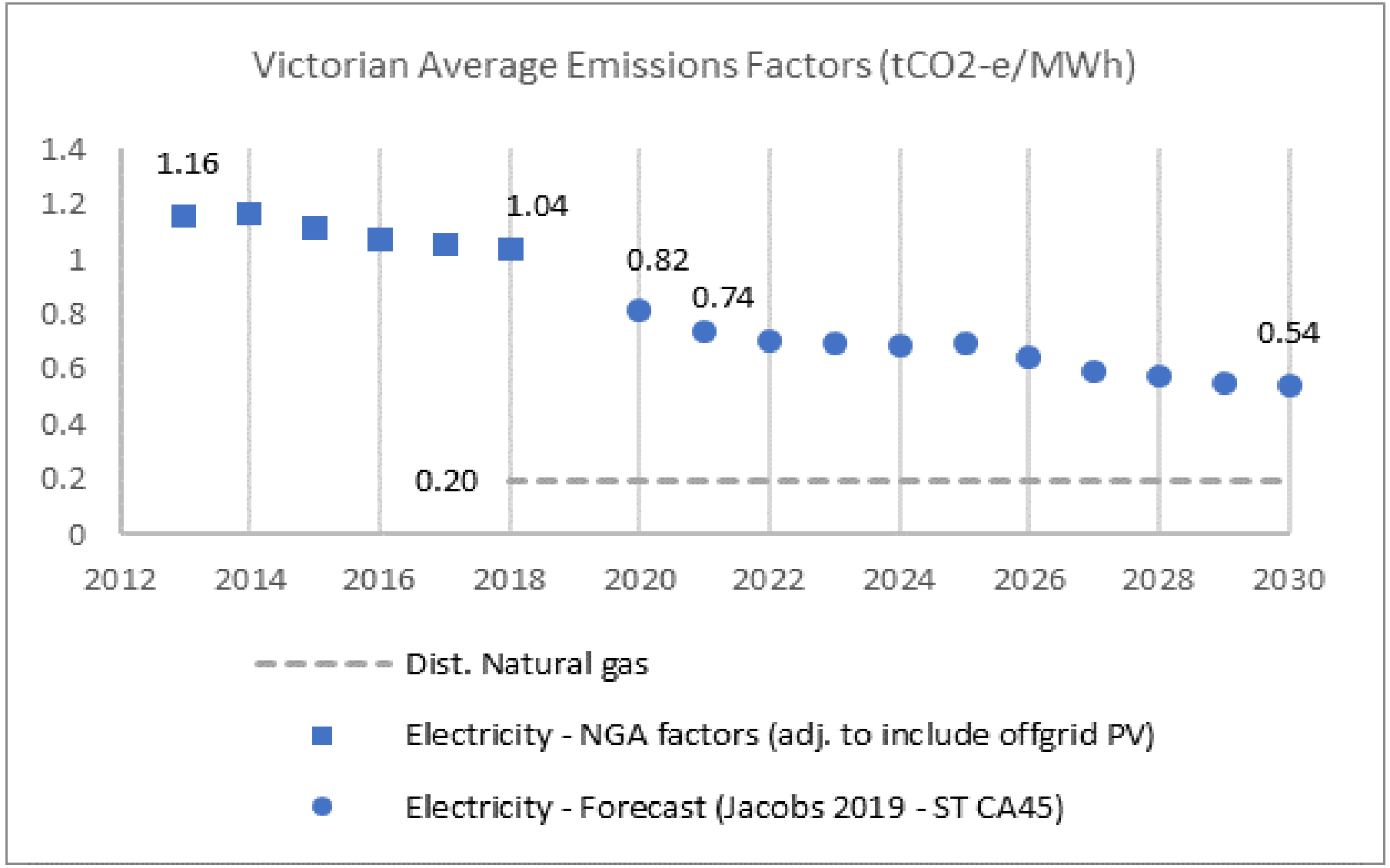
- Renewable energy uptake
- Energy costs trends
- Peak demand
- Gas demand
- Distributed energy

How will energy upgrade activity change by 2025?

- Lighting
- Commercial and industrial energy efficiency
- Residential energy efficiency
- Digitalisation and ‘smart’ controls
- Medium scale solar PV (>100kW)
- Load management

What will this mean for Victorian Energy Upgrades?

How the emissions factor is changing?



Large energy users

- Currently Victoria's ~200 largest energy users are excluded from VEU (and have the option to opt-in)
- The exemption is based on 2013 data and is out of date
- There have been administrative challenges with boundaries
- The 'scheduled activity premises' list will be reviewed as part of the RIS

Follow up to 2018 regulations: minor changes

- Proposed corrections and clarifications include:
  - Weather sealing warranty requirements
  - Clarification of language for gas boiler activities
  - Equation for solar water heater activities – some SWH will see a small increase in certificates
- As this is for the correction of errors we will not be consulting on the changes

M&V Specifications

- M&V method has been in place for nearly 2 years
- Based on the experience to date, we're proposing a range of minor changes to make participation easier
- Please join us for the consultation session after lunch today and/or provide written feedback by **Friday 14 June 2019**

Consumer protection is a priority for government

- It is your responsibility to ensure your employees or subcontractors are complying with Australian Consumer Law

- If you have flyers or other marketing material, you should **at a minimum:**
  - Explicitly state that the program is voluntary
  - Include the web address www.victorianenergyupgrades.vic.gov.au so consumers can find more information about the program

- Where the integrity of the program is threatened we can amend the specifications to reduce the incentives for that activity, if:

  The activity or scenario has resulted in poor or unsafe outcomes for energy consumers and an urgent response is needed

australian consumer law

ESSENTIAL SERVICES COMMISSION

Victorian Energy Upgrades forum

Sebastian Bures, Acting Manager

28 May 2019

Agenda

1. VEU A&C work program
2. Activity 34 – audit findings
3. Our steps to ensure compliance
4. Steps APs can take to ensure compliance
5. Emerging issues in activity 21A and 21B
6. Scheduled activities premises – review finalised
7. Relevant entity (RE) compliance

VEU A&C work program

- **Team has completed or started 13 AP audits since December 2018**
- **Auditors are out in the field twice a week**
- **Team met and re-accredited 30 APs for activity 21A**
- **Two program updates published**
- **39 activities referred to Energy Safe Victoria to investigate wiring compliance**
- **RE compliance process and SAP review.**

Activity 34 - Audit findings

Installation activities created with an enhanced baseline energy consumption

- Overclaim in the number of baseline lamps
- Incorrect baseline lamp technology claimed
- Incorrect baseline lamp wattage claimed
- Combination of the above.

Activity 34 – Audit findings

How do installers do it?

- Installation of additional cables
- Use of extension cords (read: domestic extension leads)
- Installation of double adaptors
- Installation of power boards
- Falsification of decommissioning evidence.

Compliance with the Electricity Safety Act 1998

Regulation 15(c) of the VEET Regulations stipulates:

“APs cannot create VEECs if the activity is not undertaken in compliance with the Electricity Safety Act 1998[…] or the regulations under any of those Acts.”

APs need to comply with the Australian/New Zealand Wiring Rules (AS/NZS 3000:2018 Electrical installations).

Double adapters – We find it!

Extension cords – We find it!

Unsafe wiring – We find it!

Incorrect baseline lamp - We find it!

What APs can do

- **Reconcile your recycling evidence against each activity**
- **Re-train and educate installers**
- **Conduct more field audits in regional Victoria**
- **Rate and monitor installer/sub-contractor performance.**

We published a program update on 7 February 2019 ‘Compliance with the Electricity Safety Act 1998’

Emerging issues 21A and 21B

- **Installers must maintain their equipment – this includes ladders**

We published a program update on 3 May 2019 ‘Use of portable ladders by VEU installers’

- **Incidents of installers changing lamps without consumer’s permission**
- **Consumer returns home to find reflector lamps on the outside of their house changed**
- **Installers do not leave paperwork**
- **Installer disregard ‘Do not knock’ stickers.**

Relevant entity compliance

- **Shortfall penalty for 2019 compliance year gazetted at $50 per certificate**
- **28 REs for the 2018 compliance year**
- **All REs submitted the independent audit reports and annual energy acquisition statements (AEAS)**
- **All REs offered obligatory surrenders**
- **A&C team is in the process of reviewing AEAS and audit reports.**

Scheduled activity premises (SAP)

- **We conducted a review of SAP list published on VEU website**
- **<u>Goal:</u> more accuracy and improved guidance to APs, relevant entities and consumers**
- **Review completed by the end of 2018. Updated SAP list published 1 January 2019**
- **List is a living document.**

If you think a site should be added or removed from the list, please contact us on: <u>veu@esc.vic.gov.au</u>

Greg Johnson

energysafe VICTORIA
Creating a safer state with electricity and gas

WHO IS ESV?

Energy Safe Victoria

is the technical and safety regulator for the electricity, gas and pipeline industry

As a Registered Electrical Contractor (REC), you have regulatory responsibilities

Only employ licensed electrical workers to carry out electrical installation work

Company 250 penalty units
Sole trader 50 penalty units

Ensure effective supervision of the electrical installation work carried out by the business

You, the registered electrical contractor must not permit, or direct your employee to carry out, any electrical installation work that does not comply with the Act or Regulations

Company 250 penalty units

Sole trader 50 penalty units

Your electrical worker must

Comply with the Act and the Regulations

40 penalty units

Test the electrical work before it is connected to the electricity supply

AS/NZS3000 Section 8

VERIFICATION

I, the licensed electrical installation worker named above, who carried out the electrical installation work described above, certify that the electrical work has passed all the required tests and complies in all respects with the Electricity Safety Act 1998 and the Electricity Safety (Installations) Regulations 2009.

4.4.4.1 *General*

Each socket-outlet shall be individually controlled by a *separate switch* that complies with either AS/NZS 3133, AS/NZS 60669.1 or AS/NZS 60947.3 and operates in all active conductors. Switches controlling socket-outlets shall comply with Clauses 4.4.4.2 and 4.4.4.3.

Exceptions:

1 A single switch may be used for the control of two socket-outlets located immediately adjacent to each other.

2 A socket-outlet that is rated at not more than 10 A, installed for the connection of a fixed or stationary appliance or a luminaire and that is not readily accessible for other purposes, need not be controlled by a switch.

All content 03 9203 9700 Contact us ESVConnect

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How can we help you today?

Home Licensing and COES Technical information Safety and education About ESV

Creating a safer state with electricity and gas

- Electrical technical information
- Gas technical information
- Electrical licensing
- COES
- What to do in an emergency
- Complaint form

ESVConnect

Find a tradie

Safety Alert

Welcome to Energy Safe Victoria

ESV is a technical and safety regulator responsible for the safe generation, supply and use of electricity, gas and pipelines. A statutory authority, we also licence electricians, manage the Certificate of Electrical Safety Program, conduct community safety campaigns, ensure electrical and gas products are approved and safe for use, and investigate gas and electrical incidents. **Read more**

Like us on Facebook

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Questions

For further information go to **www.esv.vic.gov.au** or phone ESV on **9203 9700**

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ESSENTIAL SERVICES COMMISSION

Victorian Energy Upgrades forum – Stream A

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Victorian Energy Upgrades forum

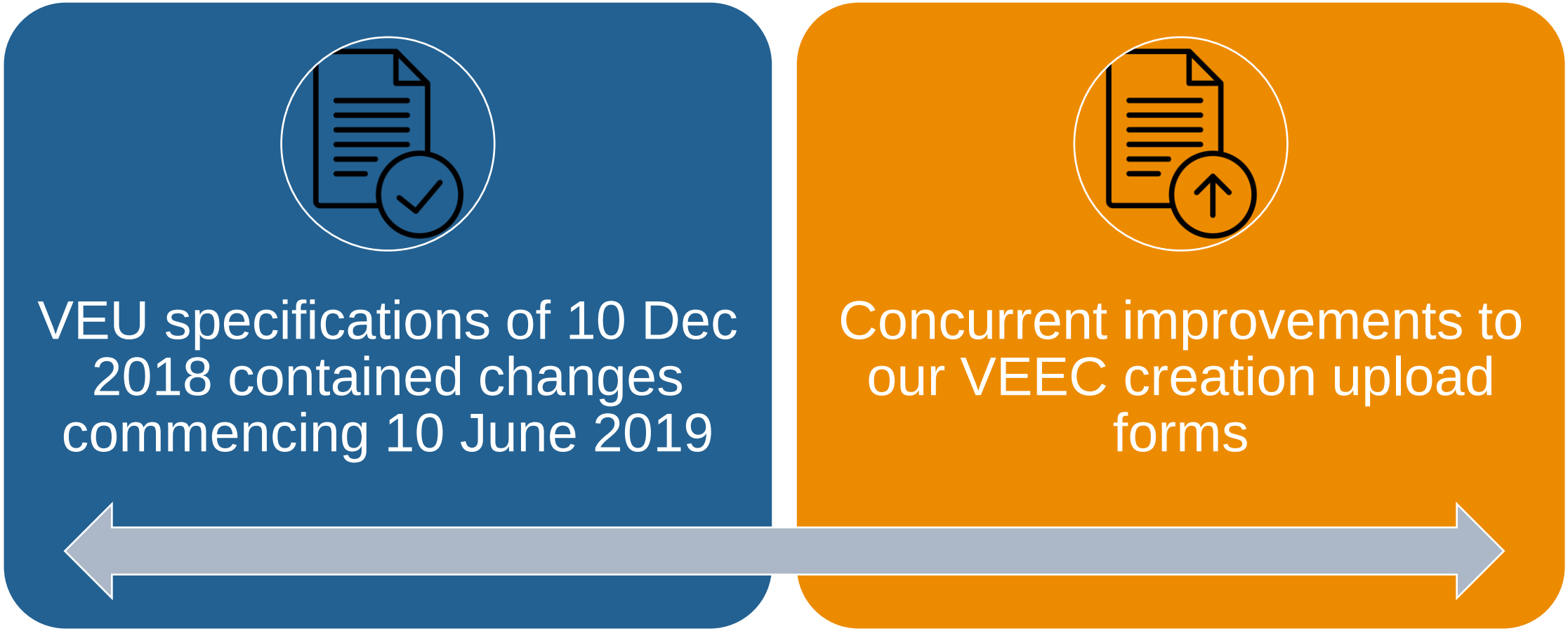
Stream A – Workshop A1: VEU Regulations/ specifications – changes from 10 June 2019

Geoff Lamb, Policy Officer

28 May 2019

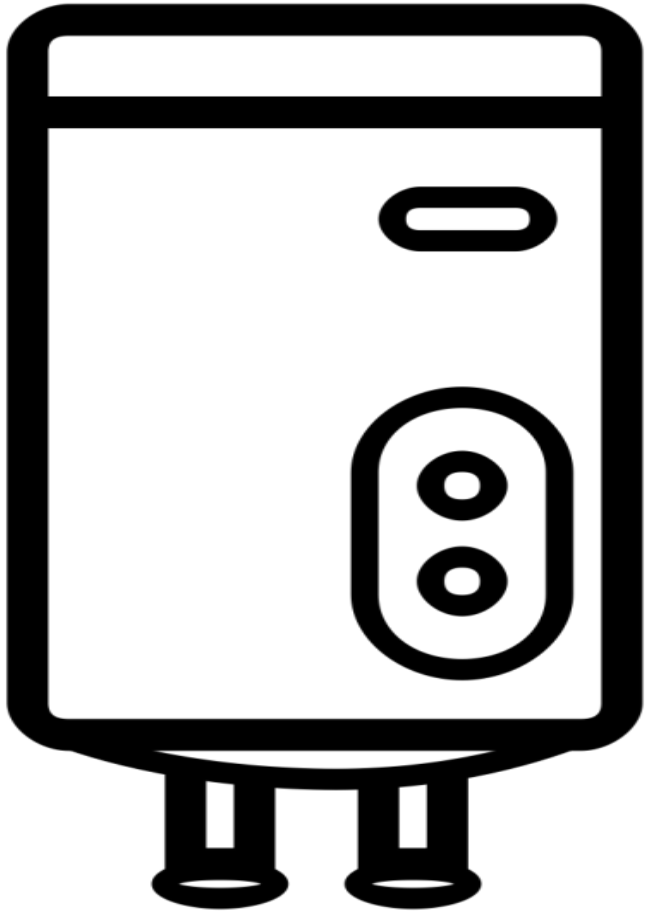
Key changes commencing 10 June 2019

Sources of these changes:



Activities 1 and 3 – water heaters

- Fresh start from 10 June
- Changed VEEC calculations



Activity 1D – heat pump water heaters

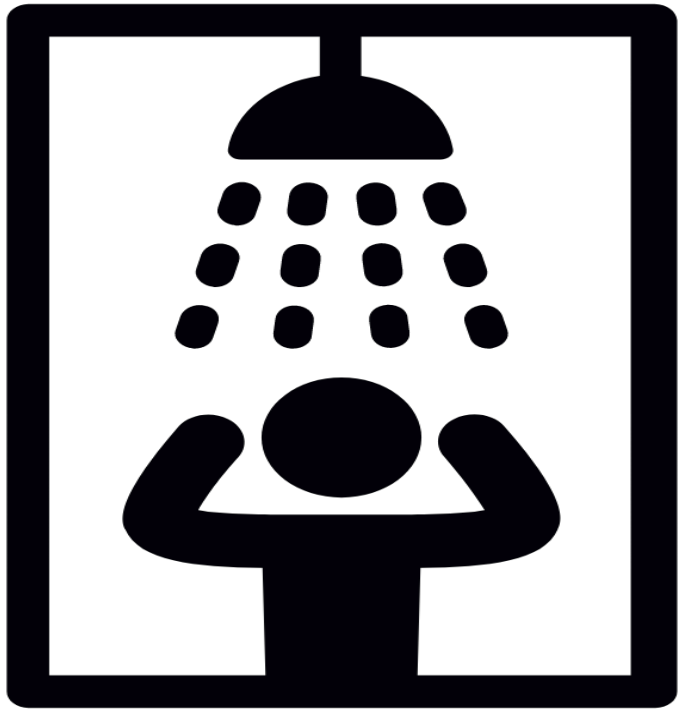
- Product approval requirement from 10/12/18 - 60% annual energy savings modelled in **zone 5** (as well as zone 4)
- For products approved before 10/12/18:

Use zone 4 data for zone 5 installations until 9/6/20

Manufacturers to provide zone 5 data by 9/6/20 for ongoing eligibility

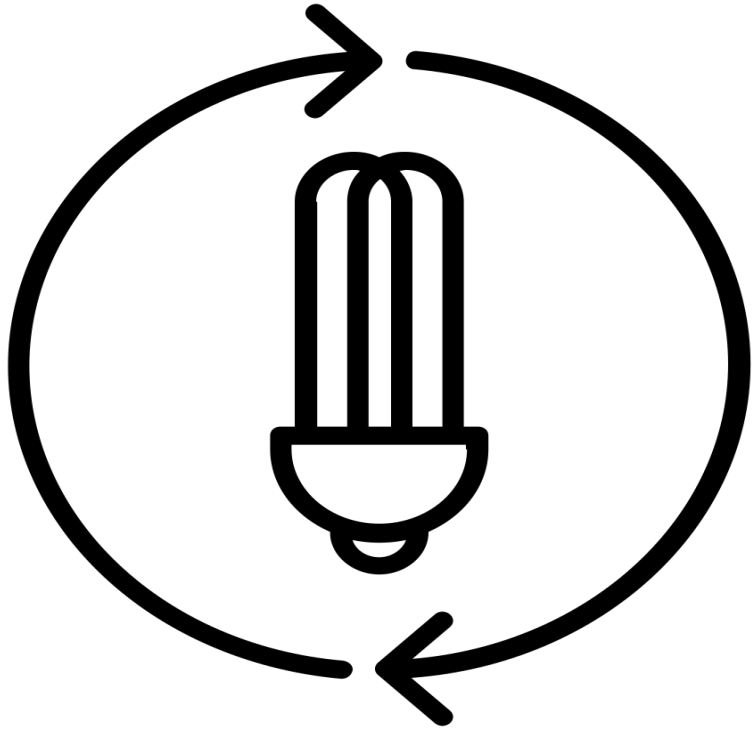
Activity 17 – shower rose

- Fresh start from 10 June
- End of product eligibility 'grace' period of 6 months from 10 Dec 2018
- Enhanced product requirement – installed product must be 7.5 l/min or less (previously 9 l/min)



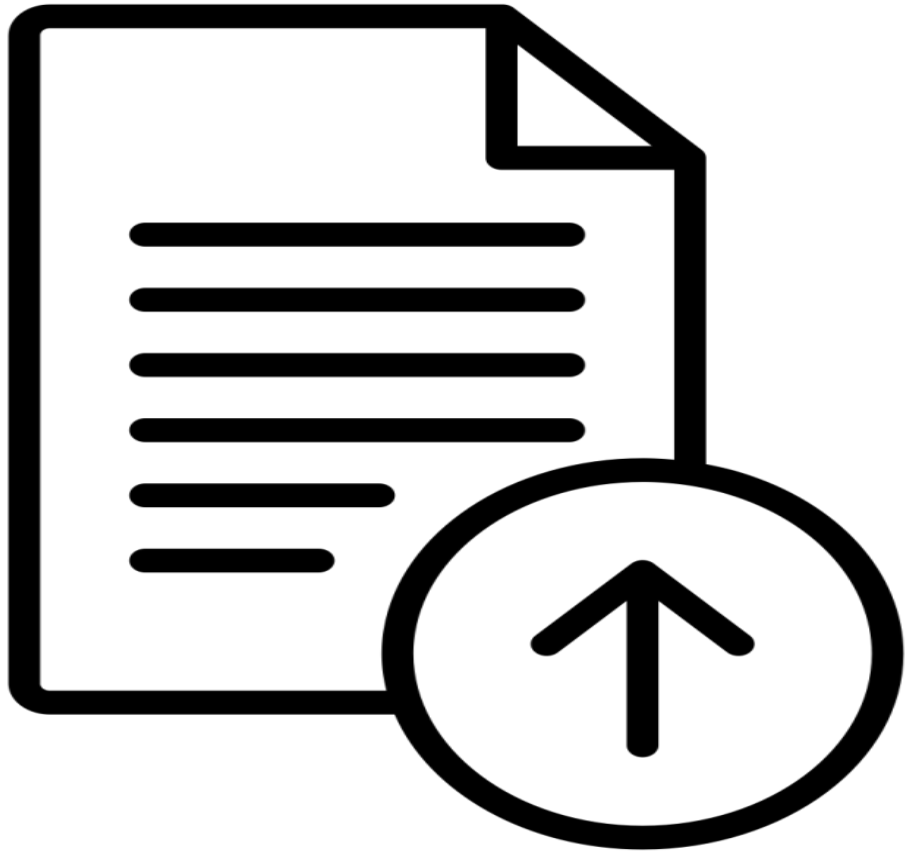
Fresh start

- Fresh start for 21A includes old upgrade product (CFLs) as new baseline product
- All other activities - baseline decommissioning requirements unchanged



Changes to VEEC creation upload forms

- Addition of system size field for water heating activities - 1C, 1D, 1F and 3B
- Single form for multiple products in one activity for:
  - water heating activities 1A, 1B, 1C, 1D, 1F and 3B
  - space heating activities 5, 7, 9, and 10
  - refrigerated display cabinet activity 32
- Use new forms for installations from 10 June



Communication timelines

- We will publish a program update shortly
- VEEC creation forms will be published on our website today to implement into your systems
- Updated guidance documents will be published on our website on 10 June

ESSENTIAL SERVICES COMMISSION

Victorian Energy Upgrades forum

Stream A – Workshop A1: E-waste Management under VEU

Dr German Ferrando-Miguel, Policy Lead

28 May 2019

Policy and regulatory direction

- E-waste banned from landfill from 1 July 2019
- From July 2020 – new EP Act 2017 and Regulations
- EPA approach: https://beta.epa.vic.gov.au/new-laws

James Johnson
Waste Policy Officer, Policy & Regulation
Environment Protection Authority Victoria
03 9695 2689 | **E** james.johnson@epa.vic.gov.au |

Definitions in new e-waste policy

- **E-waste** means waste in the form of electrical or electronic equipment, devices or things (or materials or parts of such equipment, devices or things), the operation of which is dependent on, or designed for the generation, transfer or measurement of, an electric current or electromagnetic field
- **Specified e-waste** means waste rechargeable batteries, cathode ray tube monitors and televisions, flat panel monitors and televisions, information technology and telecommunications equipment, **lighting** and photovoltaic panels
- **E-waste providers** means any person who conducts a business or undertaking that accepts e-waste for collection, storage, handling, transport or reprocessing
- **Reprocessing** means separating or extracting materials from, or changing the physical structure or properties of, e-waste to create output materials and residual waste

Implications for VEU products and persons

Products

- Lighting
- All other products with electronic components
- If electronic parts taken out of the product, they must be recycled and the parent product is not e-waste

Installers and APs

If, as part of your business, you generate, collect, store, handle, transport or reprocess e-waste (i.e remove electronic parts from a product)

Activities Captured

Activity Group	Activities	Activity Aspect
Water Heating	1A, 1B, 1C, **1D**, 1F, 3B	Decommissioning electric storage water heaters, and gas water heaters (if electronic components present)
Space heating and cooling	5,7,9,10 and 23	Decommissioning gas heaters (if electronics present), central electric heating system, air to air heat pumps, hard-wired or plug-in electric room heaters, refrigerated air-conditioner and evaporative cooler (electronics)
Weather sealing	15C	Decommissioning a fan (electronics)
Fridge	19	Decommissioning an old fridge. Until 10 Dec 2020
Lighting	**21**, 27, **34**, 35	Decommission lights, lamps, luminaires, control gear
Gas activities	37,38,41	Decommissioning boilers, heaters and burners (electronics)
PBA		All of the above and anything electric or with electronics

Responsibilities for Installers and APs

1. **Installers and APs general duty;** You need to :
   - Take all reasonable steps to eliminate or reduce all OHSE risks from e-waste
   - Prevent breakage or spoilage that might limit recycling
   - Give the e-waste to an e-waste provider (can't go to landfill)
   - Minimise delays before you send the e-waste off to a recycler

2. **If you transport specified e-waste (lighting)**; You need to maintain records for 5 years of:
   - the date, description and quantity of the specified e-waste transported
   - the name and address of the premises from and to which the specified e-waste is transported

Responsibilities for Installers and APs

1. **If you separate electronics from a product that IS NOT LIGHTING**
   - maximise recovery of materials and minimise residual waste
2. **If you separate electronics from a product that is lighting**
   - record the following information for each load received at the premises
     - the name and address of the premises from which it is transported;
     - the date of receipt, a description and quantity of the specified e-waste;
   - record the following information for each financial year
     - the description and weight of incoming e-waste
     - the type of processes used to reprocess e-waste
     - the description, weight and destination of materials and residual waste;
   - record the material recovery rate
   - comply with material recovery standards

Strategic outline

1. **We will maintain the current requirement of mercury recycling**

2. **We will focus on recycling compliance. We will refer high risk sites to EPA for other aspects**

3. **We will provide 6-month transition period for evidentiary requirement changes**

4. **We will work together with EPA on how we will deal with e-waste from 1 July 2020 under new EP Act.**

Proposed policy implementation

1. **We will modify our evidentiary requirements for lighting. ONLY accept recycling invoices (captures 21B,C,D,E and non-mercury components for 21A and 34).**
   - Effective from 1 July 2019, enforced from 1 Jan 2020.

2. **Water heaters that remain in place; we will continue to accept other evidence of decommissioning (no change)**

3. **We will modify our pre-accreditation audits to include recycling arrangements**
   - Effective 1 July 2019 for new APs

4. **We will modify our audit scope to include e-waste management**
   - Effective 1 Jan 2020

Summary timeline

ESSENTIAL SERVICES COMMISSION

Victorian Energy Upgrades forum

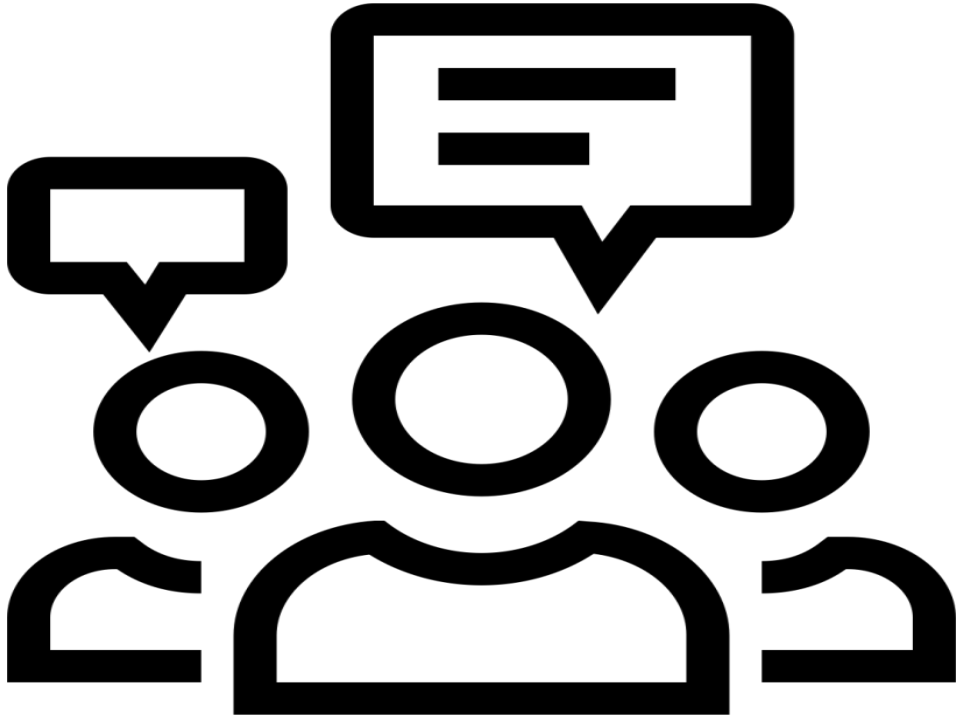
Stream A – Workshop A2: Stakeholder engagement

Geoff Lamb, Policy Officer

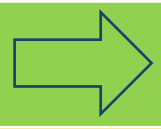
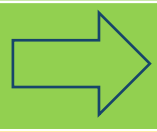
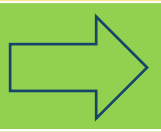
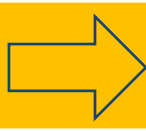
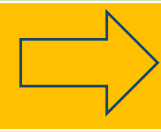
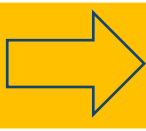
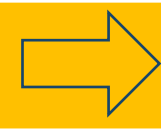
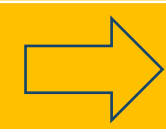
28 May 2019

Why a workshop on engagement?

- We are finalising a plan to identify better ways to engage with you, so we want to hear your ideas
- To better understand you and your business



Reputation survey results

Dimension	2017	2018	2019
Overall satisfaction			
Communication to stakeholders			
Stakeholder consultation and engagement			
Providing information to the commission			
The commission's processes			
Interactions with commission staff			
Outcomes and decisions			

Reputation survey questions – lowest results

Question
The commission provides innovative regulatory solutions
Communication is clearly expressed and logical/timely/tailored to meet your needs
The commission is responsive to my requests for information
The process for complying with my regulatory requirements is reasonable
The commission appears to be a coherent organisation (different areas work together effectively)
Commission staff demonstrate a sound knowledge and understanding of my business and our industry
The commission is aware of and understands the impacts of its decisions
The commission makes accurate decisions, with minimal technical errors and errors of fact

Activity

Five themes to guide discussing our engagement with you…

Communication – broadcast and one-to-one

Transparent and coherent decision making

Consultations

Encourage innovation

Promote VEU to the community

Activity

1. **Silent individual brainstorm**
   - Where you are sitting
   - One solution per post-it
   - Maximum 5 ideas
   - Can fit under any of the 5 themes
   - If your idea fits under more than one theme, then choose best fit
   - 4 mins

Communication – broadcast and one-to-one

Transparent and coherent decision making

Consultations

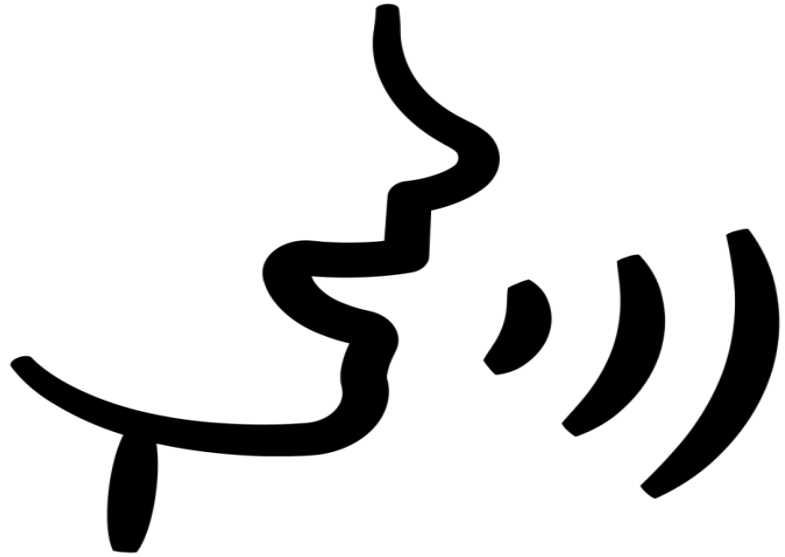
Encourage innovation

Promote VEU to the community

Q: How can we work better with you, in these 5 areas?

Activity

2. **Group similar ideas together**
   - Stand up
   - Move to the theme sheets on the side wall
   - Place your ideas onto sheet where they fit best
   - Discuss with your colleagues there which ones to group together
   - 6 mins



Q: How can we work better with you, in these 5 areas?

Activity

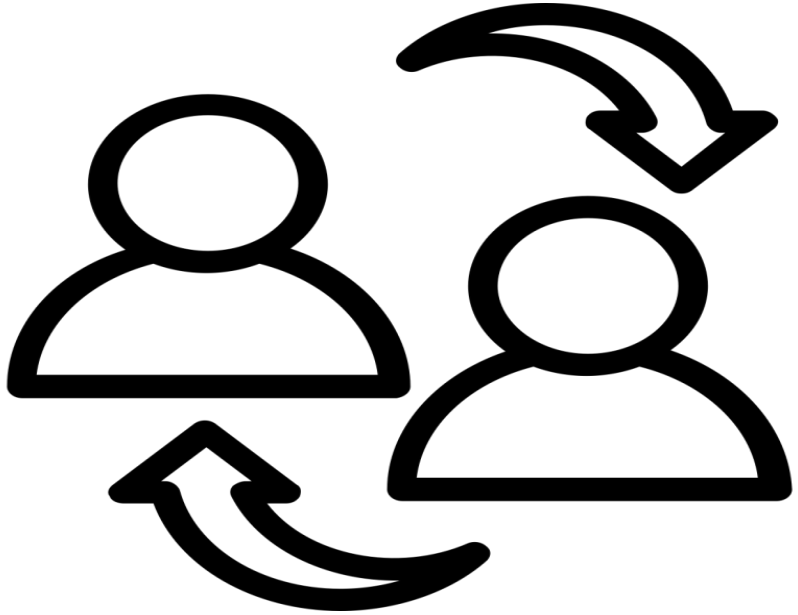
Silent individual prioritising

- Use your 5 voting dots to vote for the groups of solutions you think we should focus on
- Use your votes any way you like; 1 each for 5 good ideas/all 5 for a brilliant idea/something in between
- Vote within one theme only, or across several or all themes
- 3 mins

Q: How can we work better with you, in these 5 areas?

Wrap up

- Your input/feedback will inform our stakeholder engagement plan
- This will be published on our website
- We will email you when published
- Thank you for your energy and honesty



ESSENTIAL SERVICES COMMISSION

Victorian Energy Upgrades forum

Stream A – Workshop A3: Product applications

Dave Ferrari, Supervisor

Nilanga De Silva, Project Officer

Ayona Sur, Project Analyst

Connie Zhang, Project Analyst

28 May 2019

Agenda

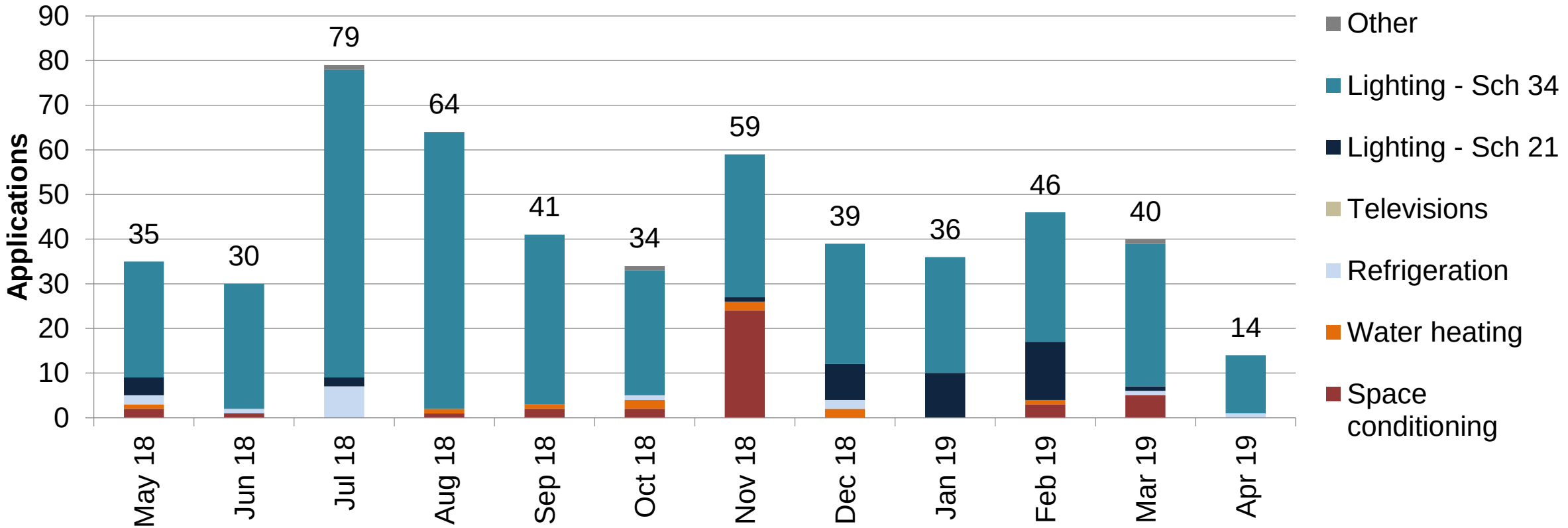
1. Product approvals
   - past year
   - current status
2. How we're managing the application queue
3. Product testing program
4. We'd like your feedback

VEU Forum – Products workshop

Stanislav Petrov

1. Product approvals

Products approved – past year



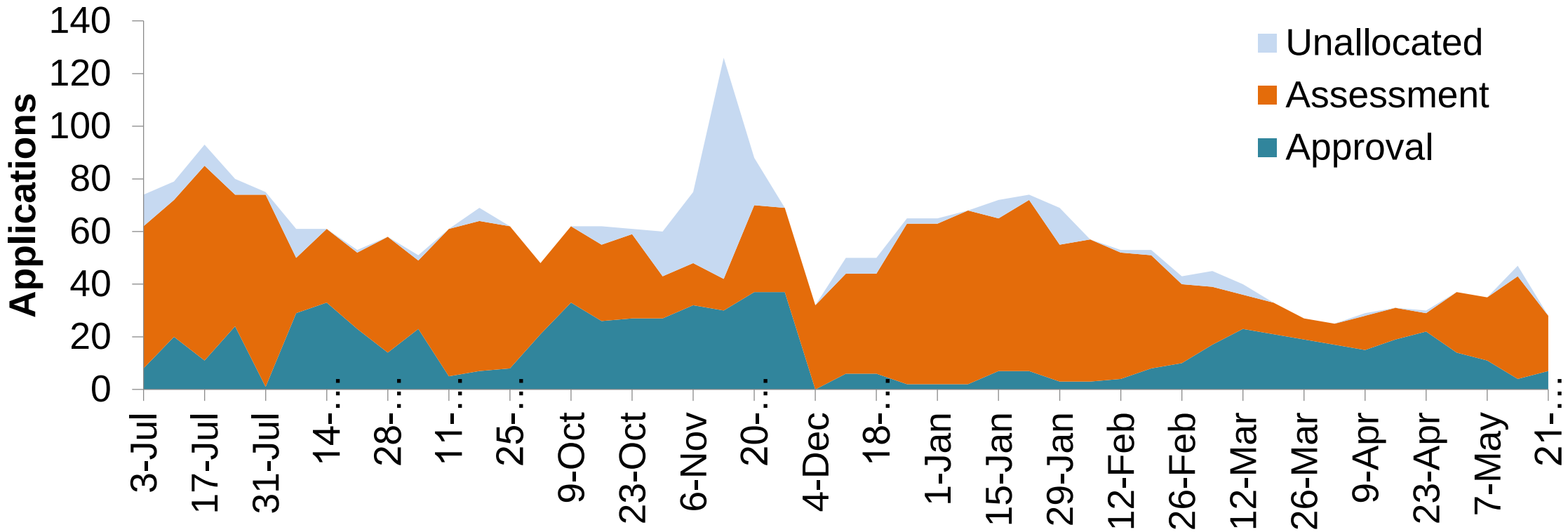
2. How we're managing the application queue

Reminders—rules introduced mid-2018:

1. Limiting applications to two RFIs
2. Returning old (lighting) applications with no nominations
3. Only processing lighting applications with nominations

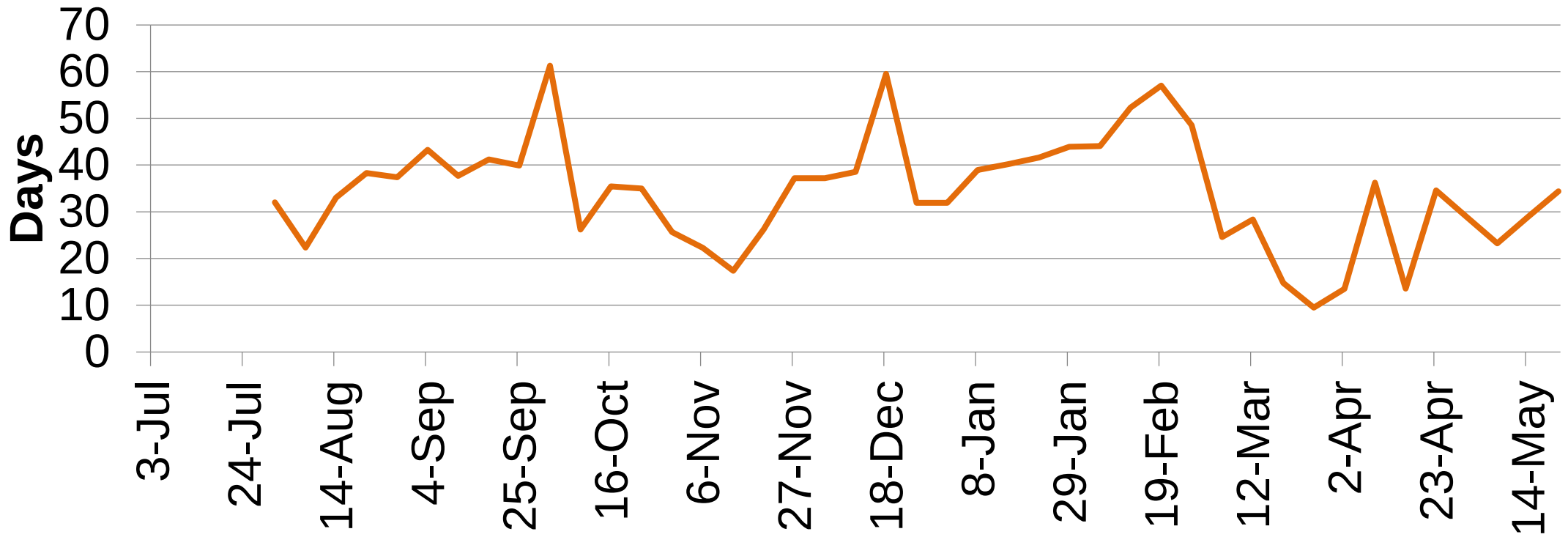
2. How we're managing the application queue

Applications queue (1+ nominations) – past year



2. How we're managing the application queue

Approval times – average queue age



VEU Forum – Products workshop

Stanislav Petrov

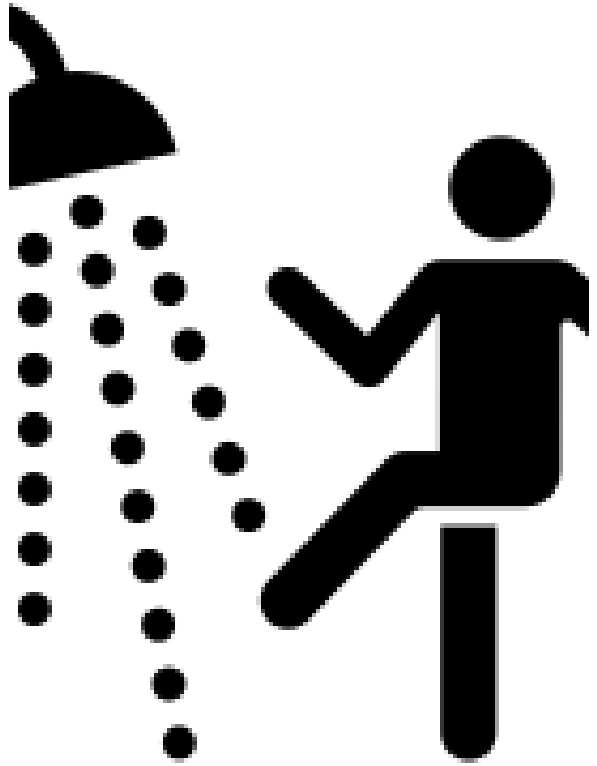
3. Transitioning to the 2018 VEET Regulations

- Migration of product registers (December 2018)
- Lighting products
- Appliance (GEMS) products
- Water efficiency (WELS) products

3. Transitioning to the 2018 VEET Regulations

Product category 17 (shower roses)

- Legacy products: end of product eligibility 'grace' period
- New enhanced product requirement:
  - Previously flowrate ≤ 9 l/min
  - This will reduce to flowrate ≤ 7.5 l/min
  - See amended product application guide and 10 June website update for further information



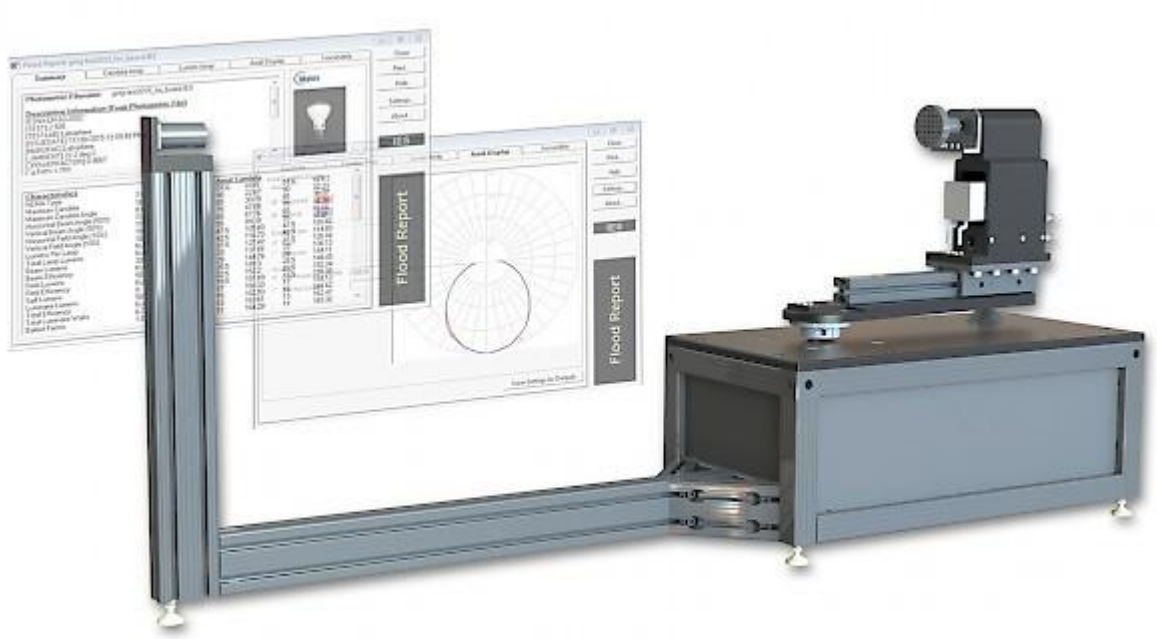
VEU Forum – Products workshop

Stanislav Petrov

4. Product testing program

Accredited safety and performance testing

- Working with a NATA-accredited laboratory
- Focus on safety, performance and validation against evidence provided at product registration



4. Product testing program

Check testing

- The ESC has developed new in-house capability for *"preliminary testing"* of lighting products
- What does this mean?
  - More sampling and testing of lighting products
  - Ongoing process
  - Focus is on validation
  - Results are indicative

VEU Forum – Products workshop

Stanislav Petrov

5. We'd like your feedback

- Changes in the products market
- Are there areas where our guidance is not keeping pace?
- Are there areas where our guidance isn't clear? What would make our guidance more user-friendly?
- We're constantly revising our requirements to ensure only quality products are installed under the scheme.
- What processes or evidence (such as additional testing) do you currently have which may support this goal?

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Victorian Energy Upgrades forum – Stream B

ESSENTIAL SERVICES COMMISSION

Victorian Energy Upgrades forum

Stream B – Workshop B1: Project-based activities

Phil Woodward, Technical Lead
Zahra Abbasi, Project Analyst
Arlen East, Project Analyst

28 May 2019

Agenda

1. PBA recap
2. Update on PBA
3. Upcoming changes to PBA documents
4. How to make your application move more quickly
5. Impact report tips

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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.

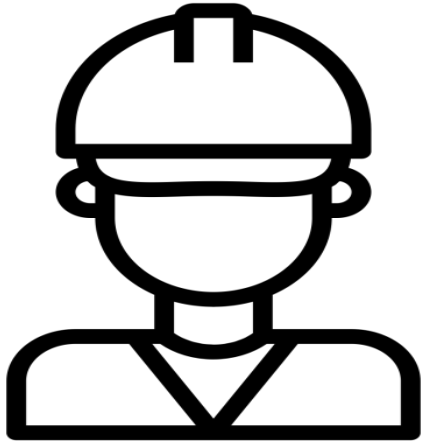
Technology neutral

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

How is PBA different?

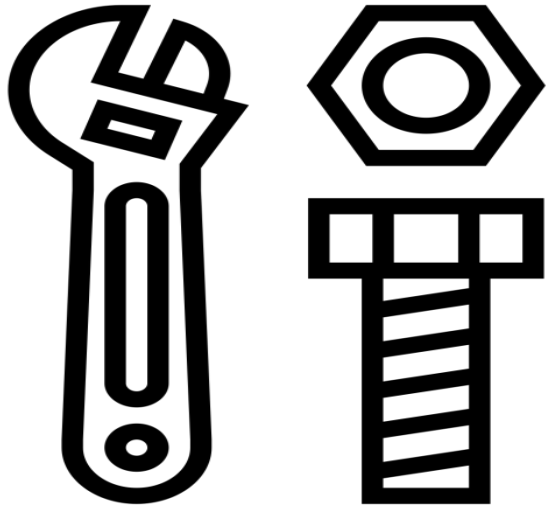
PBA is different from existing Victorian Energy Upgrades activities in the following key ways:

Measurement



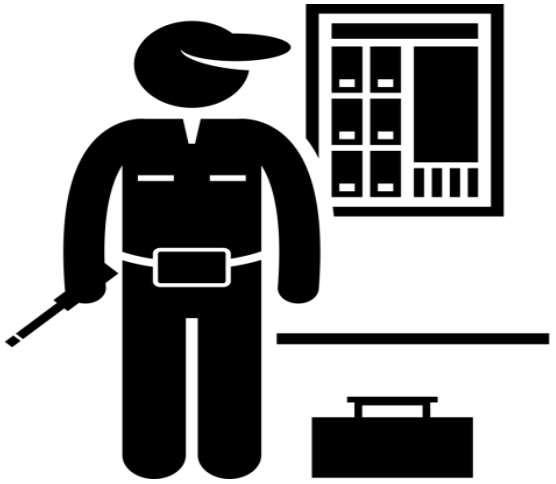
Actual before and after measurements are used to calculate certificates (VEECs)

Technology



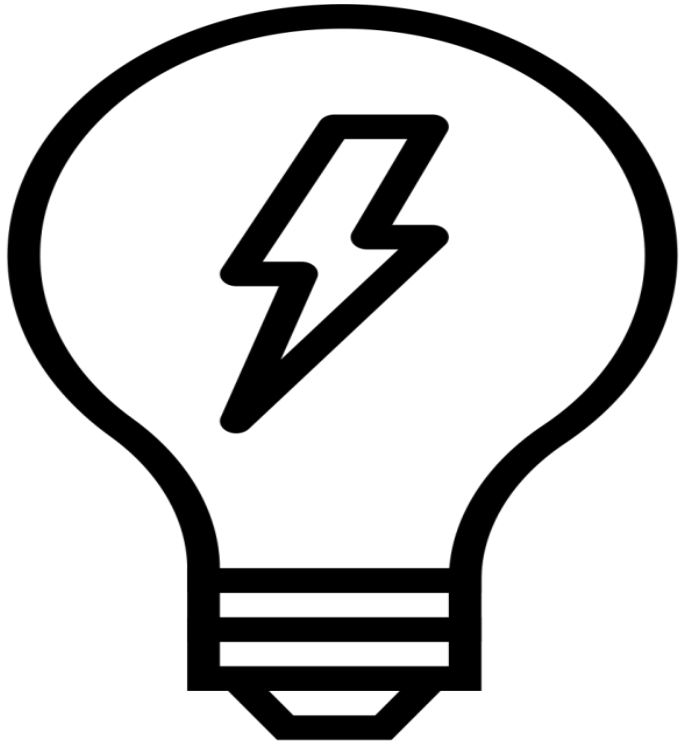
Activities are not limited to specific technologies.

“Upgrade”



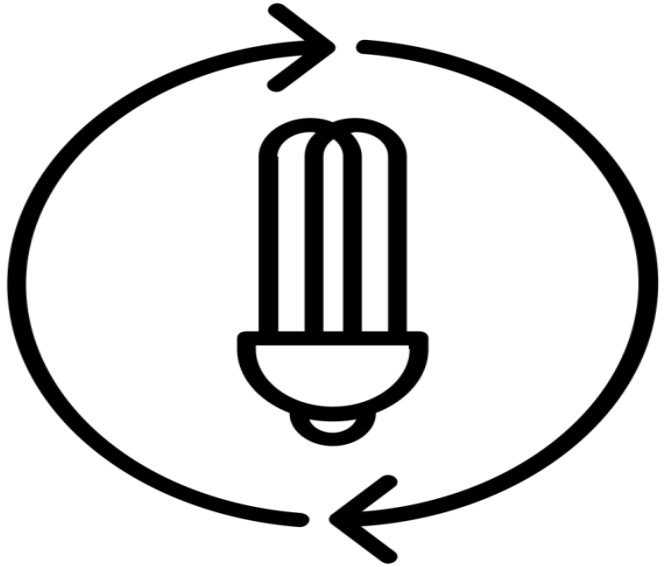
Projects don’t need to be a physical “upgrade”. They can be process, set-point, or behaviour changes, or any other eligible abatement.

Product List



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

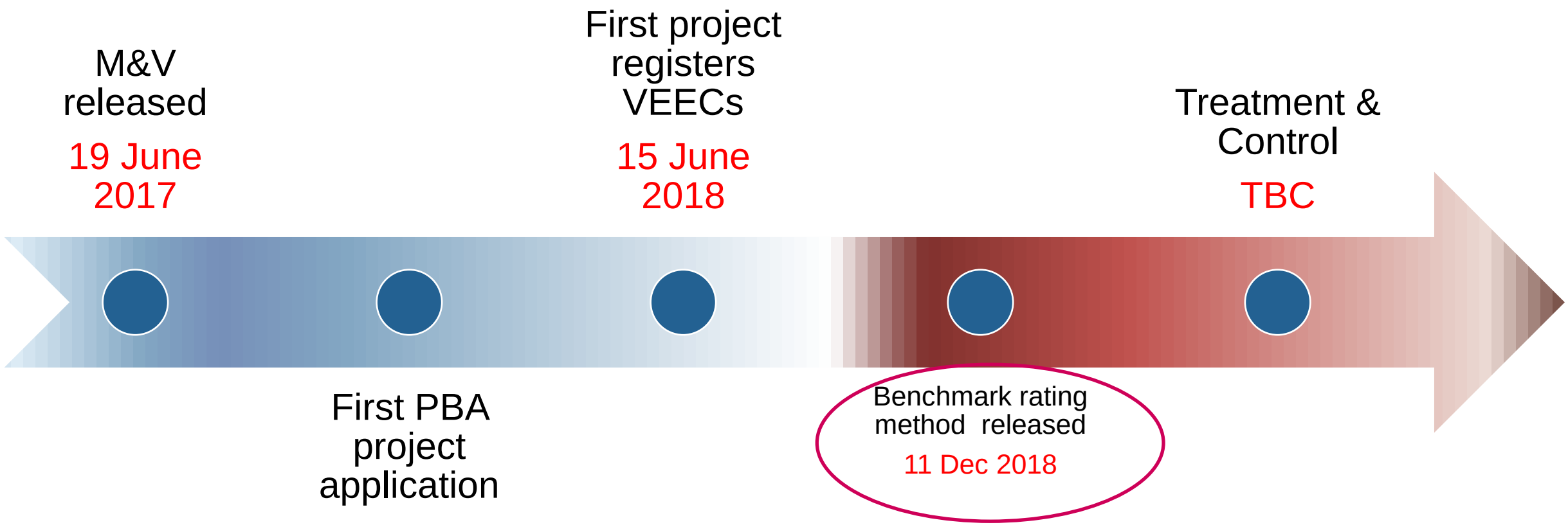
Decommissioning



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

Project-Based Activities methods

PBA Timeline



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Update on PBA

M&V Projects so far

- 114 submitted
- 33 approved on the public register
- 74 at scoping approval stage
- 4 have proceeded to impact report stage
- 2 have created VEECs

Types of project we've seen so far

- Biogas and biomass, anaerobic digesters
- Cogen
- VSDs, pumps, compressors and blowers
- Boilers
- HVAC
- BMS/BEMS
- Rolling stock
- Hospital services
- Voltage optimisation
- Data centres

Types of project we might see

- Processing lines, conveyors
- Solar PV
- Municipal waste
- Landfill gas
- Comminution (crushing, grinding)
- Energy storage
- Airports
- ?

Processing times

- **Average processing times (with the ESC)**
  - Scoping plans: 0.5 days
  - Project plans: 0.7 days
  - Impact report: 4.2 days

- **These times may change as participation in the method increases, however we have been able to respond flexibly to submission rates**

Improvements to date

- Red tape removal – insurance records, statutory declarations
- AM&VP independence – basic reports can now be completed by employees of the AP if they can demonstrate independence from the project
- Combined application forms – making it easy to submit the scoping and project plans at the same time
- Impact report checklist
- Consolidation of questions on forms – fewer questions to answer

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Upcoming changes for PBA docum

Upcoming changes (clarifications)

- Variations
- Photographic evidence
- Behaviour change
- Missing data
- Lighting projects

Variations

Changes that do NOT require a variation anymore

- Changes to project dates
- Changes to key roles responsible for the delivery of the project, including agents and expert advisors

Variations

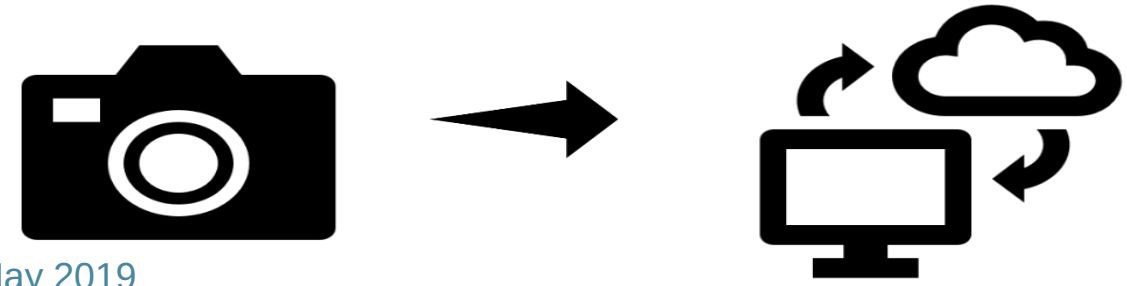
Changes that DO require a variation

- Any changes to lighting equipment e.g. brand/model, numbers, sensors, zoning
- Changes to measurement boundaries or variables

Geo-tagged photographic evidence

Provide photo evidence of incumbent equipment at project plan stage and upgraded equipment at impact report stage

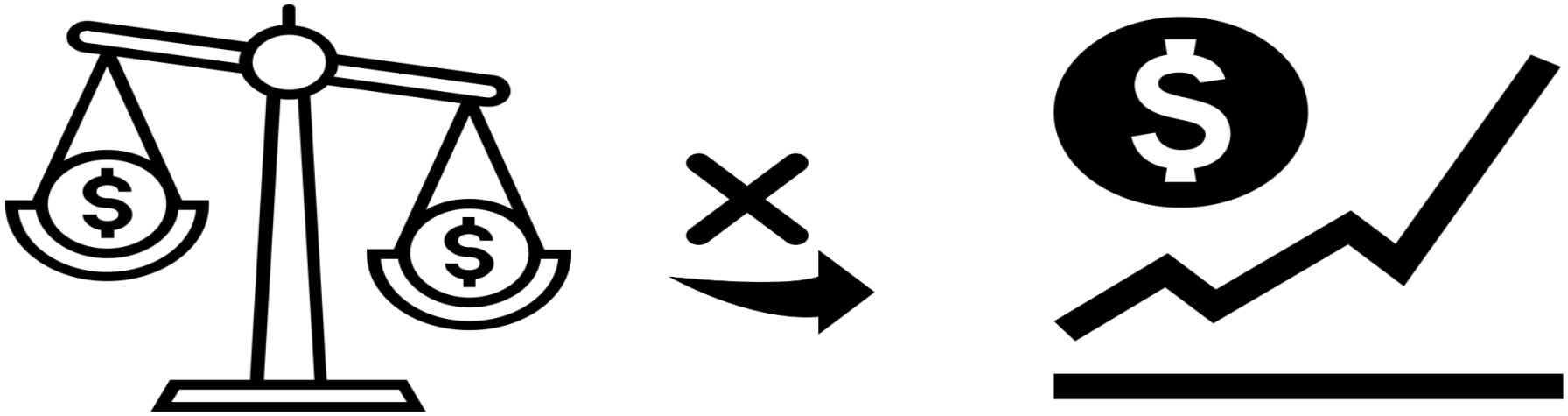
- Clear and in focus
- Include any relevant markings
- Include a date stamp and metadata showing the date the photo was taken
- Include GPS derived latitude and longitude coordinates metadata, generated automatically by the device used to take the geo-tagged photos.



Behaviour change

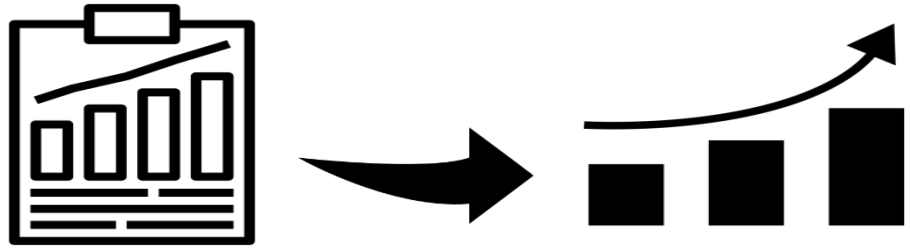
- If option C is used and savings resulting from behaviour change are more than 20% of the total savings, forward creation will not be possible

- we may decide that annual creation is the only viable method.



Missing data

- Data loss and how it will be measured should be established in the M&V plan
- If data is missing, the time interval can be omitted or refer to the IPMVP for other methods to deal with this
- All energy consumption data must be real measured data from the relevant time period



Projects that involve lighting

New requirements:

- Floorplan showing location of installed lights and zoning areas

- Details of lighting products installed and removed
  - Sensors, both integral and stand alone?
  - Rated W?
  - Hours of use?

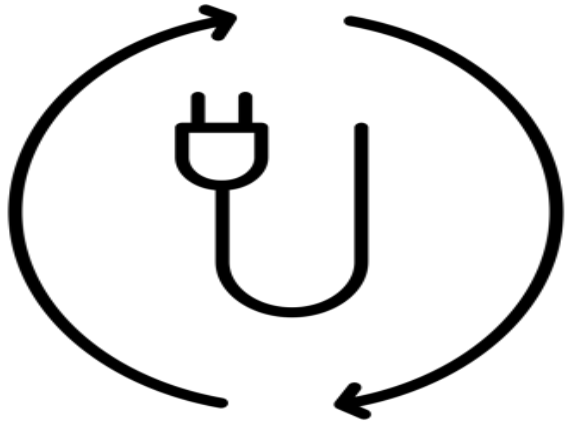
M&V plan

- site services affected
- breakdown of existing equipment, upgrade equipment and their energy consumption
- decay factor (including ALL inputs if you’re using the OEH model)
- explain whether electricity or gas is used for heating (HVAC projects)

Other minor changes

- Clarify questions relating to project details at the scoping plan stage, which must be provided again in greater detail in the M&V plan

- You need to compare the savings estimate and actual savings determined at the impact report stage



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How to help your application move quickly

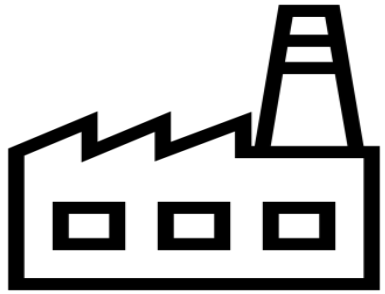
Project details – scoping plan

Provide clear responses regarding the following:

- Services affected – this should be a high level list of the functional parts of the site being improved, such as process heating, lighting, HVAC.
- How will the project result in abatement – this should be a brief explanation of how the project will save energy.
- Detail is not required here, but it should be a logical explanation of why efficiency is improved.

Metering and site diagrams

- For option C, we just need to see what equipment is affected without a detailed single line diagram
- For option B, a diagram showing all equipment covered by the meter is required
- We may require more detail at the project plan stage
- All relevant meters should be marked



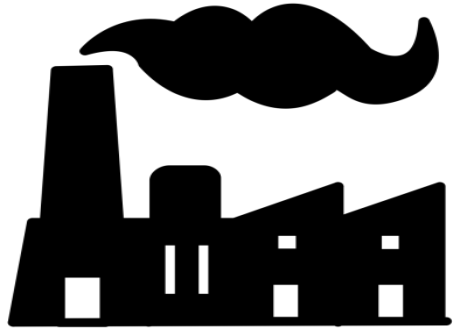
Saving estimates in the project plan

- We need to know how you arrived at the GJ/y or kWh/y savings value.
- Detailed enough to provide confidence
- If you have multiple ECMs, provide a breakdown

Scheduled activity premises (SAP)

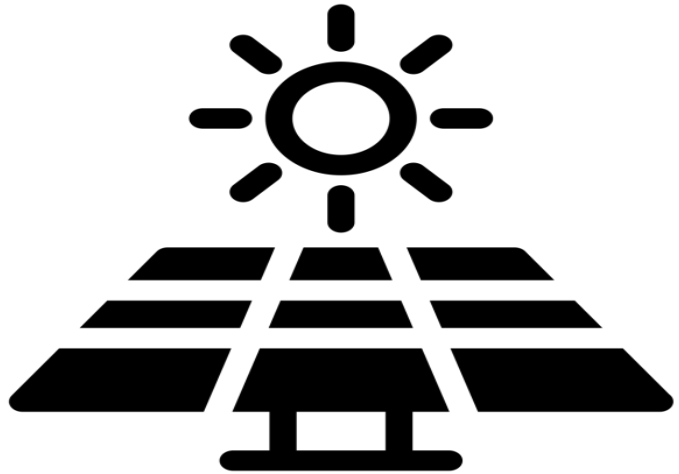
SAP sites (based on the EREP list) are large energy use sites which are exempt from paying a VEET liability. Until they opt in, they cannot participate in the VEU program.

We keep a register of these sites on the VEU Registry. If they are on the register, provide an opt-in letter before submitting your scoping plan application.



Renewable energy

- Do you have renewable generation on site? If so, how much?
- Savings cannot come from reducing the use of on site solar generation and some other renewable sources
- Are you planning on installing renewable energy? If so, no export.
- Separately meter if needed



Administration

- Ensure you have attached a complete set of documents and answers
- Start date – please submit scoping plans as early as possible
- Keep your insurance details and VEU Registry account up to date
- Use the latest version of documents
- Make sure information matches between the portal, application forms and other documents
- Update documents – don’t just reply in the notes!

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Impact report tips

Impact report calculations

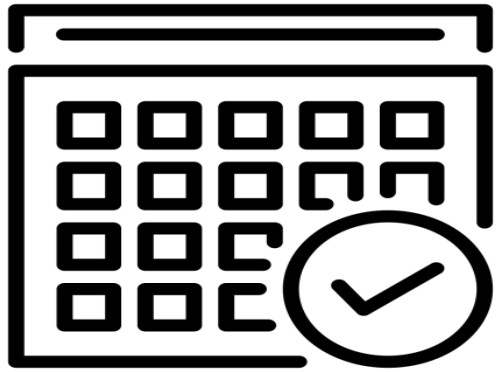
- We need to see all calculations worked in full

- Significant figures should be followed

  - calculations from raw data to provide inputs

  for the regression must preserve figures

  - rounding should occur in one go at the VEEC figure and should match the minimum raw SF



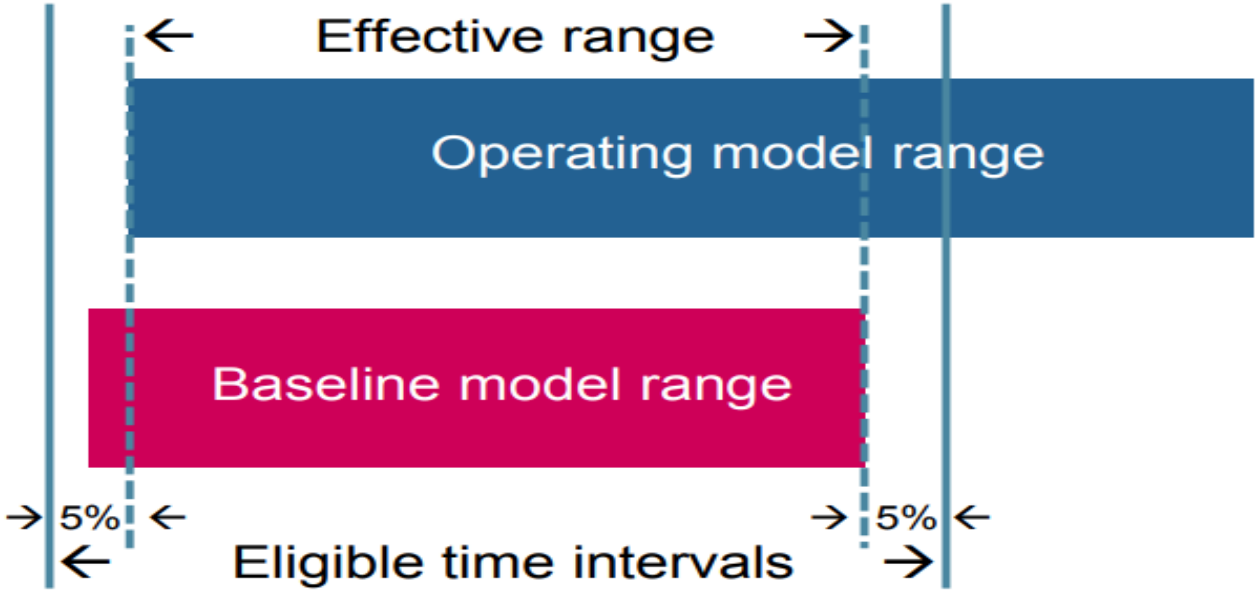
Impact report data

Impact report data should be in as much detail as you can provide

- Missing data should be explained
- We need a complete set of raw data for all measurements
- Any onsite generation (such as backup diesel) should be identified and accounted for
- Measurements should relate to the time interval

Effective range – forward creation

- The effective range for forward creation is the difference between the max/min overlapping values of baseline and the operating period data for each independent variable
- Chosen normal year time intervals are not eligible unless the data is within the eligible range – which is the effective range +/-5%



For example:

baseline data:

3, 5, 4, 4.5, 5.5, 5.

Operating period data:

4, 3.5, 4, 4.5, 6, 5.

The effective range is 3.5 to 5.5

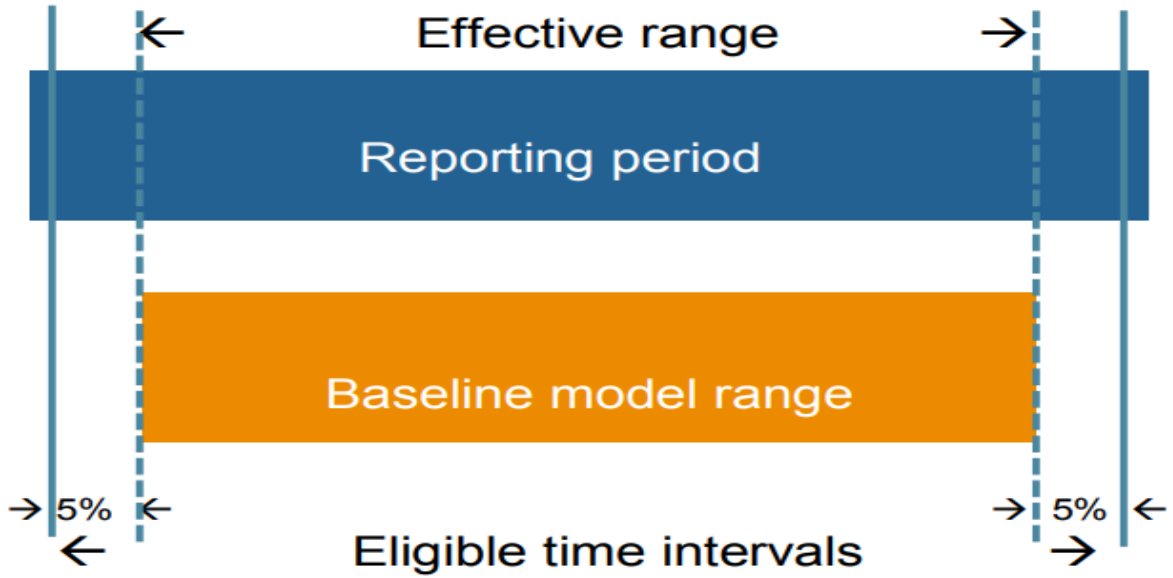
The difference between min/max is 5.5 – 3.5 = 2

5% of which is 0.1

Eligible range is 3.4 to 5.6

Effective range – annual creation

- The effective range for annual creation is the difference between the max/min values of baseline period data for each independent variable
- Time interval data is not eligible unless it is within the eligible range – which is the effective range +/-5%



For example:

baseline data:

4, 5, 4, 4.5, 5.5, 5.

the effective range is 4 to 5.5

The difference between min/max is 5.5 – 4 = 1.5

5% of which is 0.075.

Eligible range is between 3.975 to 5.575

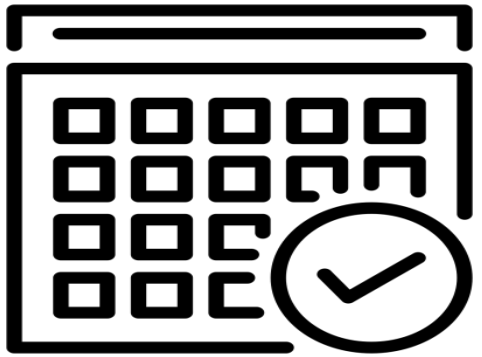
Uncertainty

- Energy meter uncertainty, modelling uncertainty, and sampling if applicable
- The baseline and operating models each have a model standard error
- These errors are combined and then adjusted for the measurement frequency and converted to give a final statement of uncertainty at 90% confidence

Statistical evidence

- If you are using option C and savings are less than 10% of the baseline consumption, you may be required to provide additional evidence that the savings are statistically significant.

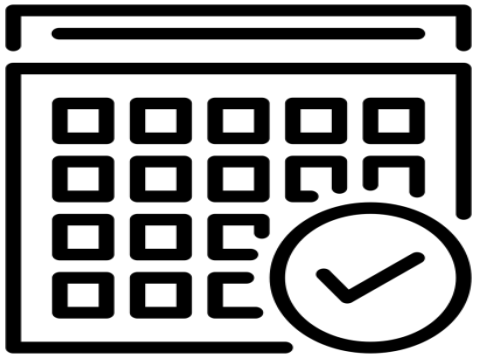
- Example: using regression to show the statistical significance of the change as an independent variable before (0) and after (1) the project.



Statistical evidence

- If you measure the energy consumption in a condition (or method) which is different from the real working conditions, will need to provide mathematical justification to prove the significance of the saving.

- Example: measuring electricity usage of lighting in stationary equipment instead of moving equipment



ESSENTIAL SERVICES COMMISSION

Victorian Energy Upgrades forum

Stream B - Workshop B2: New gas efficiency activities

Dr German Ferrando-Miguel , Policy Lead

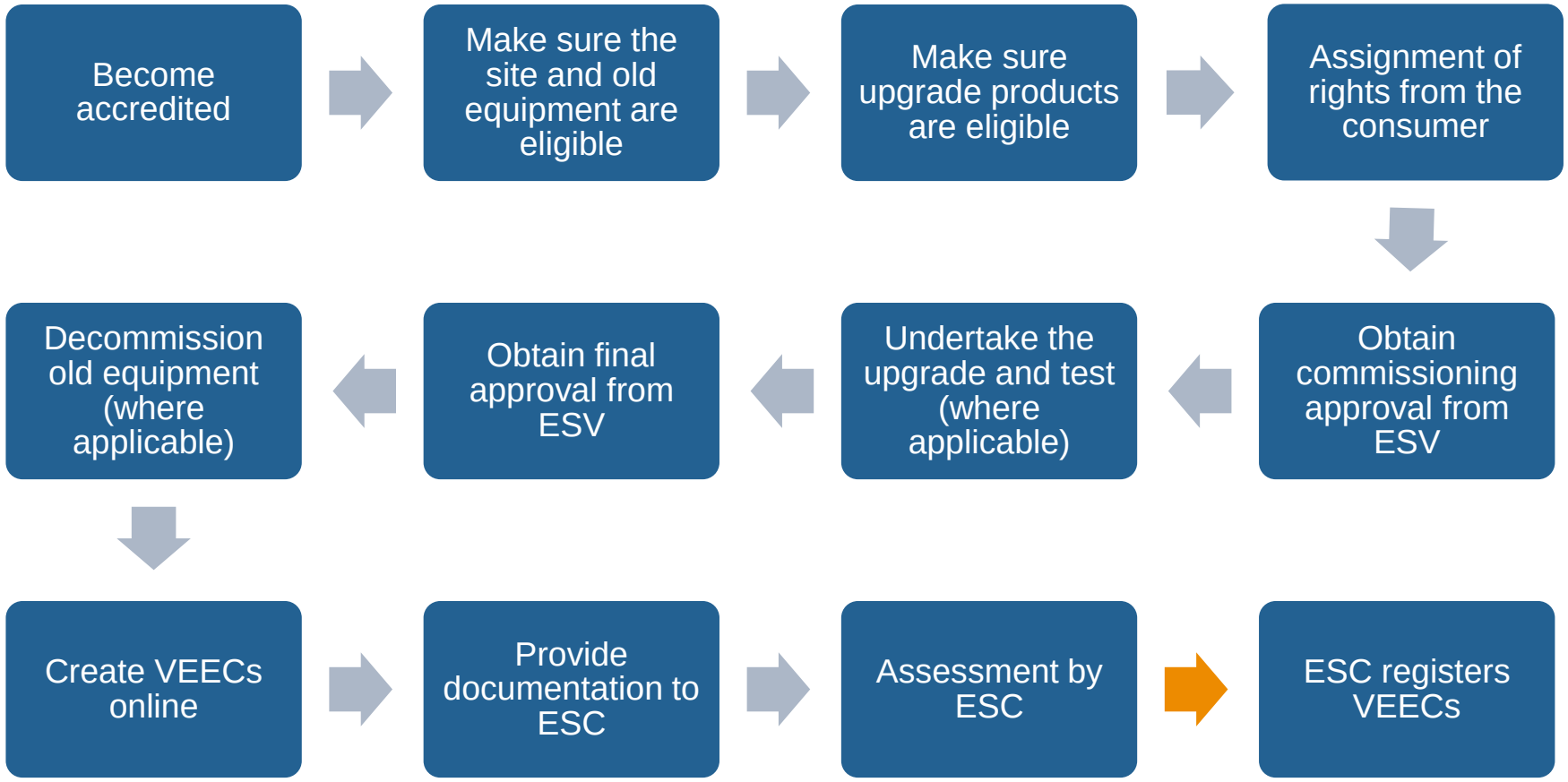
28 May 2019

From 1 March 2019

New gas efficiency activities – 1 March 2019

Activity	Baseline	Upgrade
37	Decommissioning an existing inefficient gas-fired steam boiler	Energy efficient gas-fired steam boiler
38	Decommissioning an existing inefficient gas-fired Type B appliance (steam boiler, hot water boiler or water heater)	Energy efficient gas-fired hot water boiler or water heater
39	Burner on a gas-fired Type B appliance (steam boiler, hot water boiler or water heater)	Installing electronic gas/air ratio control system on that burner
40	Burner on a gas-fired Type B appliance (steam boiler, hot water boiler or water heater) which has an existing gas/air ratio controller	Installing combustion trim control on that burner
41	Decommissioning an existing inefficient old burner on a gas-fired Type B appliance (steam boiler, hot water boiler or water heater).	Installing a new burner
42	Gas-fired Type B appliance (steam boiler, hot water boiler or water heater)	Installing an economizer

Gas efficiency activity process

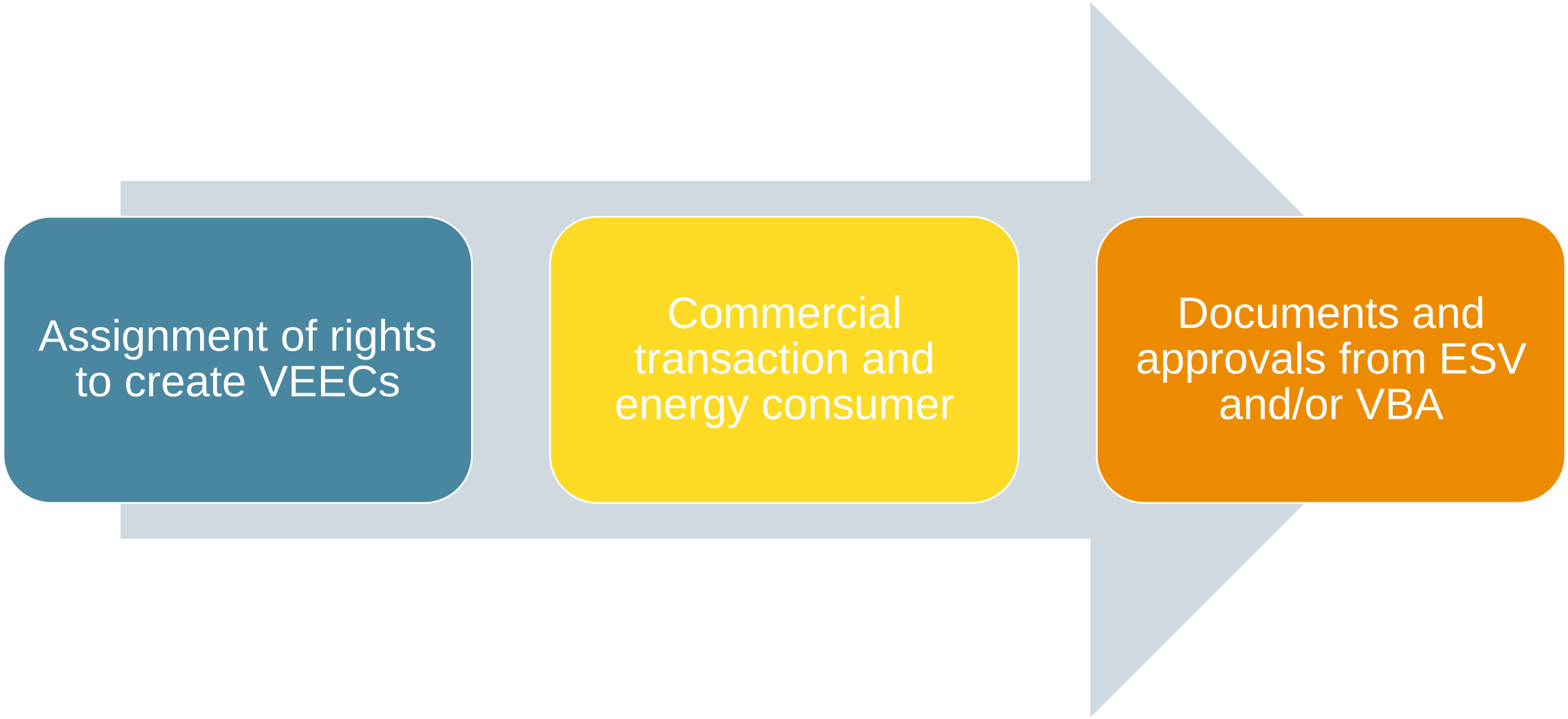


Eligibility requirements

1. The activity must take place in an eligible site
   - Business premises, services area in apartment buildings or in hotels/motels.
2. The product installed must be a Type B appliance or components on a Type B appliance
3. The upgrade activity must be approved by ESV and/or VBA
4. The upgrade activity must satisfy activity requirements

Note: if the upgrade activity is of an intricate nature or linked to other upgrades, the program's project-based activities methods are recommended.

General evidence requirements for all gas efficiency activities



Activity 37 – Gas-fired steam boiler

Product criteria

- Replace inefficient steam boilers
- Install a new steam boiler with the minimum gross thermal efficiency of at least 80%
- Has a gas/air ratio control system if over 3,700 MJ/h
- Also has a combustion trim if over 7,500 MJ/h

Evidence requirements

- Baseline equipment age
- Thermal efficiency test report of BS 845 standard
- Decommissioning evidence
- Commissioning approval


THERMOWIZ

Activity 38 – Gas-fired hot water boiler or water heater

Product criteria

- Replace inefficient hot water boilers/water heaters, preferably pre-1990 with old burners
- Install a new steam hot water boiler/water heater with the minimum gross thermal efficiency of 85%
- Has a gas/air ratio control system if over 3,700 MJ/h
- Also has a combustion trim if over 7,500 MJ/h

Evidence requirements

- Baseline equipment age
- Thermal efficiency test report of BS7190 (pre-commissioning) or BS 845 (post-commissioning) standard
- Decommissioning evidence
- Commissioning approval

Activity 39 – Electronic gas/air ratio control

Product criteria

- Install on a burner of a Type B appliance
- Not available if installed as mandatory for activities 37, 38 or 40

Evidence requirements

- Existing appliance
- Electronic gas/air ratio control
- Commissioning approval

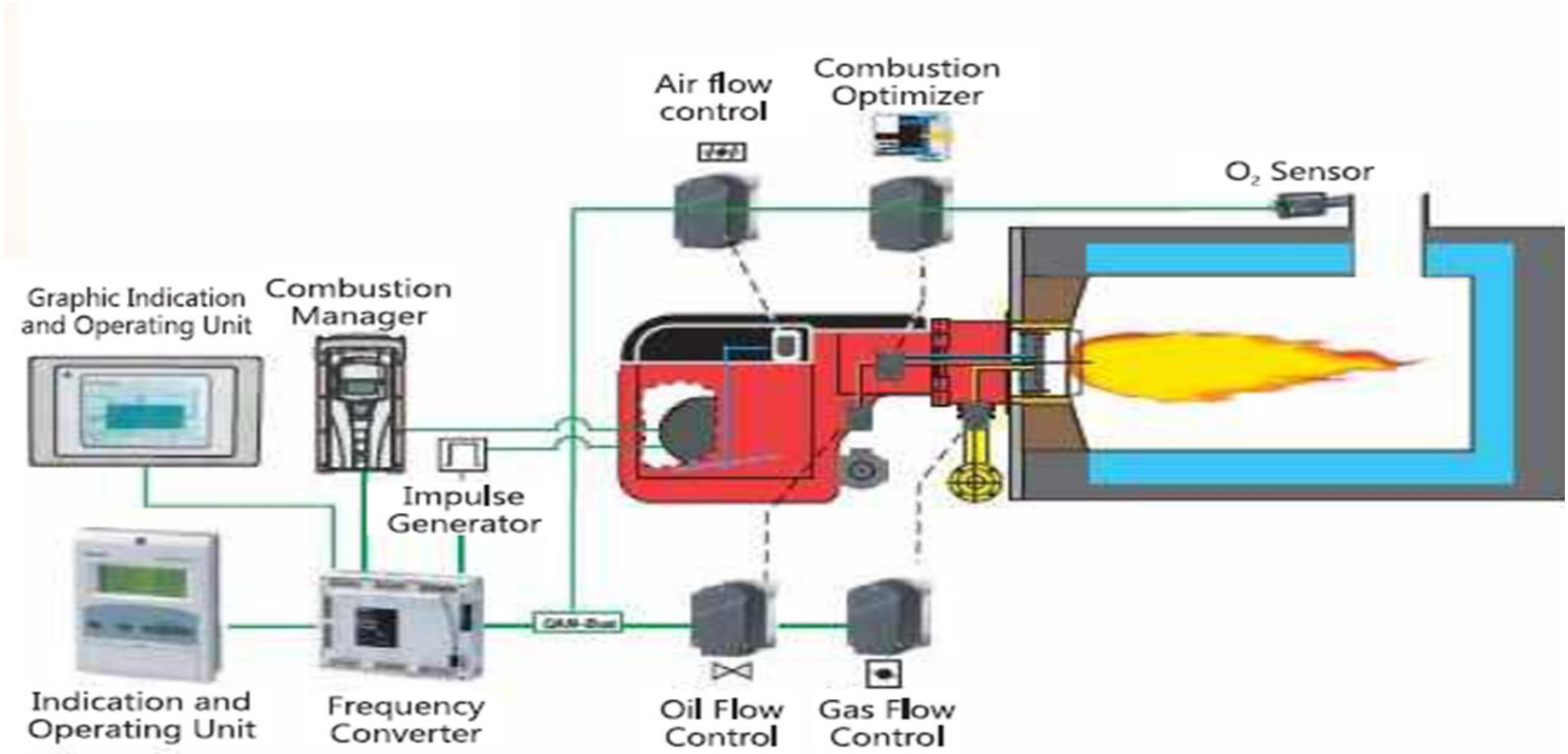
Activity 40 – Combustion trim system

Product criteria

- Install on a Type B appliance that has an electronic gas/air ratio control system
- Not available if installed as mandatory for activities 37 or 38

Evidence requirements

- Existing appliance
- Combustion trim connected to gas/air ratio control system
- Commissioning approval


Air flow control
Combustion Optimizer
O_2 Sensor
Graphic Indication and Operating Unit
Combustion Manager
Impulse Generator
Indication and Operating Unit
Frequency Converter
Oil Flow Control
Gas Flow Control

Activity 41 – Gas- fired burner

Product criteria

- Replace 10 years old burner and install a new burner on a Type B appliance that the decommissioned burner was removed from
- Must have an electronic gas/air ratio control if nominal gas consumption is over 3,700 MJ/h

Evidence requirements

- Existing burner age/manufacturing year
- Upgraded burner
- Decommissioning evidence
- Commissioning approval

Activity 42 – Economizer

Product criteria

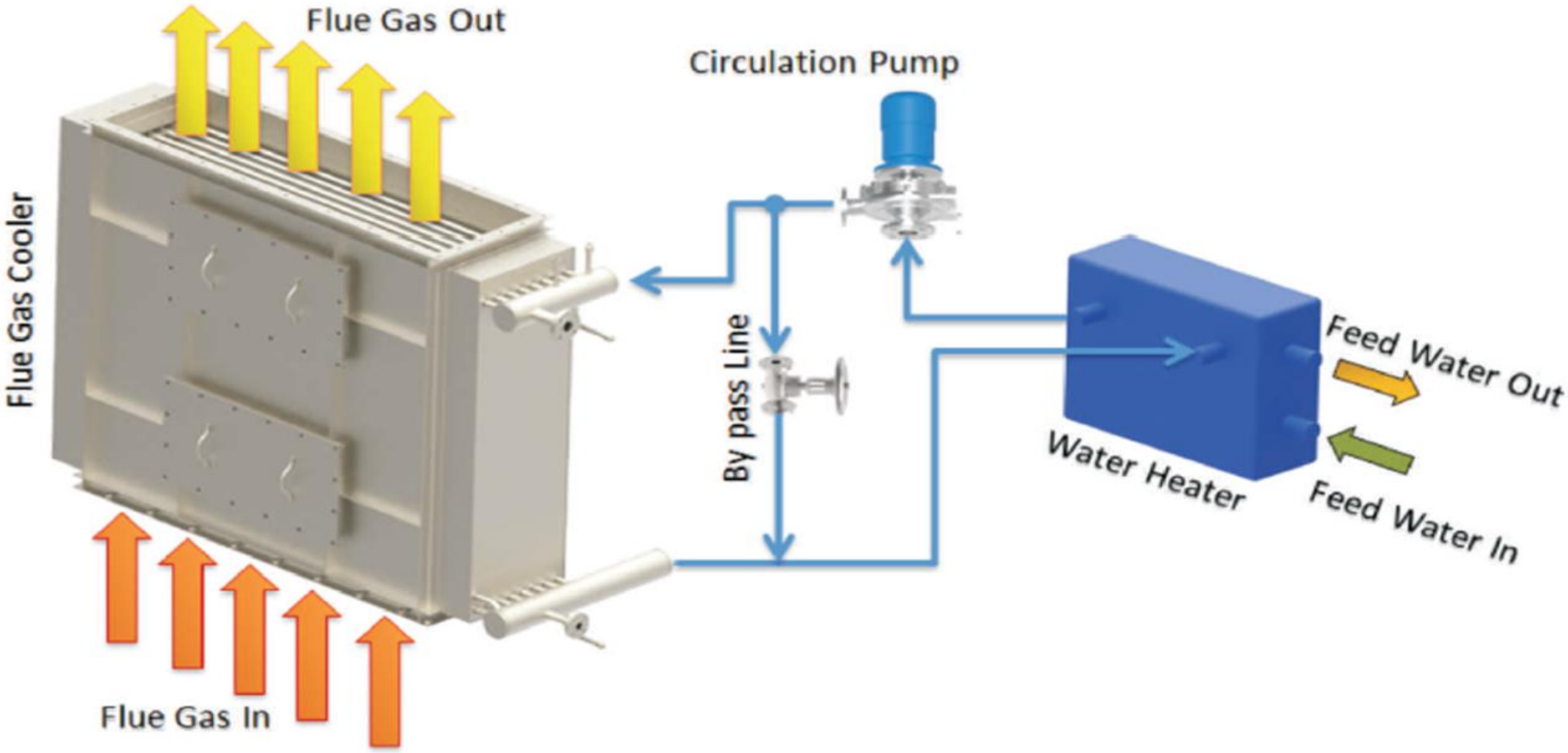
- Comply with AS 1228
- Install condensing type economizer on a type B appliance (non-condensing one)
- Moves combustion products into stainless steel stack
- If not designed to run dry, it has an automated system to keep minimum flow rates

Product criteria

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

Evidence requirements

- Existing burner
- Economizer details
- Commissioning approval


Flue Gas Out
Circulation Pump
Flue Gas Cooler
By pass Line
Feed Water Out
Water Heater
Feed Water In
Flue Gas In

How many VEECs can you claim?

Baseline scenario	Upgrade options	Water boiler or heater	Gas/air ratio control installation	Total VEECs
An existing gas-fired hot water boiler manufactured in 1986 with original burners and a nominal gas consumption of 900 MJ/h	Installation of new gas-fired hot water boiler with a nominal gas consumption of 1,125 MJ/h and a gas/air ratio control	84	26	110
An existing gas-fired steam boiler manufactured in 1991 with burners replaced in 2009 and a nominal gas consumption of 10,900 MJ/h	Installation of new gas-fired steam boiler with a nominal gas consumption of 8,750 MJ/h and a gas/air ratio control	632	n/a	632

As the new boiler has a nominal gas consumption greater than 7,500 MJ/h, VEECs are only generated for the boiler replacement and **not for the installation of the gas/air ratio control and combustion trim.

Next steps

1. Approval of eligible APs to undertake these activities
2. Feedback from industry on requirements outlined in the activity guide document

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Stream C – Workshop C1: Accreditation and VEEC assessments

Kate Keating, Project Manager

28 May 2019

Flexible Target Days (FTD) Trial Review

- Analysis indicates no significant improvement to issues rate
- Feedback indicates overall AP's supportive or indifferent to FTD's
- Continue with FTD's until new IT system implemented

Proposed amendments to FTD's

- Minimum assessment time 14 days
- Determinations made quarterly
- Determination matrix will be reviewed
- Target time frames range within AP's risk rating i.e. 3.5 rating will range within 3.0 – 4.0

Validation assessment – Top tips

Decommissioning reconciliation

Activity date	Address			Customer First Name	Customer Last Name	Total Qty Installed	cfl	Incandescent	Cfl Weight Recycled	Incandescent weight Recycled	Rec Invoice Reference
30/01/2019	8	Smith	Avenue	David	One	13	12	1	0.972	0.032	DECOM123
1/02/2019	5	Smith	Avenue	Abdul	Two	6	6		0.486	0.000	DECOM123
2/02/2019	6	Smith	Avenue	Adam	Three	24	18	6	1.458	0.048	DECOM123
30/01/2019	153	Smith	Avenue	Addy	Four	20	14	6	1.134	0.037	DECOM123
30/01/2019	21	Smith	Avenue	Adel	Five	11	8	3	0.648	0.021	DECOM123
1/02/2019	6	Smith	Avenue	Adrienne	Six	15	3	12	0.243	0.008	DECOM123
1/02/2019	90	Smith	Avenue	Alban	Seven	20	19	1	1.539	0.051	DECOM123
2/02/2019	1	Smith	Avenue	Alex	Eight	4	4		0.324	0.000	DECOM123
30/01/2019	18	Smith	Avenue	Amandeep	Nine	11	5	6	0.405	0.013	DECOM123
30/01/2019	6	Smith	Avenue	Amber	Ten	22	22		1.782	0.000	DECOM123
									8.991	0.211	

Validation assessment – Top tips

Labelling supporting evidence

- Avoid combining evidence into 1 PDF
- Label documents i.e. ‘sales invoice’, ‘COES’
- Distinguish between product, area and decommissioning photo’s

  ‘Pre-installation/Area/storage zone 1/high bays’

  ‘Decommissioning/high bays’

  ‘Living room/before’

Validation assessment – Top tips

Photographic evidence

Validation assessment – Top tips

Photographic evidence

Validation assessment – Top tips

Photographic evidence

- Clear and in focus
- Lights off (where appropriate)
- Verify baseline/original lamp – cover’s removed
- Points of reference i.e. window frame, door
- Decommissioning – one photo or one photo per lamp/fitting type

Validation assessment – Top tips

Addressing Critical Issues

- Refer to options
- Provide explanation if applicable
- Identify updated/amended/additional documents and evidence

Stakeholder support

The consumer perspective

- Provide service, information & reassurance
- Obey the relevant laws and business practice requirements
- Ensure public register information is correct and maintained regularly
- Refer to our published guidance and information

Accreditation – Top tips

- Activity guides
- Labelling documents and updating versions
- Addressing requirements

VEU Support

Contact us: (03) 9032 1310 or veu@esc.vic.gov.au

ESSENTIAL SERVICES COMMISSION

Victorian Energy Upgrades forum

Stream C – Workshop C2: New IT system

Ben Curnow - Business Analyst

28 May 2019

Objectives

- Reduce AP administrative time
- Improve assessment time
  - Replace paper forms wherever possible
  - Review and standardise our internal processes
  - Automate some of the assessment steps and simplify others
- More rapidly identify non-compliance
  - Machine learning (artificial intelligence)

Features and benefits

1. Microsoft Dynamics 365
2. AP administration will be quicker and easier
3. Pages will load faster; edits quicker
4. Easier for you to understand what information you need to supply
5. Will probably have an API
6. Will be compatible with tablets and mobile phones

Rollout

1. All data from the old system will be accessible
2. Your staff will need to be retrained
3. We will prepare a manual and some instructional materials
4. We may ask for some volunteers to test the new system once we have a prototype
5. We intend to move to the new system in October 2020

Victorian Energy Upgrades

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

We regulate participants in the program under the Victorian Energy Efficiency Target Act 2007.

For more information, visit **www.esc.vic.gov.au/veu**

Contact us

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