Solar Victoria
Notice to Market
2024–25

Published May 2024

Record of updates to this edition

In consultation with industry, Solar Victoria will periodically review requirements in this edition of the Notice to Market and publish updates.

May 2024: New edition published 2024–25

For a summary of new and updated requirements introduced in this edition, see **Section 1.2**: New and updated requirements and recommendations in this edition.

We acknowledge and respect Victorian Traditional Owners as the original custodians of Victoria's land and waters, their unique ability to care for Country and deep spiritual connection to it.

We honour Elders past and present whose knowledge and wisdom has ensured the continuation of culture and traditional practices.

DEECA is committed to genuinely partnering with Victorian Traditional Owners and Victoria's Aboriginal community to progress their aspirations.

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Accessibility

If you would like to receive this publication in an alternative format, please contact Solar Victoria at comms@team.solar.vic.gov.au. This document is also available on the internet at solar.vic.gov.au

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Minister's Foreword

Continuously improving safety and quality standards, ensuring products and systems are fit-for-purpose and future-ready, and protecting retailers, installers and customers in the Solar Homes Program.

Through the landmark Solar Homes Program, the Victorian Government is continuing to lead the clean energy transition towards our renewable energy target of 95 per cent by 2035. With more than 5 years since the program was established in 2018, over 330,000 Victorian households are now benefitting from solar, energy efficient hot water systems and solar batteries.

Since the program commenced in August 2018, we have set high standards and always innovated to bring more renewable energy to more Victorians. In February 2024, the Commonwealth and Victorian governments jointly launched the $16.1 million Solar for Apartments Program to support Victorians who own or live in apartments to benefit from lower energy bills through self-generated solar electricity. Together with the Residential Electrification Grants Program launched in September 2023, which will support innovative projects electrifying new or existing homes, these innovative new incentives are set to further reduce greenhouse gas emissions.

The Solar Victoria Notice to Market plays an important role in supporting the stronger, highly skilled and quality-committed industry needed to take on the current and future energy requirements of all Victorians. Growing the clean energy industry and a highly skilled and professional workforce are essential to meeting ambitious renewable energy targets and for delivering small and large-scale renewable energy projects.

A shared commitment to the highest standards of safety and quality is at the heart of the Solar Homes Program and those who support its delivery, most especially its authorised retailers and installers.

The partnership between government and industry, particularly the solar electrical and plumbing industries, continues to underpin the Solar Homes Program delivery, enabling smoother grid integration and flexible exports for more solar customers, and lifting industry standards. Offering subsidised targeted training and a collaborative compliance approach with regulators are key to continuous improvement.

The Notice to Market commits everyone involved in the delivery of the Solar Homes Program to improving safety and quality standards and protecting workers and customers. New requirements and recommendations in this Notice to Market seek to support stability of the energy grid through internet connected solar PV and batteries, improve the longevity of installations while supporting Victoria's circular economy, and maintain focus on the safety, quality and efficiency of systems installed under the Solar Homes Program.

Meeting the requirements set out in the Notice to Market will help deliver the best outcomes for Solar Homes customers, and we thank the many industry participants Solar Victoria has engaged to design and refine the program requirements and recommendations within.

Hon. Lily D'Ambrosio MP

Minister for Climate Action

Minister for Energy and Resources

Minister for the State Electricity Commission

Section 1: Overview

This section explains the purpose of the Notice to Market, highlights new requirements and recommendations this edition, and provides an overview of Solar Victoria's incentives.

1.1 About the Notice to Market

This Notice to Market provides retailers and installers with a clear overview of business and workforce requirements, and system and product requirements that must be met to participate in the Solar Homes Program from 1 July 2024.

Participation in the Solar Homes Program is governed by the requirements set out in this Notice to Market, as well as Solar Victoria's terms and conditions such as those for retailers and for installers.

Retailer, installers and other workers must comply with the requirements in this notice for incentives to apply to solar PV, solar battery and energy efficient hot water systems.

1.2 New and updated requirements and recommendations in this edition

There are nine new mandatory requirements and four new recommendations in this edition of the Notice to Market.

New requirements seek to support stability of the energy grid, maintain our focus on consumer protections, support Victoria's circular economy, and uplift the safety and quality of products and systems installed under the Solar Homes Program.

New mandatory requirements

The new mandatory requirements effective from 1 July 2024 relate to:

- active internet connection for solar PV and batteries (see sections 3.2.1 and 4.2.1)
- heat pump hot water systems restricted to products containing low Global Warming Potential (GWP) refrigerants (see section 5.2.1)
- retailer obligations to ensure battery installers are provided with an AS/NZS 5139 compliant labelling kit (see section 4.1.1)
- hot water heat pump installers holding a current Refrigerant Handling Licence issued by the Australian Refrigeration Council (ARC) if installing with synthetic refrigerant circulating through the pipework (see section 5.1.3)
- retailer obligations to remove solar PV panels and/or system components from residence (see section 3.1.1)
- no telemarketing or door-to-door sales of systems eligible under the Solar Homes Program (see sections 3.1.1, 4.1.1 and 5.1.1)[1]
- consumer protections and whole-of-product warranty for solar sharing technology (see section 3.2.1)
- interface protection for inverter power sharing devices greater than 30 KiloVolt Amps (see section 3.2.1)
- providing a financial performance estimate to solar PV and battery system owners (see sections 3.1.1 and 4.1.1).

Updated mandatory requirements

The updates we have made to existing mandatory requirements relate to:

- hot water heat pumps must have an end-user configurable integrated timer located on the outside of the unit or be connected to a solar PV system and runs the hot water during periods of solar generation (see section 5.2.1)
- installation of hot water heat pumps in accordance also with AS/NZS 5149 and having regard to the manufacturer's specifications (see section 5.1.3)
- retailer obligations to ensure hot water installers conducting rooftop installations have completed relevant safety training (see section 5.1.1)
- smoke alarm installation in a room under the same roof as a residence must comply with AS 3786:2016 or AS 3789:2023 or, where the use of the area is likely to result in smoke alarms causing spurious signals, with AS 1670.1 (see section 4.2.1).

We have also made minor updates to other requirements to ensure the Notice to Market remains current and relevant.

New recommendations

The new recommendations effective from 1 July 2024 relate to:

- Australian Refrigeration Council Green Scheme Accreditation if installing a split hot water heat pump with natural refrigerant (see section 5.1.4)
- the Victorian Government's ban on electronic waste to landfill and retailers keeping records and evidence of solar panel (PV) and systems disposal to a lawful place (see sections 3.1.2, 4.1.2 and 5.1.2)
- electrical circuit installation requirements for hot water heat pumps (see section 5.2.2)
- hot water system products providing access to hot water during a power outage (see section 5.2.2).

[1] Note: the telemarketing prohibition came into effect under the Solar Homes Program on 1 May 2024 and door-to-door sales prohibition commenced on 1 September 2021 via the Retailer Terms and Conditions (see Instruction issued 30 April 2024).

1.3. About our incentives

For more detailed information about our incentives, including values and eligibility criteria, see Solar Homes Program.

For rebate release dates, see Rebate values and release dates.

1.3.1 Solar PV rebate

We provide rebates and interest-free loans to eligible homeowners with existing homes, homes under construction, rental properties, and community housing providers towards the cost of installing an eligible solar panel (PV) system, up to a maximum amount listed on our website.

We also provide grants to eligible apartment households toward the installation of PV systems.

See Solar panel (PV) rebate.

See Solar for community housing.

See Solar for Apartments Program.

1.3.2 Solar battery loan

We provide interest-free loans to homeowners towards the cost of installing an eligible solar battery storage system, up to a maximum amount listed on our website.

See Solar battery loan.

1.3.3 Hot water rebate

We provide rebates to homeowners with existing homes towards the cost of installing an eligible hot water system, up to a maximum amount listed on our website.

Solar Victoria also has a process for emergency hot water installations, so Victorians don't have to wait if their system has broken down.

See Hot water rebate.

1.4 Acknowledgements

Solar Victoria consulted with key stakeholders to develop this Notice to Market 2024–25 and considered feedback in designing the recommendations and mandatory requirements.

We would like to thank everyone who contributed to the development of this notice to Market. Representatives from the following agencies contributed to the Notice to Market 2024–25:

- Energy Safe Victoria
- Clean Energy Regulator
- Clean Energy Council
- Smart Energy Council
- National Electrical and Communications Association
- WorkSafe Victoria
- Consumer Action Law Centre
- Victorian Building Authority
- Master Plumbers Victoria
- Energy Networks Australia
- Australian Refrigeration Council
- AiGroup - Australian Water Heater Forum
- Electrical Trades Union.

Solar Victoria also conducted targeted engagement with the Solar Victoria Industry and Consumer Reference Group and with selected manufacturers, retailers and installers participating in the Solar Homes Program.

Section 2: Definitions

This section explains some of the words frequently used within the Notice to Market.

Accreditation Scheme Operator (ASO)

Organisation appointed by the Clean Energy Regulator (CER) as the installer and designer accreditation scheme operator (ASO) under the Small-scale Renewable Energy Scheme (SRES).

Customer/Consumer

Customers/consumers are applicants for rebates under the Solar Homes Program and/or persons who obtain a rebate or loan under those programs.

Installer

An installer of eligible systems, being eligible solar photovoltaic systems and ancillary equipment and/or solar battery systems and ancillary equipment and/or energy efficient hot water system within the Solar Homes Program.

Interface protection system

An interface protection system controls voltage and frequency limits in parallel connections between an inverter energy system and the normal grid supply. It is also referred to as 'central protection' or 'grid protection'.

Mandatory

Mandatory requirements must be satisfied for a participant to enter into the Solar Homes Program. Where a participant no longer meets mandatory requirements, Solar Victoria may suspend or cancel participation in the Solar Homes Program at its discretion. Participants must continue to meet the mandatory requirements at all times during their participation in the Solar Homes Program.

Other on-site workers

Other on-site personnel who are involved in the installation of eligible solar panel (PV), solar battery and/or energy efficient hot water systems within the Solar Homes Program, including but not limited to trades assistants, apprentices, etc.

Recommendation

Recommendations are optional and do not affect eligibility at the time of publication of this notice. They help to ensure the Solar Homes Program delivers the best outcomes for Victorians.

Recommendations signal to industry criteria that are likely to become mandatory in the future. Industry participants should consider early adoption of recommendations and plan accordingly.

Retailer

A retailer of eligible solar photovoltaic systems and ancillary equipment and/or solar battery systems and ancillary equipment and/or solar hot water and heat pump systems which meet the programs' mandatory eligibility criteria, and who is registered to participate in the Solar Homes Program as a retailer.

Standards

Any reference to an Australian or international standard (AS, AS/NZS, IEC, IEEE, etc.) refers to the specified standard as last amended, unless the year of the standard is otherwise referenced.

Solar sharing technology

Technology that allows multiple discrete NMI meters to share the output of a single inverter to provide a supplementary PV Solar supply to occupants of a multi-tenanted building.

Section 3:
Requirements for all solar PV rebates

This section lists requirements that retailers and installers, systems and products **must satisfy** across all solar PV rebate incentives. It also includes **recommendations**.

3.1 Solar PV retail business and workforce requirements

The following retail business and workforce requirements apply to all solar PV rebate incentives for owner-occupiers, renters, community housing and businesses. They aim to enhance safety and quality by maintaining rigorous standards and developing a level playing field within the industry.

For more information about training requirements in this section, including how to enrol, see Training and workforce development.

3.1.1 All solar PV retailers – mandatory retail business requirements

Signatory to the New Energy Tech Consumer Code

Mandatory: All authorised solar PV retailers must be a signatory to the New Energy Tech Consumer Code (NETCC) program administered by the Clean Energy Council (CEC) and maintain the status of NET Approved Seller in order to remain an authorised solar retailer under the Solar Homes Program.

Why:

- The NETCC replaces the Approved Solar Retailer Code of Conduct as a set of service standards and consumer protections that build on the previous Code, expanding it to new energy technology beyond solar to batteries, electric vehicle chargers and more.
- The Code requires solar retailers to commit to quality service and stronger consumer protections than Australian Consumer Law and the national small-scale renewable energy certificate (STC) scheme provide for.
- New signatories to the NETCC undergo a stringent application process and are subject to a monitoring, compliance, and sanctions regime.
- Becoming a NET Approved Seller and authorised solar retailer highlights a commitment to high standards across sales and marketing, quotes and contracts, delivery and installation, and warranties and support.
- Administered by the CEC, the NETCC was initially approved by the ACCC and is governed by an independent council of industry and consumer bodies including Energy Consumers Australia, Consumer Action Law Centre and Energy Networks Australia. Compliance with and enforcement of the code is undertaken by an independent monitoring and compliance panel.
- More information:
  - New Energy Tech Consumer Code
  - Become an authorised solar retailer or installer

Record of no prosecutions

Mandatory: No prosecutions under the Occupational Health and Safety Act 2004 and/or the Occupational Health and Safety Regulations 2017 (or equivalent legislation/regulations in other Australian jurisdictions) resulting in a plea of guilty or a finding of guilt in the past three years.

Why:

- Compliance with relevant occupational health and safety acts and regulations protect the health, safety and welfare of employees and other people at work.
- Confirming compliance with relevant occupational health and safety acts and regulations aims to ensure that the health and safety of employees and the public are not put at risk by work activities.

Completion of accredited safety training

Mandatory: Confirmation all workers engaged to install solar PV systems have attained:

- CPCCWHS1001 *Prepare to work safely in the construction industry* accredited unit of competency (White Card/construction induction card).
- VU23631 *Work safely on roofs with renewable energy systems* unit certification (previously obtained VU22744 *Work Safely in the Solar* industry accredited unit of competency is still valid).

See Work safely in the solar industry

Why:

- System retailers are responsible for ensuring workers are appropriately trained to perform high-risk work.
- Retailers must perform due diligence to ensure all workers meet the regulated and contractual requirements of participating in the Solar Homes Program.

Recording of serial numbers

Mandatory: All solar PV retailers must maintain a record of all eligible systems installed under the Solar Homes Program. The record shall include the make, model, serial numbers, the time, date, and address of installation, for all eligible systems.

The records must be made available to Solar Victoria upon request.

Why:

- To proactively assist original equipment manufacturers (OEMs), regulators, and government bodies in the event of a product safety recall or other related product issue.
- To enable tracking of where products are located for the purpose of end-of-life management.

Consumer protection through whole-of-system warranty

Mandatory: All authorised solar PV retailers to provide a minimum five year whole-of-system warranty for all eligible systems, including any solar sharing technology, under the Solar Homes Program (including quality of work).

Retailers must also provide the customer with documentation confirming the terms and conditions of the warranty, and who to contact in the event of a product failure.

Why:

- Solar Victoria is aiming to improve program controls to protect consumers and meet compliance requirements.
- The Terms and Conditions for participation in Solar Victoria programs requires retailers to:
  - Express the warranty requirement as simply and clearly as possible.
  - Make a declaration when they apply to participate in the Solar Homes Program that they agree to provide the warranty.
  - Make a statement that they have provided the customer with documentation confirming the terms and conditions of the warranty and who to contact in the event of a product failure.
  - State that the warranty and responsibilities, in relation to installation, continue to operate after a retailer is suspended or otherwise ceases to participate in the Solar Homes Program.

Upgraded Provide a financial performance estimate to system owner

Mandatory: Provide solar PV system customers with a financial performance estimate.

Why:

- Typically, customers purchase solar PV systems to reduce their electricity bills. However, under current Australian Standards, system owners are only required to receive an electricity performance estimate with no consideration of estimated cost savings.
- Greater transparency of the financial benefits of installing solar PV systems empowers customers to make informed decisions.

NEW Ban on telemarketing and door-to-door sales

Mandatory: The retailer, or parties acting on behalf of the retailer, must not conduct sales of eligible systems as part of Solar Homes Program using door-to-door or telemarketing sales techniques.

The ban:

- prohibits 'cold-call' telemarketing and door-to-door sales techniques to all types of consumers
- prohibits telemarketing and door-to-door sales to prospective or previous customers from being outsourced to contractors or marketing companies
- only permits marketing or sales calls at the request of the consumer or with their express permission, and only within three months or a timeline specified when the consumer opts into calls, and only in accordance with the New Energy Tech Consumer Code
- permits calls to notify a previous customer of a product default or recall that affects them.

Why:

- To protect consumers, particular vulnerable cohorts, from persistent, unsolicited or nuisance calls and pressure sales tactics.
- Prevents contacting consumers who are listed on the 'Do Not Call Register'.
- Aligns with the new Victoria Energy Upgrades program marketing ban administered by the Essential Services Commission.
- To prevent reputational harm of the Solar Homes Program by being associated with nuisance telemarketing and door-to-door marketing techniques.

Note: the telemarketing prohibition came into effect under the Solar Homes Program on 1 May 2024 and door-to-door sales prohibition commenced on 1 September 2021 via the Retailer Terms and Conditions (see Instruction issued 30 April 2024).

NEW Solar PV panel and system removal from residence

Mandatory: Retailers are responsible for removing replaced PV systems, or system components (for example, PV panels, inverters and cabling) from the premises, unless expressly requested by the customer.

Why:

- The Victorian Government banned e-waste from entering landfill in Victoria, effective 1 July 2019.
- Retailers are best placed to manage the appropriate removal of PV systems.
- Applies to the retailer who is providing the new system.

Compliance with the ban on electronic waste to landfill

Mandatory: Compliance with the Victorian Government's ban on electronic waste to landfill.

Why:

- The Victorian Government has banned e-waste from landfill in Victoria, effective 1 July 2019. E-waste is growing three times faster than general municipal waste in Australia, and it contains both valuable and hazardous materials that can be recovered when they reach the end of their working life.
- The Waste Management Policy (e-waste) was approved by the Executive Council on 26 June 2018 and gazetted on 28 June 2018. The Victorian Government Gazette e-waste order can be found on pages 1457 to 1463.
- E-waste describes any device which requires an electromagnetic current (including anything with a plug, cord or battery) to operate and includes all solar products at the end of their useful life i.e. panels, inverter and energy storage equipment.
- More information: Managing e-waste.

Completion of specific training and/or mentoring identified by Solar Victoria

Mandatory: Confirmation all workers engaged to install systems have successfully completed training and/or technical mentoring as required by Solar Victoria from time to time.

Why:

- Solar Victoria's training and technical mentoring are industry validated and customised for the solar industry in consultation with subject matter experts.
- Training and technical mentoring mandated by Solar Victoria will be available to complete prior to the mandatory completion date set by Solar Victoria for each module.
- Solar Victoria will provide reasonable notice of mandatory training and/or technical mentoring on its website at Training and Workforce Development.

3.1.2 All solar PV retailers – recommendations for retail business

Registration as a Registered Electrical Contractor

Recommended: Registered with Energy Safe Victoria as a Registered Electrical Contractor.

Why:

- Where a solar PV retailer is also a registered electrical contractor the entity is subject to the Electrical Safety Act 1998. Registered electrical contractors are obliged to provide safety certificates to parties for whom electrical work is carried out.
- Registration as a Registered Electrical Contractor, places greater responsibility on the retailer to ensure worker and customer safety.

Completion of accredited safety training course

Recommended: Workers engaged to install solar have attained 22657VIC *Working Safely on Rooftop Renewable Energy Systems* (previously obtained 22515VIC *Course in Working Safely in the Solar Industry* is still valid).

See Work safely in the solar industry.

Why:

- System retailers have a responsibility to ensure workers are appropriately trained to perform high-risk work.
- *Working Safely on Rooftop Renewable Energy Systems* is an accredited training program and provides vocational outcomes for persons wishing to gain the skills and knowledge required for the safe installation of solar systems.
- Training content includes VU23631 *Work safely on roofs with renewable energy systems* (a training unit developed and customised for the solar industry), White Card/construction induction training, first aid and working at heights.

Main business location listed as 'Victoria'

Recommended: Main business location listed as "Victoria" according to the Australian Government's Australian Business Register.

Why:

- A key element of the Solar Homes Program concerns driving job creation with strong local content and industry development to build local supply chains. Prioritising businesses with a main business location of Victoria contributes to achieving this.

NEW Records of solar panel (PV) and systems disposal to a lawful place

Recommended: To comply with the Victorian Government's ban on electronic waste to landfill. under the Environment Protection Regulations 2021 (EP regulations), retailers should keep records and evidence of 'lawful place' disposal during product replacement of PV systems, or system components (for example, PV panels, inverters and cabling).

Why:

- The Victorian Government banned e-waste from entering landfill in Victoria, effective 1 July 2019.
- Retailers are best placed to manage the disposal of solar panel (PV) systems.
- A producer of waste must take all reasonable steps to ensure that the waste is received at a 'lawful place' authorised to receive that type of waste in order to comply with ban.
- Documenting the disposal of PV systems demonstrates compliance with the EP regulations.
- For more information about 'lawful place', see the Environment Protection Authority Victoria website.

End-of-life management certified to AS 5377

Recommended: Retailers and/or installers offer end-of-life management programs, during product replacement or disposal, with service provider/s certified to AS 5377.

Why:

- The Solar Homes Program aims to support Victoria's emerging circular economy by encouraging best practice approaches and outcomes for PV products and materials at the end of their lifecycle.
- AS 5377 establishes Australia's best practice benchmark for the collection, storage, transport and treatment of end-of-life electrical and electronic equipment.
- Future eligibility and installation requirements will be updated periodically. In particular, Solar Victoria recognises the national stewardship approach underway for PV products and materials at the end of their lifecycle.
- See How to manage end-of-life solar PV.

Completion of accredited safety training at heights unit

Recommended: All workers engaged to install solar PV systems have attained CPCCCM2012 (or RIIWHS204) *Work Safely at Heights* accredited unit of competency.

See Work safely in the solar industry.

Why:

- System retailers are responsible for ensuring workers are appropriately trained to perform high-risk work.
- The *Course in Working Safely in the Solar Industry* is an accredited training program and provides vocational outcomes for persons wishing to gain the skills and knowledge required for the safe installation of solar systems.

Undertake free business mentoring sessions

Recommended: Undertake up to four free 90-minute business mentoring sessions from Solar Victoria's approved provider. See Business mentoring and support.

Why:

- Experienced business consultants have been engaged to help participants in our programs make informed decisions to improve their business through tailored and confidential one-on-one mentoring sessions.

Performance warranty for solar PV panels

Recommended: We recommend that panels are guaranteed to deliver 90 per cent production at 10 years and 80 per cent at 25 years, in line with industry standard PV panel performance warranties.

Why:

- To ensure households receive high quality products that do not suffer from a significant drop in production over their lifetime.
- Solar Victoria to explore methods to promote industry testing capabilities, with industry and consumers.

Advise system owners to use the Victorian Energy Compare website

Recommended: We recommend solar PV retailers to advise system owners of the Victorian Energy Compare website and to utilise the solar saver tool prior to installing a solar system.

Why:

- The Victorian Energy Compare website is a Victorian Government initiative that includes a solar savings calculator using NMI (National Mering Identifier) specific data.
- The solar calculator can be used by homeowners to compare the proposed solar system to their actual usage and tariff structure.
- Solar Victoria informs all rebate recipients in their welcome pack to use the Victorian Energy Compare website to calculate how much money they could save on energy bills by installing solar panels.
- Other ways Solar Victoria promotes use of the Victorian Energy Compare include:
  - Householder e-newsletter
  - Buyers Guides
  - consumer education activities, including events.
- Victorian Energy Compare can be accessed at compare.energy.vic.gov.au and the solar calculator at Solar Savings Calculator.

3.1.3 All solar PV installers – mandatory workforce requirements

Holds current Accreditation Scheme Operator accreditation

Mandatory: Holds Accreditation Scheme Operator (ASO) installer accreditation for grid connected photovoltaic systems.

Why:

- Accreditation confirms an individual has undertaken industry specific training relevant to the installation of solar PV systems.
- The accreditation scheme includes continuous professional development requirements and a compliance regime.
- Accreditation is currently a requirement under the Federal Government's Small-scale Renewable Energy Scheme (SRES).

Holds A Grade electrical licence issued by Energy Safe Victoria

Mandatory: Holds an unrestricted (A Grade) electrical licence issued by Energy Safe Victoria or holds equivalent Australian interstate electrical licence with mutual recognition by Energy Safe Victoria.

Why:

- In accordance with the Electricity Safety (Installations) Regulations 2019 and the Electricity Safety Act 1998, complete installation of a grid-connected solar PV system qualifies as prescribed electrical installation work and must therefore be done by a licensed electrician.

Record of no prosecutions

Mandatory: Has no prosecutions under the Occupational Health and Safety Act 2004 and/or the Occupational Health and Safety Regulations 2017 (or equivalent legislation/ regulations in other Australian jurisdictions) resulting in a plea of guilty or a finding of guilt in the past three years.

Why:

- Compliance with relevant occupational health and safety acts and regulations protect the health, safety and welfare of employees and other people at work.
- Confirming compliance with relevant occupational health and safety acts and regulations aims to ensure that the health and safety of employees and the public are not put at risk by work activities.

Inverter settings must comply with DNSP connection agreements

Mandatory: Inverters must be set to comply with Distribution Network Service Provider (DNSP) connection agreements, including but not limited to, being correctly configured with the "Australia A" setting prior to connection and on-going utilisation.

Why:

- Victorian DNSPs have mandated unified power quality response mode settings, defined by the "Australia A" configuration mode within AS/NZS 4777.2.
- All installations must comply with DNSP network connection agreements.
- See Energy Network Australia's publication at: Power Quality Response Mode Settings.

Completion of accredited safety training unit

Mandatory: Has attained the VU23631 *Work safely on roofs with renewable energy systems.* Previously obtained *VU22744 Work Safely in the Solar* industry accredited unit of competency is still valid.

See Work safely in the solar industry.

Why:

- *Work safely on roofs with renewable energy systems* is a tailored safety training unit which includes customised working at heights, lockout and energisation requirements, identification and reporting on asbestos, etc.
- A sector advisory group identified a skills gap in the solar industry and developed this training unit. The advisory groups was led by the Office of the Victorian Skills Commissioner and included representatives from WorkSafe, Solar Victoria, the Electrical Trades Union, the Clean Energy Council, the Plumbing Pipes Trades and Employee Union, Master Plumbers, the National Electrical and Communications Association and multiple solar retailers.
- Completion of *Work safely on roofs with renewable energy systems* is a work, health and safety control measure.

Attainment of White Card/construction induction card

Mandatory: Has attained the CPCCWHS1001 *Prepare to work safely in the construction industry* accredited unit of competency (White Card/construction induction card).

See Work safely in the solar industry.

Why:

- White Card training sets out requirements for performing safe work practices, identifying risks and satisfying work requirements.
- Occupational Health and Safety Regulations 2017 state that construction induction training must be undertaken by workers engaged in construction and the installation of electricity services.
- Completion of White Card training is a work, health and safety risk control measure.

Completion of specific training and/or mentoring identified by Solar Victoria

Mandatory: Confirmation all workers engaged to install systems have successfully completed training and/or mentoring as required by Solar Victoria from time to time.

Why:

- Solar Victoria's training and technical mentoring are industry validated and customised for the solar industry in consultation with subject matter experts.
- Training and technical mentoring mandated by Solar Victoria will be available to complete prior to the mandatory completion date set by Solar Victoria.
- Solar Victoria will provide reasonable notice of mandatory training and/or technical mentoring on its website at Training and Workforce Development.

3.1.4 All solar PV installers – recommendations for workforce

Completion of accredited safety training at heights unit

Recommended: Has attained CPCCCM2012 (or RIIWHS204) *Work Safely at Heights* accredited training unit.

See Work safely in the solar industry.

Why:

- This training sets out the requirements to work safely on construction sites where the work activity involves working above 1.5 metres from ground level and where fall protection measures are required.
- Completion of *Work Safely at Heights training* is a work, health and safety risk control measure.

Completion of accredited safety training course

Recommended: Has attained 22657VIC Working Safely on Rooftop Renewable Energy Systems accredited course. Previously obtained *22515VIC Course in Working Safely in the Solar Industry* is still valid.

See Work safely in the solar industry.

Why:

- *Working Safely on Rooftop Renewable Energy Systems* is an accredited training program and provides vocational outcomes for persons wishing to gain the skills and knowledge required for the safe installation of solar systems.
- Training content includes VU23631 *Work safely on roofs with renewable energy systems* (a training unit developed and customised for the solar industry), White Card/construction induction training, first aid and working at heights.

Installation of 'non-load break DC disconnection points'

Recommended: Install 'Non-load break DC disconnection points' where appropriate, in lieu of rooftop DC isolators, in accordance with AS/NZS 5033.

Why:

- Non-load break disconnection devices' may in certain cases provide increased consumer safety outcomes over rooftop DC Isolators.
- Rooftop DC isolators if installed incorrectly (or damaged over time) can suffer from internal arcing due to water ingress and subsequent fire risks.
- AS/NZS 5033 offers a choice to installers to either instate a rooftop DC isolator or a DC 'disconnection point' according to the requirements set out in the Standard.

Advise system owners to use the Victorian Energy Compare website

Recommended: We recommend that solar PV installers advise system owners of the Victorian Energy Compare website and how to utilise the solar saver tool prior to installing a solar system.

Why:

- The Victorian Energy Compare website is a Victorian Government initiative that includes a solar savings calculator using NMI (National Mering Identifier) specific data.
- The solar calculator can be used by homeowners to compare the proposed solar system to their actual usage and tariff structure.
- Solar Victoria informs all rebate recipients in their welcome pack to use the Victorian Energy Compare website to calculate how much money they could save on energy bills by installing solar panels.
- Other ways Solar Victoria promotes use of the Victorian Energy Compare website include:
  - Householder e-newsletter
  - Buyers Guides
  - consumer education activities, including events.
- Victorian Energy Compare can be accessed at compare.energy.vic.gov.au and the solar calculator at Solar Savings Calculator.

End-of-life management certified to AS 5377

Recommended: Retailers and/or installers offer end-of-life management programs, during product replacement or disposal, with service provider/s certified to AS 5377.

Why:

- The Solar Homes Program aims to support Victoria's emerging circular economy by encouraging best practice approaches and outcomes for materials at the end of their lifecycle.
- AS 5377 establishes Australia's best practice benchmark for the collection, storage, transport and treatment of end-of-life electrical and electronic equipment.
- Future eligibility and installation requirements will be updated periodically. In particular, Solar Victoria recognises the national stewardship approach underway for PV products and materials at the end of their lifecycle.
- See How to manage end-of-life solar PV.

3.1.5 Other on-site solar PV workers – mandatory workforce requirements

Completion of accredited safety training unit

Mandatory: Has attained the VU23631 *Work safely on roofs with renewable energy systems* accredited unit of competency (previously obtained *VU22744 Work Safely in the Solar* industry accredited unit of competency is still valid).

See Work safely in the solar industry.

Why:

- *Work safely on roofs with renewable energy systems* is a solar-specific safety training unit which includes customised working at heights, lockout and energisation requirements, identification and reporting on asbestos, etc.
- A sector advisory group identified a skills gap in the solar industry and developed this training unit. The advisory groups was led by the Office of the Victorian Skills Commissioner and included representatives from WorkSafe, Solar Victoria, the Electrical Trades Union, the Clean Energy Council, the Plumbing Pipes Trades and Employee Union, Master Plumbers, the National Electrical and Communications Association and multiple solar retailers.
- Completion of *Work safely on roofs with renewable energy systems* is a work, health and safety control measure.

Attainment of White Card/construction induction card

Mandatory: Has attained the CPCCWHS1001 *Prepare to work safely in the construction industry* accredited unit of competency (White Card/construction induction card).

Why:

- White Card training sets out requirements for performing safe work practices, identifying risks and satisfying work requirements.
- Occupational Health and Safety Regulations 2017 state that construction induction training must be undertaken by workers engaged in construction and the installation of electricity services.
- Completion of White Card training is a work, health and safety risk control measure.

Completion of specific training and/or mentoring identified by Solar Victoria

Mandatory: Confirmation all workers engaged to install systems have successfully completed training and/or mentoring as required by Solar Victoria from time to time.

Why:

- Solar Victoria's training and technical mentoring are industry validated and customised for the solar industry in consultation with subject matter experts.
- Training and technical mentoring mandated by Solar Victoria will be available to complete prior to the mandatory completion date set by Solar Victoria.
- Solar Victoria will provide reasonable notice of mandatory training and/or technical mentoring on its website at Training and Workforce Development.

3.1.6 All other on-site solar workers – recommendations for workforce

Completion of accredited safety training at heights unit

Recommended: Has attained CPCCCM2012 (or RIIWHS204) *Work Safely at Heights* accredited training unit.

See Work safely in the solar industry.

Why:

- This training sets out the requirements to work safely on construction sites where the work activity involves working above 1.5 metres from ground level and where fall protection measures are required.
- Completion of *Work Safely at Heights training* is a work, health and safety risk control measure.

Completion of accredited safety training course

Recommended: Has attained 22657VIC *Working Safely on Rooftop Renewable Energy Systems* accredited course (previously obtained 22515VIC *Course in Working Safely in the Solar Industry* is still valid).

See Work safely in the solar industry.

Why:

- *Working Safely on Rooftop Renewable Energy Systems* is an accredited training program and provides vocational outcomes for persons wishing to gain the skills and knowledge required for the safe installation of solar systems.
- Training content includes *VU23631 Work safely on roofs with renewable energy systems* (a training unit developed and customised for the solar industry), White Card/construction induction training, first aid and working at heights.

3.2 Solar PV system and product requirements

The following system and product requirements apply to all solar PV rebate incentives for owner-occupiers, renters, community housing and small businesses. They aim to enhance safety and quality by maintaining rigorous standards and ensuring products are future-fit.

3.2.1 Solar PV inverters – mandatory requirements

Listed on the Solar Victoria inverter product list

Mandatory: Listed on the Solar Victoria inverter product list.

Why:

- This listing confirms inverters meet additional requirements, above minimum industry standards, to be eligible to participate in the Solar Homes Program.

Listed on the CEC's approved inverter list

Mandatory: Listed on the Clean Energy Council's Approved Inverter List.

Why:

- This listing confirms, via certified evidence, inverters meet minimum product standards for usage in Australia.
- Listing is a requirement under the Federal Government's Small-scale Renewable Energy Scheme (SRES).

Internet capability and an on-board communication port

Mandatory: Inverter(s) must have internet capability (the ability to share data via the World Wide Web).

Why:

- Internet capability and an on-board communication port (or equivalent) are minimum infrastructure requirements to enable communication between inverter energy systems and third parties.
- Systems with these minimum requirements may participate in future energy markets and/or flexible connection arrangements.

NEW Active internet connection

Mandatory: To support emergency backstop and flexible exports, the eligible system must be connected to the internet as part of commissioning, where practicable to do so.

In cases where a reliable internet connection is not present, the installer must connect temporarily via a mobile device (i.e. hotspot) during commissioning to register the system.

Why:

- Examples of where it is considered not practicable to connect the eligible system to internet include:
  - there is no reliable connection available (including new builds); or
  - it is cost prohibitive to do so.
- Supports the rollout of emergency backstop, which enables network operators to curtail excess solar generation when required, and flexible exports which will enable greater export. For more information, see Technical Guidance on Emergency Backstop.
- Supports compliance with DNSP connection agreement.
- Enables retailers/manufacturers to provide software updates to resolve safety and performance issues.
- Allows customers to monitor performance of their solar PV system.

Solar PV inverters compliant to IEEE 2030.5 and CSIP-AUS

Mandatory: Solar PV inverters shall be listed on Clean Energy Council's Approved Inverter list to conform to IEEE 2030.5 and Australia's Common Smart Inverter Profile (CSIP)-AUS.

Compliance with this requirement can be achieved via direct inverter integration, an external control system or via a vendor cloud - or equivalent.

Why:

- Industry adoption of IEEE 2030.5 and Common Smart Inverter Profile (CSIP)-AUS inverters will allow for the future implementation of flexible exports by Distributed Network Service Providers (DNSPs), enabling more rooftop solar to be installed.
- The lack of flexible export functionality within the grid may require DNSPs to prevent more rooftop solar PV from being installed and throttle the solar industry.
- Exceptions apply for battery inverters, due to the time required for industry to be ready.

Consumer protection through whole-of-product warranty

Mandatory: To provide a minimum five year whole-of-product warranty on all major components listed as:

- Inverters.

The systems must be serviced as per the manufacturer's guidelines to maintain warranty.

Why:

- Solar Victoria is aiming to improve program controls to protect consumers and meet compliance requirements.
- The Terms and Conditions for participation in the Solar Homes Program requires retailers to:
  - express the warranty requirement as simply as possible and make it available on their website
  - state that the warranty and responsibilities about installation continue to operate after a retailer is suspended or otherwise ceases to participate in the Solar Homes Program.

NEW Consumer protection for solar sharing technology

Mandatory: To provide a minimum five-year whole-of product warranty on all major components provided for solar sharing technology.

The system must be serviced as per the manufacturer's guidelines to maintain warranty.

Why:

- Solar Victoria is aiming to improve program controls to protect consumers and meet compliance requirements.
- The Terms and Conditions for participation in Solar Victoria programs requires retailers to:
  - Express the warranty requirement as simply and clearly as possible.
  - State that the warranty and responsibilities, in relation to installation, continue to operate after a retailer is suspended or otherwise ceases to participate in Solar Victoria's programs.

NEW Interface protection for inverter power sharing devices

Mandatory: An interface protection system must be installed for all eligible systems based on inverter power sharing devices where the connected inverter energy system nameplate is greater than 30 KiloVolt Amps (kVA).

Why:

- As there is no product safety standard applicable for these devices, additional protection is needed.
- Interface protection (also known as central protection and network protection) protects workers undertaking works on the electrical installation at the apartment or on the network.
- Interface protection also ensures the eligible system operates safely in the event of grid disturbances.

Compliance with AS/NZS 4777.2

Mandatory: Inverter(s) must comply with AS/NZS 4777.2.

Why:

- AS/NZS 4777.2 includes inverter capabilities related to increased grid support features, disturbance ride-through capabilities and test procedure clarity, as well as product requirements for inbuilt DC isolation devices.

3.2.2 Solar PV inverters – recommendations

Power quality response mode – Region settings

Recommended: The inverters should only have the power quality response mode region settings listed in AS/NZS 4777.2, with "Australia A" listed as the default setting.

A user should also be able to easily view the current setting on the inverter's digital display or software portal.

Why:

- Distributed Network Service Providers (DNSPs) have detected that many new inverter installations are not set to the correct region setting.
- Removal of old grid settings and having "Australia A" as the default setting reduces the chance of the incorrect setting being used.
- Visibility of the power quality response region settings will allow for inspectors to easily check that the right setting has been selected.

Electricity data available to view

Recommended: Ensure consumers can view both solar generation and energy consumption via a software solution supplied as part of the installation of the solar PV system.

Why:

- Solar Victoria wants to ensure consumers (and their authorised agents) can freely and easily access data from their meter, locally so that they can optimise their generation and consumption to reduce their bills.
- If consumers can't access this via their PV or battery inverter app, they can use an 'In-Home Display' connected to their Smart Meter. Alternatively, consumers can request this data the day after (not live) from their Distributed Network Service Provider (DNSP).

End-of-life management certified to AS 5377

Recommended: Retailers and/or installers offer end-of-life management programs, during product replacement or disposal, with service provider/s certified to AS 5377.

Why:

- The Solar Homes Program aims to support Victoria's emerging circular economy by encouraging best practice approaches and outcomes for materials at the end of their lifecycle.
- AS 5377 establishes Australia's best practice benchmark for the collection, storage, transport and treatment of end-of-life electrical and electronic equipment.
- Future eligibility and installation requirements will be updated periodically. In particular, Solar Victoria recognises the national stewardship approach underway for PV products and materials at the end of their lifecycle.
- See How to manage end-of-life solar PV.

Includes a communication protocol

Recommended: The installed system should include an open communication protocol.

Why:

- Open communication protocols support third party (e.g. aggregator, platform provider, distribution network service provider, distribution service operator, etc) visibility, communication and orchestration.
- Systems with open communication protocols may participate in future energy markets and/or flexible export connection arrangements.

Inverter energy system capable of switching external loads

Recommended: Inverter energy system capable of switching external loads (via inverter or third-party device).

Why:

- The functionality to switch loads facilitates increased self-consumption of generated solar power resulting in better financial outcomes for households and optimises integration with the grid.

Arc Circuit Fault Interruption to IEC 63027

Recommended: Arc Circuit Fault Interruption (ACFI) to IEC 63027.

Why:

- Arc fault protection can reduce the likelihood of sustained arcing through early detection and protection increasing safety outcomes.
- IEC 63027 applies to equipment used for the detection and optionally the interruption of electric DC arcs in photovoltaic (PV) system circuits.

3.2.3 Solar PV modules – mandatory requirements

Listed on the Solar Victoria solar PV product list

Recommended: Listed on Solar Victoria solar PV product list.

Why:

- This listing confirms PV modules meet the requirements, above minimum industry standards, to be eligible to participate in the Solar Homes Program.

Listed on the CEC's approved module list

Recommended: Listed on the Clean Energy Council's Approved Module List.

Why:

- This listing confirms, via certified evidence, solar PV modules meet minimum product standards for usage in Australia.
- Listing is currently a requirement under the Federal Government's Small-scale Renewable Energy Scheme (SRES).

Listed as a participating brand in the CER and industry Solar Panel Validation Initiative

Recommended: Listed by the Clean Energy Regulator (CER) as a participating brand in the joint CER and industry Solar Panel Validation (SPV) Initiative.

Why:

- Participation in this initiative is a precursor to validation. Validation confirms PV modules are:
  - genuine (e.g. not counterfeit)
  - approved as per the Clean Energy Council's approved products list
  - backed by manufacturer's warranties
  - meet Australian Standards
  - eligible for Small Scale Technology Certificates (STCs) and rebates under the Solar Homes Program.
- At least 64 manufacturers and importers participate in the validation initiative.

Consumer protection through whole-of-product warranty

Mandatory: To provide a minimum five year whole-of-product warranty on all major components listed as:

- Photovoltaic Modules

The systems must be serviced as per the manufacturer's guidelines to maintain warranty.

Why:

- Solar Victoria is aiming to improve program controls to protect consumers and meet compliance requirements.
- The Terms and Conditions for participation in the Solar Homes Program requires retailers to:
  - express the warranty requirement as simply as possible and make it available on their website
  - state that the warranty and responsibilities about installation continue to operate after a retailer is suspended or otherwise ceases to participate in the Solar Homes Program.

3.2.4 Solar PV modules – recommendations

Confirmed as part of CER and industry Solar Panel Validation Initiative

Recommended: Provision of an electronic customer record confirming installed solar PV modules are verified as part of the joint Clean Energy Regulator (CER) and industry Solar Panel Validation Initiative.

Why:

- Validation provides customers with an electronic record of confirmation that their installed solar panels are verified as part of the initiative.
- The record includes information such as the make and model of the solar PV modules, serial numbers, the time and date of installation and the location.
- Validation via this initiative confirms solar PV modules are genuine, approved (as per the Clean Energy Council's approved products list), backed by manufacturers' warranties, meet Australian Standards, and are eligible for Small Scale Technology Certificates (STCs) and rebates under the Solar Homes Program.

VDE Quality Tested or Certified to IEC 62941

Recommended: VDE Quality Tested or Certified to IEC 62941.

Why:

- VDE quality tested and IEC 62941 certified solar PV modules are those that have demonstrated a higher degree of quality assurance, predominately in the manufacturing process.

Certified to IEC TS 62804 (for crystalline modules)

Recommended: Certified to IEC TS 62804-1.

Why:

- Certification to IEC TS 62804-1 ensures solar PV modules offer greater durability against forms of accelerated degradation resulting in better long-term performance and reliability.
- This standard only applies to crystalline solar PV modules. That is, other topologies (technology types) are not covered. This standard is especially relevant in higher voltage solar PV arrays. Certification to IEC TS 62804-1 ensures solar PV modules offer greater durability against forms of accelerated degradation resulting in better long-term performance and reliability.

Performance warranty for solar PV panels

Recommended: We recommend panels are guaranteed to deliver 90 per cent production at 10 years and 80 per cent at 25 years, in line with industry standard PV panel performance warranties.

Why:

- To ensure households receive high quality products that do not suffer from a significant drop in production over their lifetime.
- Solar Victoria will also explore methods to promote industry testing capabilities, with industry and consumers.

End-of-life management certified to AS 5377

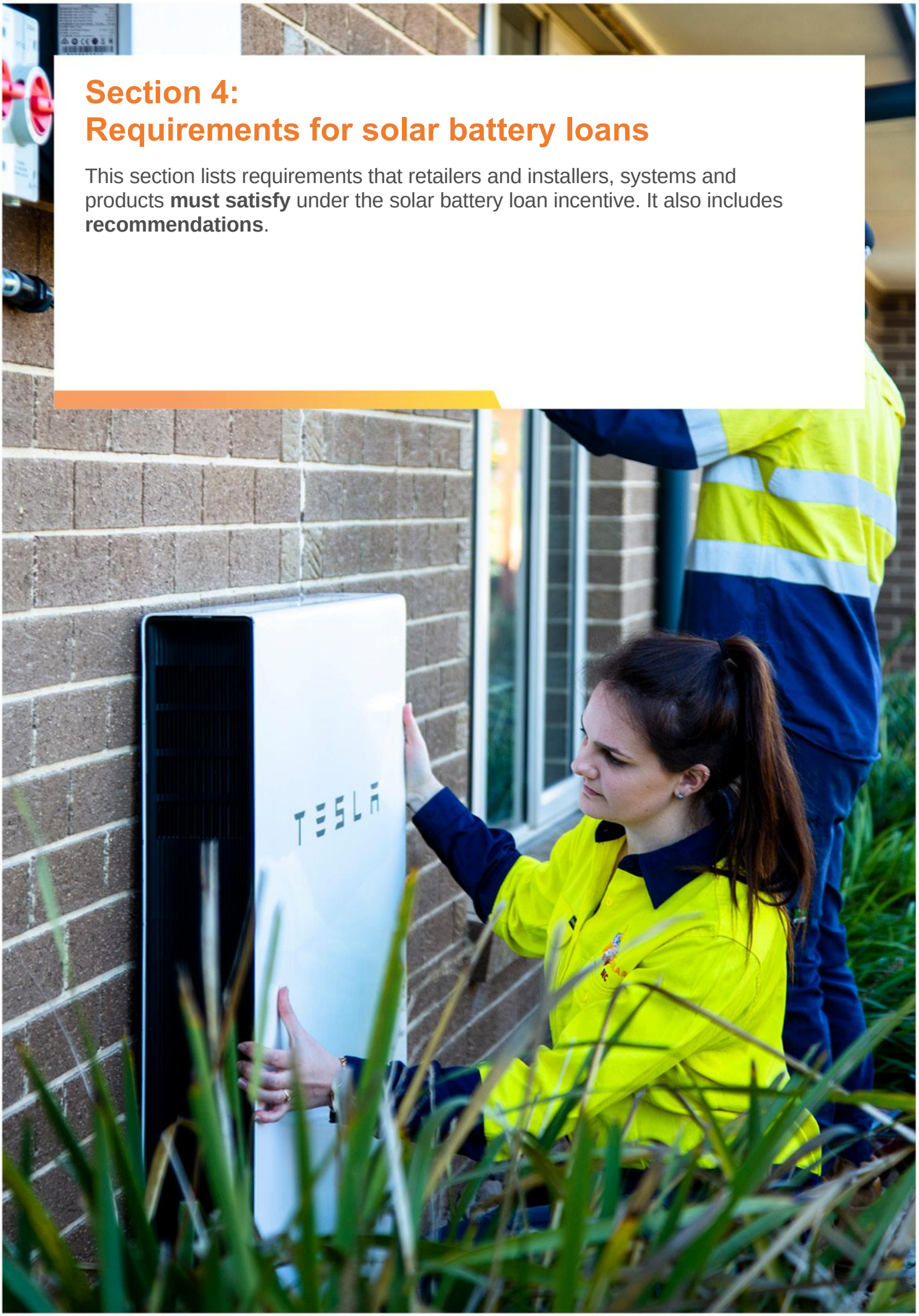
Recommended: Retailers and/or installers offer end-of-life management programs, during product replacement or disposal, with service provider/s certified to AS 5377.

Why:

- The Solar Homes Program aims to support Victoria's emerging circular economy by encouraging best practice approaches and outcomes for materials at the end of their lifecycle.
- AS 5377 establishes Australia's best practice benchmark for the collection, storage, transport and treatment of end-of-life electrical and electronic equipment.
- Future eligibility and installation requirements will be updated periodically. In particular, Solar Victoria recognises the national stewardship approach underway for PV products and materials at the end of their lifecycle.
- See How to manage end-of-life solar PV.

Section 4:
Requirements for solar battery loans

This section lists requirements that retailers and installers, systems and products **must satisfy** under the solar battery loan incentive. It also includes **recommendations**.



4.1 Solar battery retail business and workforce requirements

The following retail business and workforce requirements apply to solar battery loans. They aim to enhance safety and quality by maintaining rigorous standards and developing a level playing field within the industry.

For more information about training requirements in this section, including how to enrol, see Training and workforce development.

4.1.1 All solar battery retailers – mandatory retail business requirements

Signatory to the New Energy Tech Consumer Code

Mandatory: All authorised solar battery retailers must be a signatory to the New Energy Tech Consumer Code (NETCC) program administered by the Clean Energy Council (CEC), and maintain the status of NET Approved Seller in order to remain an authorised solar retailer under our programs.

Why:

- The NETCC replaces the Approved Solar Retailer Code of Conduct as a set of service standards and consumer protections that build on the previous Code, expanding it to new energy technology beyond solar to batteries, electric vehicle chargers and more.
- The Code requires solar retailers to commit to quality service and stronger consumer protections than Australian Consumer Law and the national small-scale renewable energy certificate (STC) scheme provide for.
- New signatories to the NETCC undergo a stringent application process and are subject to a monitoring, compliance, and sanctions regime.
- Becoming a NET Approved Seller and authorised solar retailer highlights a commitment to high standards across sales and marketing, quotes and contracts, delivery and installation, and warranties and support.
- Administered by the CEC, the NETCC was initially approved by the ACCC and is governed by an independent council of industry and consumer bodies including Energy Consumers Australia, Consumer Action Law Centre and Energy Networks Australia. Compliance with and enforcement of the code is undertaken by an independent monitoring and compliance panel.
- More information:
  - New Energy Tech Consumer Code
  - Become an authorised solar retailer or installer

Record of no prosecutions

Mandatory: No prosecutions under the Occupational Health and Safety Act 2004 and/or the Occupational Health and Safety Regulations 2017 (or equivalent legislation/ regulations in other Australian jurisdictions) resulting in a plea of guilty or a finding of guilt in the past three years.

Why:

- Compliance with relevant occupational health and safety acts and regulations protect the health, safety and welfare of employees and other people at work.
- Confirming compliance with relevant occupational health and safety acts and regulations aims to ensure that the health and safety of employees and the public are not put at risk by work activities.

Completion of accredited safety training

Mandatory: Confirmation all workers engaged to install solar battery systems have attained:

- VU23631 *Work safely on roofs with renewable energy systems* training unit certification (previously obtained VU22744 *Work Safely in the Solar* industry accredited unit of competency is still valid).
- CPCCWHS1001 *Prepare to work safely in the construction industry* accredited unit of competency (White Card/construction induction card).
- See Work safely in the solar industry.

Why:

- System retailers are responsible for ensuring workers are appropriately trained to perform high-risk work.
- Retailers must perform due diligence to ensure all workers meet the regulated and contractual requirements of participating in the Solar Homes Program.

NEW Retailer obligation to ensure installer provided with labelling kit

Mandatory: The retailer must ensure that an AS/NZS 5139 compliant labelling kit is provided to the installer for the purpose of commissioning a battery.

Why:

- Correct installation of the supplied product is an obligation of the retailer under contract law/Australian Consumer Law.
- This requirement will support better compliance with AS/NZS 5139.
- Correct battery labelling supports servicing by technicians and emergency services when responding to potential incidents.
- Addresses a gap as battery manufacturers are not currently required to provide AS/NZS 5139 compliant battery labelling kits.
- The retailer is accountable for ensuring a battery labelling kit is provided.
- For battery labelling guidance, see Solar Victoria's Technical guidance sheet 2.4: Labelling requirements.

Recording of serial numbers

Mandatory: All solar battery retailers must maintain a record of all eligible systems installed under the Solar Homes Program. The record shall include the make, model, serial number/s, the time, date, and address of installation, for all eligible systems.

The records must be made available to Solar Victoria upon request.

Why:

- To proactively assist original equipment manufacturers (OEMs), regulators, and government bodies in the event of a product safety recall or other related product issue.
- To enable tracking of where products are located for the purpose of end-of-life management.

Consumer protection through whole-of-system warranty

Mandatory: All authorised solar battery retailers to provide a minimum five year whole-of-system warranty for all eligible systems under the Solar Homes Program (including quality of work).

Retailers must also provide the customer with documentation confirming the terms and conditions of the warranty, and who to contact in the event of a product failure.

Why:

- Solar Victoria is aiming to improve program controls to protect consumers and meet compliance requirements.
- The Terms and Conditions for participation in the Solar Homes Program requires retailers to:
  - express the warranty requirement as simply and clearly as possible
  - make a declaration when they apply to participate in the programs that they agree to provide the warranty
  - make a statement that they have provided the customer with documentation confirming the terms and conditions of the warranty and who to contact in the event of a product failure
  - state that the warranty and responsibilities, in relation to installation, continue to operate after a retailer is suspended or otherwise ceases to participate in the Solar Homes Program.

NEW Ban on telemarketing and door-to-door sales

Mandatory: The retailer, or parties acting on behalf of the retailer, must not conduct sales of eligible systems as part of Solar Homes program using door-to-door or telemarketing sales techniques.

The ban:

- prohibits 'cold-call' telemarketing and door-to-door sales techniques to all types of consumers.
- prohibits telemarketing and door-to-door sales to prospective or previous customers from being outsourced to contractors or marketing companies.
- only permits marketing or sales calls at the request of the consumer or with their express permission, and only within three months or a timeline specified when the consumer opts into calls, and only in accordance with the New Energy Tech Consumer Code.
- permits calls to notify a previous customer of a product default or recall that affects them.

Why:

- To protect consumers, particular vulnerable cohorts, from persistent, unsolicited or nuisance calls and pressure sales tactics.
- Prevents contacting consumers who are listed on the 'Do Not Call Register'.
- Aligns with the new Victoria Energy Upgrades program marketing ban administered by the Essential Services Commission.
- To prevent reputational harm of the Solar Homes program by being associated with nuisance telemarketing and door-to-door marketing techniques.

Note: the telemarketing prohibition came into effect under the Solar Homes Program on 1 May 2024 and door-to-door sales prohibition commenced on 1 September 2021 via the Retailer Terms and Conditions (see Instruction issued 30 April 2024).

NEW Provide a financial performance estimate to system owner

Mandatory: Provide battery system customers with a financial performance estimate.

Why:

- Typically, customers purchase battery systems to reduce their electricity bills. However, under current Australian Standards, system owners are only required to receive an electricity performance estimate with no consideration of estimated cost savings.
- Greater transparency of the financial benefits of installing battery systems empowers customers to make informed decisions.

Compliance with the ban on electronic waste to landfill

Mandatory: Compliance with the Victorian Government's ban on electronic waste to landfill.

Why:

- The Victorian Government has banned e-waste from landfill in Victoria, effective 1 July 2019. E-waste is growing three times faster than general municipal waste in Australia, and it contains both valuable and hazardous materials that can be recovered when they reach the end of their working life.
- The Waste Management Policy (e-waste) was approved by the Executive Council on 26 June 2018 and gazetted on 28 June 2018. The Victorian Government Gazette e-waste order can be found on pages 1457 to 1463.
- E-waste describes any device which requires an electro-magnetic current (including anything with a plug, cord or battery) to operate and includes all solar products at the end of their useful life i.e. panels, inverter an energy storage equipment.
- For more information on managing e-waste, see Managing e-waste.

Completion of specific training and/or mentoring identified by Solar Victoria

Mandatory: Confirmation all workers engaged to install systems have successfully completed training and/or mentoring as required by Solar Victoria from time to time.

Why:

- Solar Victoria's training and technical mentoring are industry validated and customised for the solar industry in consultation with subject matter experts.
- Training and technical mentoring mandated by Solar Victoria will be available to complete prior to the mandatory completion date set by Solar Victoria.
- Solar Victoria will provide reasonable notice of mandatory training and/or technical mentoring on its website at Training and Workforce Development.

4.1.2 All solar battery retailers – recommendations for retail business

Registration as an Electrical Contractor

Recommended: Registered with Energy Safe Victoria as a Registered Electrical Contractor.

Why:

- Where a solar battery retailer is also a registered electrical contractor the entity is subject to the Electrical Safety Act 1998. Registered electrical contractors are obliged to provide safety certificates to parties for whom electrical work is carried out.
- While registration as a Registered Electrical Contractor is not a mandatory requirement for the provision of electrical services, it places greater responsibility on the retailer to ensure worker and customer safety.

Main business location listed as 'Victoria'

Recommended: Main business location listed as "Victoria" according to the Australian Government's Australian Business Register.

Why:

- A key element of the Solar Homes Program concerns driving job creation with strong local content and industry development to build local supply chains. Prioritising businesses with a main business location of Victoria contributes to achieving this.

End-of-life management certified to AS 5377

Recommended: Retailers and/or installers offer end-of-life management programs, during product replacement or disposal, with service provider/s certified to AS 5377.

Why:

- The Solar Homes Program aims to support Victoria's emerging circular economy by encouraging best practice approaches and outcomes for battery products and materials at the end of their lifecycle.
- AS/NZS 5377 establishes Australia's best practice benchmark for the collection, storage, transport and treatment of end-of-life electrical and electronic equipment.
- Future eligibility and installation requirements will be updated periodically. In particular, Solar Victoria recognises the national stewardship approach underway for PV products and materials at the end of their lifecycle.
- See How to manage end-of-life solar PV.

Advise system owners to use the Victorian Energy Compare website

Recommended: We recommend that solar battery retailers advise system owners of the Victorian Energy Compare website and how to utilise the solar saver tool prior to installing a solar system.

Why:

- The Victorian Energy Compare website is a Victorian Government initiative that includes a solar savings calculator using NMI (National Mering Identifier) specific data.
- The solar calculator can be used by homeowners to compare the proposed solar system to their actual usage and tariff structure.
- Solar Victoria informs all rebate recipients in their welcome pack to use the Victorian Energy Compare website to calculate how much money they could save on energy bills by installing solar panels.
- Other ways Solar Victoria promotes use of the Victorian Energy Compare include:
  - Householder e-newsletter
  - Buyers Guides
  - consumer education activities, including events.
- Victorian Energy Compare can be accessed at compare.energy.vic.gov.au and the solar calculator at Solar Savings Calculator.

Completion of OEM training for the system installed

Recommended: Has completed training by the Original Equipment Manufacturer (OEM) on the specific energy storage solution that is being installed.

Why:

- Installation requirements are specific to individual OEMs, and typical warranties require the installer to have been accredited by the OEM in addition to receiving basic battery installation training.
- Specific training increases the competence of installers across the sector and provides greater assurance for the safety of installations.

Completion of accredited safety training at heights unit

Recommended: Workers engaged to install solar battery systems have attained, CPCCCM2012 (or RIIWHS204) *Work Safely at Heights* accredited unit of competency.

See Work safely in the solar industry.

Why:

- System retailers are responsible for ensuring workers are appropriately trained to perform high-risk work.
- This training sets out the requirements to work safely on construction sites where the work activity involves working above 1.5 metres from ground level and where fall protection measures are required.
- Completion of *Work Safely at Heights* training is a work, health and safety risk control measure.

Completion of accredited safety training course

Recommended: Workers engaged to undertake installations have attained 22657VIC *Working Safely on Rooftop Renewable Energy Systems* (previously obtained *22515VIC Course in Working Safely in the Solar Industry* is still valid).

See Work safely in the solar industry.

Why:

- System retailers have a responsibility to ensure workers are appropriately trained to perform high-risk work.
- *Working Safely on Rooftop Renewable Energy Systems* is an accredited training program and provides vocational outcomes for persons wishing to gain the skills and knowledge required for the safe installation of solar systems.
- Training content includes *VU23631 Work safely on roofs with renewable energy systems* (a training unit developed and customised for the solar industry), White Card/construction induction training, first aid and working at heights.

Undertake free business mentoring

Recommended: Undertake free business mentoring sessions from Solar Victoria's approved provider.

See Business mentoring and support.

Why:

- The experienced business consultants we have engaged can help participants in our programs make informed decisions to improve their business through tailored and confidential one-on-one mentoring sessions.

4.1.3 All solar battery installers – mandatory workforce requirements

Accreditation Scheme Operator (ASO) accreditation with Battery Endorsement

Mandatory: Holds installer accreditation for grid connected battery systems under the accreditation scheme offered by the Accreditation Scheme Operator (ASO).

Why:

- Accreditation confirms an individual has undertaken industry specific training relevant to the installation of battery systems.
- The accreditation scheme includes continuous professional development requirements and a compliance regime.

Holds A Grade electrical licence issued by Energy Safe Victoria

Mandatory: Holds unrestricted (A Grade) electrical licence issued by Energy Safe Victoria or holds equivalent Australian interstate electrical licence with mutual recognition by Energy Safe Victoria.

Why:

- In accordance with the Electrical Safety (General) Regulations 2019, complete installation of a grid-connected solar battery system qualifies as prescribed electrical installation work and must therefore be done by a licensed electrician.

Record of no prosecutions

Mandatory: Has no prosecutions under the Occupational Health and Safety Act 2004 and/or the Occupational Health and Safety Regulations 2017 (or equivalent legislation/regulations in other Australian jurisdictions) resulting in a plea of guilty or a finding of guilt in the past three years.

Why:

- Compliance with relevant occupational health and safety acts and regulations protect the health, safety and welfare of employees and other people at work.
- Confirming compliance with relevant occupational health and safety acts and regulations aims to ensure that the health and safety of employees and the public are not put at risk by work activities.

Attainment of White Card/construction induction card

Mandatory: Has attained the CPCCWHS1001 *Prepare to work safely in the construction industry* accredited unit of competency (White Card/construction induction card).

See Work safely in the solar industry.

Why:

- White Card training sets out requirements for performing safe work practices, identifying risks and satisfying work requirements.
- Occupational Health and Safety Regulations 2017 state that construction induction training must be undertaken by workers engaged in construction and the installation of electricity services.
- Completion of White Card training is a work, health and safety risk control measure.

Completion of accredited safety training unit

Mandatory: Has attained the VU23631 *Work safely on roofs with renewable energy systems* accredited unit of competency (previously obtained VU22744 *Work Safely in the Solar industry* accredited unit of competency is still valid).

See Work safely in the solar industry.

Why:

- *Work safely on roofs with renewable energy systems* is a tailored safety training unit which includes customised working at heights, lockout and energisation requirements, identification and reporting on asbestos, etc.
- A sector advisory group identified a skills gap in the solar industry and developed this training unit. The advisory group was led by the Office of the Victorian Skills Commissioner and included representatives from WorkSafe, Solar Victoria, the Electrical Trades Union, the Clean Energy Council, the Plumbing Pipes Trades and Employee Union, Master Plumbers, the National Electrical and Communications Association and multiple solar retailers.
- Completion of *Work safely on roofs with renewable energy systems* is a work, health and safety control measure.

Inverters must be set to comply with DNSP agreements

Mandatory: Inverters must be set to comply with Distribution Network Service Provider (DNSP) connection agreements, including but not limited to, being correctly configured with the “Australia A” setting prior to connection and on-going application.

Why:

- Victorian distribution network service providers (DNSPs) have mandated unified power quality response mode settings, defined by the “Australia A” configuration mode within AS/NZS 4777.2.
- All installations must comply with DNSP network connection agreements.
- See guidance on How to correctly configure inverter settings.

Completion of specific training and/or mentoring identified by Solar Victoria

Mandatory: Confirmation all workers engaged to install systems have successfully completed training and/or mentoring as required by Solar Victoria from time to time.

Why:

- Solar Victoria’s training and technical mentoring are industry validated and customised for the solar industry in consultation with subject matter experts.
- Training and technical mentoring mandated by Solar Victoria will be available to complete prior to the mandatory completion date set by Solar Victoria.
- Solar Victoria will provide reasonable notice of mandatory training and/or technical mentoring on its website at Training and Workforce Development.

4.1.4 All solar battery installers – recommendations for workforce

Advise system owners to use the Victorian Energy Compare website

Recommended: We recommend that solar battery installers advise system owners of the Victorian Energy Compare website and how to utilise the solar saver tool prior to installing a solar system.

Why:

- The Victorian Energy Compare website is a Victorian Government initiative that includes a solar savings calculator using NMI (National Mering Identifier) specific data.
- The solar calculator can be used by homeowners to compare the proposed solar system to their actual usage and tariff structure.
- Solar Victoria informs all rebate recipients in their welcome pack to use the Victorian Energy Compare website to calculate how much money they could save on energy bills by installing solar panels.
- Other ways Solar Victoria promotes use of the Victorian Energy Compare website include:
  - Householder e-newsletter
  - Buyers Guides
  - consumer education activities, including events.
- Victorian Energy Compare can be accessed at compare.energy.vic.gov.au and the solar calculator at Solar Savings Calculator.

End-of-life management certified to AS 5377

Recommended: Retailers and/or installers offer end-of-life management programs, during product replacement or disposal, with service provider/s certified to AS 5377.

Why:

- The Solar Homes Program aims to support Victoria's emerging circular economy by encouraging best practice approaches and outcomes for materials at the end of their lifecycle.
- AS 5377 establishes Australia's best practice benchmark for the collection, storage, transport and treatment of end-of-life electrical and electronic equipment.
- Future eligibility and installation requirements will be updated periodically. Solar Victoria recognises the national stewardship approach underway for PV products and materials at the end of their lifecycle.
- See How to manage end-of-life solar PV.

Completion of accredited safety training at heights unit

Recommended: Has attained CPCCCM2012 (or RIIWHS204) *Work Safely at Heights* accredited training unit.

See Work safely in the solar industry.

Why:

- This training sets out the requirements to work safely on construction sites where the work activity involves working above 1.5 metres from ground level and where fall protection measures are required.
- Completion of *Work Safely at Heights* training is a work, health and safety risk control measure.

Completion of accredited safety training course

Recommended: Has attained 22657VIC *Working Safely on Rooftop Renewable Energy Systems* accredited course (previously obtained *22515VIC Course in Working Safely in the Solar Industry* is still valid).

See Work safely in the solar industry.

Why:

- *Working Safely on Rooftop Renewable Energy Systems* is an accredited training program and provides vocational outcomes for persons wishing to gain the skills and knowledge required for the safe installation of solar systems.
- Training content includes *VU23631 Work safely on roofs with renewable energy systems* (a training unit developed and customised for the solar industry), White Card/construction induction training, first aid and working at heights.

4.1.5 All other on-site solar battery workers – mandatory workforce requirements

Completion of accredited safety training unit

Mandatory: Has attained the VU23631 *Work safely on roofs with renewable energy systems* accredited unit of competency (previously obtained *VU22744 Work Safely in the Solar Industry* accredited unit of competency is still valid).

See Work safely in the solar industry.

Why:

- *Work safely on roofs with renewable energy systems* is a tailored safety training unit which includes customised working at heights, lockout and energisation requirements, identification and reporting on asbestos, etc.
- A sector advisory group identified a skills gap in the solar industry and developed this training unit. The advisory group was led by the Office of the Victorian Skills Commissioner and included representatives from WorkSafe, Solar Victoria, the Electrical Trades Union, the Clean Energy Council, the Plumbing Pipes Trades and Employee Union, Master Plumbers, the National Electrical and Communications Association and multiple solar retailers.
- Completion of *Work safely on roofs with renewable energy systems* is a work, health and safety control measure.

Attainment of White Card/construction induction card

Mandatory: Has attained the CPCCWHS1001 *Prepare to work safely in the construction industry* accredited unit of competency (White Card/construction induction card).

See Work safely in the solar industry.

Why:

- White Card training sets out requirements for performing safe work practices, identifying risks and satisfying work requirements.
- Occupational Health and Safety Regulations 2017 state that construction induction training must be undertaken by workers engaged in construction and the installation of electricity services.
- Completion of White Card training is a work, health and safety risk control measure.

Completion of specific training and/or mentoring identified by Solar Victoria

Mandatory: Confirmation all workers engaged to install systems have successfully completed training and/or mentoring as required by Solar Victoria from time to time.

Why:

- Solar Victoria's training and technical mentoring are industry validated and customised for the solar industry in consultation with subject matter experts.
- Training and technical mentoring mandated by Solar Victoria will be available to complete prior to the mandatory completion date set by Solar Victoria.
- Solar Victoria will provide reasonable notice of mandatory training and/or technical mentoring on its website at Training and Workforce Development.

4.1.6 All other on-site solar battery workers – recommendations for workforce

Completion of accredited safety training course

Recommended: Has attained 22657VIC *Working Safely on Rooftop Renewable Energy Systems* accredited course (previously obtained 22515VIC *Course in Working Safely in the Solar Industry* is still valid).

See Work safely in the solar industry.

Why:

- *Working Safely on Rooftop Renewable Energy Systems* is an accredited training program and provides vocational outcomes for persons wishing to gain the skills and knowledge required for the safe installation of solar systems.
- Training content includes VU23631 *Work safely on roofs with renewable energy systems* (a training unit developed and customised for the solar industry), White Card/construction induction training, first aid and working at heights.

4.2 Solar battery system and product requirements

The following system and product requirements apply to all solar battery loans. They aim to enhance safety and quality by maintaining rigorous standards and ensuring products are future-fit.

4.2.1 Overall energy storage system – mandatory requirements

Listed on the Solar Victoria Approved Battery List and configured to 'Australia A' setting

Mandatory: Listed on the Solar Victoria Solar Victoria battery product list and have the correct grid support parameters configured, including being set to 'Australia A' setting.

Why:

- Listing on our battery product list confirms that the battery system meets Solar Victoria's criteria for safety, quality and technical capability.
- Components of the overall energy storage solution are each listed on the Clean Energy Council's Approved Energy Storage and Power Conversion Equipment lists, confirming via certified evidence, the products meet minimum safety requirements for use in Australia.
- The CEC list has been refined for battery solutions that have been assessed to be 'VPP-capable', with technical capabilities aligned with AEMO's NEM VPP Demonstration Program Minimum Capability**.** Specifications that enable the battery to provide network support services, participate in virtual power plants and/or future distributed energy resource (DER) marketplaces.
- The systems on our battery product list have been assessed for technical capabilities including performance, safety, internet accessibility, security, and remote registration, monitoring and control.
- They represent one of first steps towards greater facilitation of DER in the network, as outlined by the Australian Open Energy Networks program and the reform program of California Rule 21 (amongst others).

Authorised retailers and original equipment manufacturers can apply for new battery solutions to be included on the Solar Victoria battery product list at Apply to the battery product list.

NEWActive internet connection for solar batteries

Mandatory: The eligible system must be connected to the internet as part of commissioning where practicable to do so.

In cases where a reliable internet connection is not present, the installer must connect temporarily via a mobile device (i.e. hotspot) during commission to register the system.

Why:

- Examples of where it is considered not practicable to connect the eligible system to the internet include:
  - there is no reliable connection available (including new builds); or
  - it is cost prohibitive to do so.
- Enables retailers and manufacturers to provide software updates to resolve safety and performance issues
- Allows customers to monitor performance of their battery system.

Installed in compliance with AS/NZS 5139

Mandatory: System installed in compliance with AS/NZS 5139.

Why:

- Battery installations are required to conform to AS/NZS 5139, a standard explicitly relating to the safe installation of modern battery systems.
- Correct battery labelling supports servicing by technicians and emergency services if responding to potential incidents.
- Under the AS/NZS 5139 application of battery labels is the responsibility of the installer.
- Installers must also take into consideration the manufacturer's installation instructions when applying labels.
- For guidance to help meet this requirement, see Technical guidance sheet 2.4 Labelling requirements.

Smoke alarm installation for energy storage systems

Mandatory: Where an energy storage solution is installed in a room under the same roof as a residence (e.g. a garage or storeroom), a suitable smoke alarm shall be installed within that room.

The smoke alarm shall comply with AS 3786:2014 or AS 3786:2023, or where the use of the area is likely to result in smoke alarms causing spurious signals, shall comply with AS 1670.1.

It is recommended that wherever practicable to do so, the smoke alarm should be hard wired and be interconnected with other residence smoke alarms or have some secondary alert system within the residence.

Why:

- It is recommended to install a smoke alarm in the same room as an energy storage solution in the battery installation standard AS/NZS 5139.
- Safety is a top priority of the Solar Homes Program, and the installation of a smoke alarm reduces the risk of injury and property damage.

Complies with Australian Best Practice Guide

Mandatory: Energy storage device complies with the Australian Best Practice Guide: Battery Storage Equipment – Electrical Safety Requirements.

Why:

- This guide represents industry best practice in the safe installation of home battery systems.
- The guide has been developed by industry associations involved in renewable energy battery storage equipment, with input from energy network operators, private certification bodies, and other independent stakeholder groups and individuals, as well as consumer and electrical safety regulators including the Clean Energy Council, Smart Energy Council, CSIRO, AI Group and the Consumer Electronics Suppliers Association.

Consumer protection through whole-of-product warranty

Mandatory - Product manufacturers: To provide a minimum five year whole-of-product warranty on all major components listed as:

- Battery
- Inverter
- Smart Controller (if required)

The systems must be serviced as per the manufacturer's guidelines to maintain warranty.

Why:

- Solar Victoria is aiming to improve program controls to protect consumers and meet compliance requirements. •
- The Terms and Conditions for participation in the Solar Homes Program requires retailers to:
  - express the warranty requirement as simply as possible and make it available on their website
  - state that the warranty and responsibilities about installation continue to operate after a retailer is suspended or otherwise ceases to participate in the Solar Homes Program.

Provide a whole-of-system warranty

Mandatory: Provide a whole-of-system warranty (including quality of work) of a minimum of 5 years and a minimum performance warranty of 7 years under daily cycling operation.

Why:

- A minimum 5-year whole-of-system warranty is an explicit mandatory requirement of the Solar Homes Program, including quality of work.
- A further minimum performance warranty of 7 years is required under daily cycling operation, aligning with requirements for the South Australian Home Battery Scheme.

Battery registered on the AEMO DER Register

Mandatory: Battery system to be registered on the Australian Energy Market Operator's Distributed Energy Resources Register.

Why:

- AEMO is obliged under the National Electricity Rules to establish a register of Distributed Energy Resources in the National Electricity Market. Solar Victoria aims to support the registration of all batteries supported under the Solar Homes Program.
- See DER Register

4.2.2 Overall energy storage system – recommendations

Complies with the Battery Performance AS5374

Recommended: Solar battery system performance is to be tested and a report created as per AS 5374.

Why:

- To ensure households receive high quality products that do not suffer from a significant drop in production over their lifetime.

API integration capability

Recommended: Solar battery systems are recommended to have API integration capabilities conforming to IEEE 2030.5 and Common Smart Inverter Profile (CSIP)-AUS, via either direct inverter integration, an external control system or via a vendor cloud - or equivalent.

** Solar Victoria will strongly consider mandating compliance to CSIP-AUS at an appropriate time, in consultation with industry. **

Why:

- An industry adopted communications protocol will help to standardise the interoperability approach. Interoperability is seen as the key enabler to unlock future energy markets through widespread aggregation and orchestration of DER.
- Australia's Common Smart Inverter Profile (CSIP-AUS) previously referred to as the 'Australian Implementation Guide' of open communications protocol IEEE 2030.5, was released in September 2021.
- See ARENA Common Smart Inverter Profile.

Includes an open communication protocol

Recommended: The installed energy storage system should include an open communication protocol.

Why:

- Open communication protocols support third party (e.g., aggregator, platform provider, distribution network service provider, distribution service operator, etc) visibility, communication, and orchestration.
- Systems with open communication protocols may participate in future energy markets and/or flexible export connection arrangements.

Electricity data available to view

Recommended: Ensure consumers are able to view both solar generation and energy consumption via a software solution supplied as part of the installation of the solar PV system.

Why:

- Solar Victoria wants to ensure consumers (and their authorised agents) can freely and easily access data from their meter, locally so that they can optimise their generation and consumption to reduce their bills.
- If consumers can't access this via their PV or battery inverter app, they can use an 'In-Home Display' e.g., Powerpal or Emerald Planet connected to their Smart Meter. Alternatively, consumers can request this data the day after (not live) from their Distributed Network Service Provider (DNSP).

Installation to prevent "Cross Phasing"

Recommended: Solar battery systems are recommended to be installed in a manner that prevents "Cross Phasing".

Why:

- Ensuring solar batteries and solar PV are on the same phase for multiphase customers improves direct self-consumption.
- Victoria's net metering arrangement does not require per phase balancing for multiphase customers. A solar PV and solar battery system can be installed on separate phases – with no financial impact to a customer (except where grid export limits are reached.)
- Battery cross phasing can result in network unbalance, potentially avoided higher line voltages and unnecessary exacerbation of power qualities in the network.
- Victoria's Net Metering arrangement is defined in:
  - Chapter 7 of the National Electricity Rules
  - AEMO's Metrology Procedures
  - Victorian Service and Installation Rules.

4.2.3 Component: Energy storage device (battery energy storage systems or battery systems) – mandatory requirements

Listed on the Solar Victoria battery product list

Mandatory: Listed as one of the overall energy storage solutions on the Solar Victoria battery product list.

Why:

- Listing on our battery product list confirms that the battery system meets Solar Victoria's criteria for safety, quality and technical capability.
- Components of the overall energy storage solution are each listed on the Clean Energy Council's Approved Energy Storage and Power Conversion Equipment lists, confirming via certified evidence, the products meet minimum safety requirements for use in Australia.
- The CEC list has been refined for battery solutions that have been assessed to be 'VPP-capable', with technical capabilities aligned with AEMO's NEM VPP Demonstration Program Minimum Capability Specifications that enable the battery to provide network support services, participate in virtual power plants and/or future distributed energy resource (DER) marketplaces.
- The systems on our battery product list have been assessed for technical capabilities including performance, safety, internet accessibility, security, and remote registration, monitoring and control.
- They represent one of first steps towards greater facilitation of DER in the network, as outlined by the Australian Open Energy Networks program and the reform program of California Rule 21 (amongst others).

Authorised retailers and original equipment manufacturers can apply for new battery solutions to be included on the Solar Victoria battery product list at Apply to the battery product list.

4.2.4 Component: Energy storage device (battery energy storage systems or battery systems – recommendations

End-of-life management certified to AS 5377

Recommended: Retailers and/or installers offer end-of-life management programs, during product replacement or disposal, with service provider/s certified to AS 5377.

Why:

- The Solar Homes Program aims to support Victoria's emerging circular economy by encouraging best practice approaches and outcomes for materials at the end of their lifecycle.
- AS 5377 establishes Australia's best practice benchmark for the collection, storage, transport and treatment of end-of-life electrical and electronic equipment.
- Future eligibility and installation requirements will be updated periodically. In particular, Solar Victoria recognises the national stewardship approach underway for PV products and materials at the end of their lifecycle.
- See How to manage end-of-life solar PV.

4.2.5 Component: Battery inverter (hybrid inverter or integrated power conversion equipment in a battery energy storage system) – mandatory requirements

Listed on the Solar Victoria battery product list

Mandatory: Listed with one of the overall energy storage solutions on the Solar Victoria battery product list.

Why:

- Listing on our battery product list confirms that the battery system meets Solar Victoria's criteria for safety, quality and technical capability.
- Components of the overall energy storage solution are each listed on the Clean Energy Council's Approved Energy Storage and Power Conversion Equipment lists, confirming via certified evidence, the products meet minimum safety requirements for use in Australia.
- The CEC list has been refined for battery solutions that have been assessed to be 'VPP-capable', with technical capabilities aligned with AEMO's NEM VPP Demonstration Program Minimum Capability.
- Specifications that enable the battery to provide network support services, participate in virtual power plants and/or future distributed energy resource (DER) marketplaces.
- The systems on our battery product list have been assessed for technical capabilities including performance, safety, internet accessibility, security, and remote registration, monitoring and control.
- They represent one of first steps towards greater facilitation of DER in the network, as outlined by the Australian Open Energy Networks program and the reform program of California Rule 21 (amongst others).
- Authorised retailers and original equipment manufacturers can apply for new battery solutions to be included on the Solar Victoria battery product list at Apply to the battery product list.

Compliance with AS/NZS 4777.2

Mandatory: Inverter(s) must comply with AS/NZS 4777.2.

Why:

- AS/NZS 4777.2 includes inverter capabilities related to increased grid support features, disturbance ride-through capabilities and test procedure clarity, as well as product requirements for inbuilt DC isolation devices.

Power quality response region settings

Recommended: The inverters should only have the power quality response mode region settings listed in AS/NZS 4777.2, with "Australia A" listed as the default setting.

A user should also easily be able to view the current setting on the inverter's digital display or software portal.

Why:

- Distributed Network Service Providers (DNSPs) have detected that many new inverter installations are not set to the correct region setting.
- Removal of old grid settings and having "Australia A" as the default setting reduces the chance that the incorrect setting will be used.
- Visibility of the power quality response region settings will allow for inspectors to easily check that the right setting has been selected.

4.2.6 Component: Battery inverter (hybrid inverter or integrated power conversion equipment in a battery energy storage system) – recommendations

End-of-life management certified to AS 5377

Recommended: Retailers and/or installers offer end-of-life management programs, during product replacement or disposal, with service provider/s certified to AS 5377.

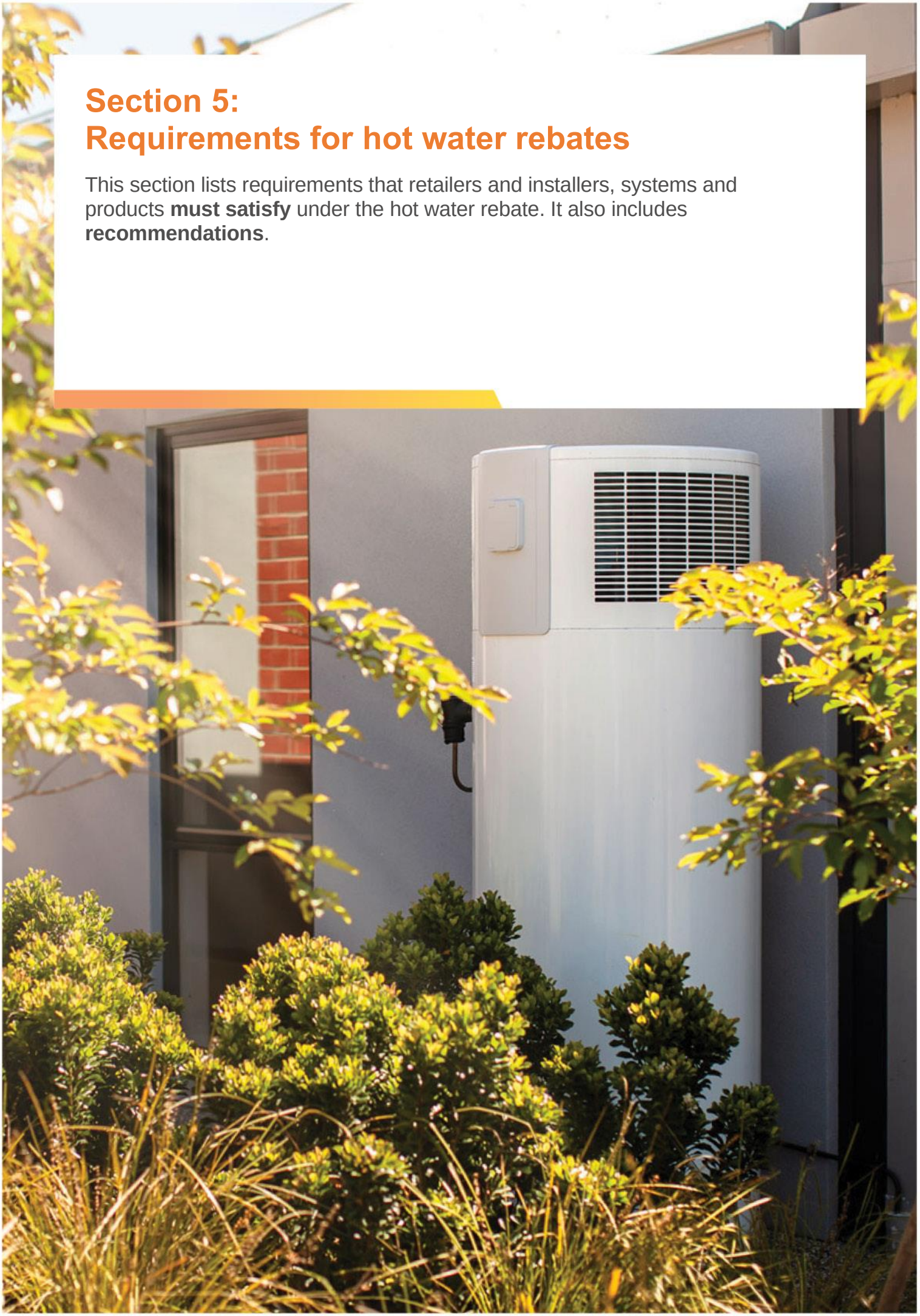
Why:

- The Solar Homes Program aims to support Victoria's emerging circular economy by encouraging best practice approaches and outcomes for materials at the end of their lifecycle.
- AS 5377 establishes Australia's best practice benchmark for the collection, storage, transport and treatment of end-of-life electrical and electronic equipment.
- Future eligibility and installation requirements will be updated periodically. In particular, Solar Victoria recognises the national stewardship approach underway for PV products and materials at the end of their lifecycle.

See How to manage end-of-life solar PV.

Section 5:
Requirements for hot water rebates

This section lists requirements that retailers and installers, systems and products **must satisfy** under the hot water rebate. It also includes **recommendations**.



5.1 Hot water retail business and workforce requirements

The following retail business and workforce requirements for hot water rebates aim to enhance safety and quality by maintaining rigorous standards and developing a level playing field within the industry.

For more information about training requirements in this section, including how to enrol, see Training and workforce development.

5.1.1 Hot water retailers – mandatory retail business requirements

Record of no prosecutions

Mandatory: No prosecutions under the Occupational Health and Safety Act 2004 and/or the Occupational Health and Safety Regulations 2017 (or equivalent legislation/ regulations in other Australian jurisdictions) resulting in a plea of guilty or a finding of guilt in the past three years.

Why:

- Compliance with relevant occupational health and safety acts and regulations protect the health, safety and welfare of employees and other people at work.
- Confirming compliance with relevant occupational health and safety acts and regulations aims to ensure that the health and safety of employees and the public are not put at risk by work activities.

UPDATED Attainment of safety training and White Card

Mandatory: Confirmation all workers engaged to install solar hot water systems have attained:

- CPCCWHS1001 *Prepare to work safely in the construction industry* accredited unit of competency (White Card/construction induction card).
- VU23631 *Work safely on roofs with renewable energy systems* training unit certification. This applies to all tradespersons installing solar hot water or heat pump systems on rooftops (previously obtained *VU22744 Work Safely in the Solar* industry accredited unit of competency is still valid).

Why:

- System retailers have a responsibility to ensure workers are appropriately trained to perform high-risk work.
- Retailers must perform due diligence to ensure all workers meet the regulated and contractual requirements of participating in the Solar Homes Program.

Recording of serial numbers

Mandatory: All hot water system retailers must maintain a record of all eligible systems installed under the Solar Homes Program. The record shall include the make, model, serial number/s, the time, date, and address of installation, for all eligible systems.

The records must be made available to Solar Victoria upon request.

Why:

- To proactively assist original equipment manufacturers (OEMs), regulators, and government bodies in the event of a product safety recall or other related product issue.
- To enable tracking of where products are located for the purpose of end-of-life management.

Consumer protection through whole-of-system warranty

Mandatory: All authorised solar hot water retailers to provide a minimum five year whole-of-system warranty for all eligible systems under the Solar Homes Program (including quality of work).

Retailers must also provide the customer with documentation confirming the terms and conditions of the warranty, and who to contact in the event of a product failure.

Why:

- Solar Victoria is aiming to improve program controls to protect consumers and meet compliance requirements.
- The Terms and Conditions for participation in the Solar Homes Program requires retailers to:
  - express the warranty requirement as simply and clearly as possible
  - make a declaration when they apply to participate in the programs that they agree to provide the warranty
  - make a statement that they have provided the customer with documentation confirming the terms and conditions of the warranty and who to contact in the event of a product failure
  - state that the warranty and responsibilities, in relation to installation, continue to operate after a retailer is suspended or otherwise ceases to participate in the Solar Homes Program.

NEW Ban on telemarketing and door-to-door sales

Mandatory: The retailer, or parties acting on behalf of the retailer, must not conduct sales of eligible systems as part of Solar Homes program using door-to-door or telemarketing sales techniques.

The ban:

- prohibits 'cold-call' telemarketing and door-to-door sales techniques to all types of consumers.
- prohibits telemarketing and door-to-door sales to prospective or previous customers from being outsourced to contractors or marketing companies.
- only permits marketing or sales calls at the request of the consumer or with their express permission, and only within three months or a timeline specified when the consumer opts into calls, and only in accordance with the New Energy Tech Consumer Code.
- permits calls to notify a previous customer of a product default or recall that affects them.

Why:

- To protect consumers, particular vulnerable cohorts, from persistent, unsolicited or nuisance calls and pressure sales tactics.
- Prevents contacting consumers who are listed on the 'Do Not Call Register'.
- Aligns with the new Victoria Energy Upgrades program marketing ban administered by the Essential Services Commission.
- To prevent reputational harm of the Solar Homes program by being associated with nuisance telemarketing and door-to-door marketing techniques.

Note: the telemarketing prohibition came into effect under the Solar Homes Program on 1 May 2024 and door-to-door sales prohibition commenced on 1 September 2021 via the Retailer Terms and Conditions (see Instruction issued 30 April 2024).

Compliance with the ban on electronic waste to landfill

Mandatory: Compliance with the Victorian Government's ban on electronic waste to landfill.

Why:

- Compliance with the Victorian Government's ban on electronic waste to landfill.
- The Victorian Government has banned e-waste from landfill in Victoria, effective 1 July 2019. E-waste is growing three times faster than general municipal waste in Australia, and it contains both valuable and hazardous materials that can be recovered when they reach the end of their working life.
- The Waste Management Policy (e-waste) was approved by the Executive Council on 26 June 2018 and gazetted on 28 June 2018. The Victorian Government Gazette e-waste order can be found on pages 1457 to 1463.
- E-waste describes any device which requires an electro-magnetic current (including anything with a plug, cord or battery) to operate and includes all solar products at the end of their useful life i.e. panels, inverter an energy storage equipment.
- For more information, see Managing e-waste.

Completion of specific training and/or mentoring identified by Solar Victoria

Mandatory: Confirmation all workers engaged to install systems have successfully completed training and/or mentoring as required by Solar Victoria from time to time.

Why:

- Solar Victoria's training and technical mentoring are industry validated and customised for the solar industry in consultation with subject matter experts.
- Training and technical mentoring mandated by Solar Victoria will be available to complete prior to the mandatory completion date set by Solar Victoria.
- Solar Victoria will provide reasonable notice of mandatory training and/or technical mentoring on its website at Training and Workforce Development.

5.1.2 Hot water retailers – recommendations for retail business

Hot water tank sizing requirement

Recommended: Hot water storage tanks should be sized in line with the following size guide:

Recommended tank size for hot water heaters		
Number of bedrooms	**Number of occupants**	**Recommended tank size**
1-2	1-2	150-225 litres
3	2-4	225-300 litres
4 or more	4+	More than 300-litres

Why:

- It is recommended that a hot water system should store at least 75 litres of hot water for each person living at a property. This includes some extra capacity to account for changes in consumption.
- A system that is too small for a household may mean regularly running out of hot water.
- A system that is too large for a household will cost more to buy and run.
- Recommended tank sizing from consultation provided by Renew during the creation of the Hot Water Buyers Guide

Hot water heat pump fit-for-purpose for climate

Recommended: For hot water heat pumps, the minimum operating temperature specified on the product datasheet should be lower than the minimum recorded temperature as specified by the Bureau of Meteorology

See BOM Climate data online.

Why:

- To ensure the hot water heat pump will not be installed outside of its operating range to prevent failures.
- To reduce the probability of hot water heat pumps being perceived as unreliable.
- The Bureau of Meteorology data is to be used because it is public data and is used by the Clean Energy Regulator.

Main business location listed as 'Victoria'

Recommended: Main business location listed as "Victoria" according to the Australian Government's Australian Business Register.

Why:

- A key element of the Solar Homes Program concerns driving job creation with strong local content and industry development to build local supply chains. Prioritising businesses with a main business location of Victoria contributes to achieving this.

End-of-life management certified to AS 5377

Recommended: Retailers and/or installers offer end-of-life management programs, during product replacement or disposal, with service provider/s certified to AS 5377.

Why:

- The Solar Homes Program aims to support Victoria's emerging circular economy by encouraging best practice approaches and outcomes for materials at the end of their lifecycle.
- AS 5377 establishes Australia's best practice benchmark for the collection, storage, transport and treatment of end-of-life electrical and electronic equipment.
- Future eligibility and installation requirements will be updated periodically. In particular, Solar Victoria recognises the national stewardship approach underway for PV products and materials at the end of their lifecycle.
- See How to manage end-of-life solar PV. .

Advise system owners to use the Victorian Energy Compare website

Recommended: We recommend that hot water system retailers advise system owners of the Victorian Energy Compare website and how to utilise the solar saver tool prior to installing a solar system.

Why:

- The Victorian Energy Compare website is a Victorian Government initiative that includes a solar savings calculator using NMI (National Mering Identifier) specific data.
- The solar calculator can be used by homeowners to compare the proposed solar system to their actual usage and tariff structure.
- Solar Victoria informs all rebate recipients in their welcome pack to use the Victorian Energy Compare website to calculate how much money they could save on energy bills by installing solar panels.
- Other ways Solar Victoria promotes use of the Victorian Energy Compare include:
  - Householder e-newsletter
  - Buyers Guides
  - consumer education activities, including events.
- Victorian Energy Compare can be accessed at compare.energy.vic.gov.au and the solar calculator at Solar Savings Calculator.

Completion of accredited safety training at heights unit

Recommended: All workers engaged to install solar hot water systems have attained, CPCCCM2012 (or RIIWHS204) *Work Safely at Heights* accredited unit of competency.

See Work safely in the solar industry.

Why:

- System retailers are responsible for ensuring workers are appropriately trained to perform high-risk work.
- This training sets out the requirements to work safely on construction sites where the work activity involves working above 1.5 metres from ground level and where fall protection measures are required.
- Completion of *Work Safely at Heights* training is a work, health and safety risk control measure.

Completion of accredited safety training course

Recommended: Workers engaged to install solar have attained 22657VIC *Working Safely on Rooftop Renewable Energy Systems* (previously obtained 22515VIC *Course in Working Safely in the Solar Industry* is still valid).

See Work safely in the solar industry.

Why:

- System retailers have a responsibility to ensure workers are appropriately trained to perform high-risk work.
- *Working Safely on Rooftop Renewable Energy Systems* is an accredited training program and provides vocational outcomes for persons wishing to gain the skills and knowledge required for the safe installation of solar systems.
- Training content includes VU23631 *Work safely on roofs with renewable energy systems* (a training unit developed and customised for the solar industry), White Card/construction induction training, first aid and working at heights.

Undertake free business mentoring

Recommended: Undertake free business mentoring sessions from Solar Victoria's approved provider.

See solar.vic.gov.au/mentoring

Why:

- The experienced business consultants we have engaged can help participants in our programs make informed decisions to improve their business through tailored and confidential one-on-one mentoring sessions.

5.1.3 Hot water installers (tradespersons) – mandatory workforce requirements

Holds appropriate VBA-issued plumbing accreditation

Mandatory: Holds the appropriate plumbing accreditation issued by the Victorian Building Authority (VBA).

Why:

- The VBA regulates plumbers, plumbing work and plumbing standards.
- In accordance with the Building Act 1993 and the Plumbing Regulations 2018, installation of a solar hot water/heat pump hot water system must be done by a plumber with the relevant accreditation issued by the VBA.
- To lawfully carry out plumbing work in the Solar Homes Program, hot water installers must be one of the following:
  - licensed in the class with the VBA
  - registered in the class (or hold provisional registration in the class) with the VBA
  - be in training under the supervision of a licensed plumber.
- For plumbing work involving installing a split system heat pump water heater, the plumber must be registered or licensed in water supply work and refrigerated air-conditioning work.

NEW Holds the appropriate Australian Refrigeration Council licence

Mandatory: Holds a current Refrigerant Handling Licence issued by the Australian Refrigeration Council (ARC) if installing a split hot water heat pump with synthetic refrigerant circulating through the pipework.

Why:

- Under the Commonwealth Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995 (the Regulations) a person installing a split hot water heat pump with synthetic refrigerant circulating through the pipework requires a Refrigerant Handling Licence issued by ARC
- This requirement does not apply to heat pumps that circulate water between the two units.

Compliance with regulations, the code and standards

Mandatory: Installation of a solar water heater or heat pump water heater must be in accordance with:

- the Plumbing Regulations 2018;
- the National Construction Code Volume 3 (Plumbing Code of Australia);
- AS/NZS 5149 (heat pumps);
- other relevant standards; and
- the manufacturer's specifications.

Why:

- The latest version of the National Construction Code Volume 3 (Plumbing Code of Australia) applies.
- AS/NZS 5149 includes requirements for installing heat pumps with flammable/toxic refrigerants in occupied / confined spaces and installers are advised to exercise caution with the location of heat pump systems.

Issue of compliance certificate

Mandatory: A compliance certificate must be issued by a licensed plumber to the customer who engaged the plumber for plumbing work with a total value of $750 or more, before discounts and incentives.

The requirement also applies to all gas installations affecting gas pipes.

Why:

- A compliance certificate is issued by a licensed plumber to certify the work they carry out complies with the relevant plumbing standards, codes and regulations.
- Only a licenced plumber may issue a compliance certificate – unlicensed registered plumbers cannot issue a compliance certificate.
- A licensed plumber is required to lodge a compliance certificate with the Victorian Building Authority (VBA) within 5 days of completing the work to remove a hot water system and install a hot water system.
- The licensed plumber must also issue the customer with a signed compliance certificate within 5 days of the work being completed. It is an important record that helps protect against faulty workmanship.

Issue of Certificate of Electrical Safety

Mandatory: Where electrical work has occurred, a Certificate of Electrical Safety (COES) is issued.

Why:

- An appropriate COES in accordance with Energy Safe Victoria requirements shall be supplied. The issuing of COES:
  - improves electrical safety for the general public, electricity customers and electrical workers; and
  - ensures all electrical installation work is undertaken only by qualified persons.
- See Certificates of Electrical Safety.

Attainment of White Card/construction induction card

Mandatory: Has attained the CPCCWHS1001 *Prepare to work safely in the construction industry* accredited unit of competency (White Card/construction induction card).

See Work safely in the solar industry.

Why:

- White Card training sets out requirements for performing safe work practices, identifying risks and satisfying work requirements.
- Occupational Health and Safety Regulations 2017 state that construction induction training must be undertaken by workers engaged in construction and the installation of electricity services.
- Completion of White Card training is a work, health and safety risk control measure.

Completion of accredited safety training unit

Mandatory:

Has attained the *VU23631 Work safely on roofs with renewable energy systems* accredited unit of competency. This applies to all tradespersons installing solar hot water or heat pump systems on rooftops (previously obtained *VU22744 Work Safely in the Solar* industry accredited unit of competency is still valid).

See Work safely in the solar industry.

Why:

- *Work safely on roofs with renewable energy systems* is a tailored safety training unit which includes customised working at heights, lockout and energisation requirements, identification and reporting on asbestos, etc.
- A sector advisory group identified a skills gap in the solar industry and developed this training unit. The advisory group was led by the Office of the Victorian Skills Commissioner and included representatives from WorkSafe, Solar Victoria, the Electrical Trades Union, the Clean Energy Council, the Plumbing Pipes Trades and Employee Union, Master Plumbers, the National Electrical and Communications Association and multiple solar retailers.
- Completion of *Work safely on roofs with renewable energy systems* is a work, health and safety control measure.

Completion of specific training and/or mentoring identified by Solar Victoria

Mandatory: Confirmation all workers engaged to install systems have successfully completed training and/or mentoring as required by Solar Victoria from time to time.

Why:

- Solar Victoria's training and technical mentoring are industry validated and customised for the solar industry in consultation with subject matter experts.
- Training and technical mentoring mandated by Solar Victoria will be available to complete prior to the mandatory completion date set by Solar Victoria.
- Solar Victoria will provide reasonable notice of mandatory training and/or technical mentoring on its website at Training and Workforce Development.

5.1.4 Hot water installers (tradespersons) – recommendations for workforce

End-of-life management certified to AS 5377

Recommended: Retailers and/or installers offer end-of-life management programs, during product replacement or disposal, with service provider/s certified to AS 5377.

Why:

- The Solar Homes Program aims to support Victoria's emerging circular economy by encouraging best practice approaches and outcomes for materials at the end of their lifecycle.
- AS 5377 establishes Australia's best practice benchmark for the collection, storage, transport and treatment of end-of-life electrical and electronic equipment.
- Future eligibility and installation requirements will be updated periodically. In particular, Solar Victoria recognises the national stewardship approach underway for PV products and materials at the end of their lifecycle.
- See How to manage end-of-life solar PV.

Advise system owners to use the Victorian Energy Compare website

Recommended: We recommend that hot water system installers advise system owners of the Victorian Energy Compare website and how to utilise the solar saver tool prior to installing a solar system.

Why:

- The Victorian Energy Compare website is a Victorian Government initiative that includes a solar savings calculator using NMI (National Metering Identifier) specific data.
- The solar calculator can be used by homeowners to compare the proposed solar system to their actual usage and tariff structure.
- Solar Victoria informs all rebate recipients in their welcome pack to use the Victorian Energy Compare website to calculate how much money they could save on energy bills by installing solar panels.
- Other ways Solar Victoria promotes use of the Victorian Energy Compare website include:
  - Householder e-newsletter
  - Buyers Guides
  - consumer education activities, including events.
- Victorian Energy Compare can be accessed at compare.energy.vic.gov.au and the solar calculator at Solar Savings Calculator.

Completion of accredited safety training at heights unit

Recommended: Has attained CPCCCM2012 (or RIIWHS204) *Working Safely at Heights* accredited training unit.

See Work safely in the solar industry.

Why:

- This training sets out the requirements to work safely on construction sites where the work activity involves working above 1.5 metres from ground level and where fall protection measures are required.
- Completion of *Work Safely at Heights* training is a work, health and safety risk control measure.

Completion of accredited safety training course

Recommended: Has attained 22657VIC *Working Safely on Rooftop Renewable Energy Systems* accredited course (previously obtained *22515VIC Course in Working Safely in the Solar Industry* is still valid).

See Work safely in the solar industry.

Why:

- *Working Safely on Rooftop Renewable Energy Systems* is an accredited training program and provides vocational outcomes for persons wishing to gain the skills and knowledge required for the safe installation of solar systems.
- Training content includes *VU23631 Work safely on roofs with renewable energy systems* (a training unit developed and customised for the solar industry), White Card/construction induction training, first aid and working at heights.

NEWCompletion of Australian Refrigeration Council (ARC) training accreditation

Recommended: Has attained the ARC Green Scheme Accreditation if installing a split hot water heat pump with natural refrigerant circulating through the pipework.

Why:

- The ARC Green Scheme Accreditation supports best practice for natural refrigerant handling when working with split system hot water heat pumps.
- Provides installers with better understanding and education to protect themselves and the household from flammable or toxic refrigerants.

5.1.5 All other on-site solar hot water workers – mandatory workforce requirements

Attainment of White Card/construction induction card

Mandatory: Has attained the CPCCWHS1001 *Prepare to work safely in the construction industry* accredited unit of competency (White Card/construction induction card).

See Work safely in the solar industry.

Why:

- White Card training sets out requirements for performing safe work practices, identifying risks and satisfying work requirements.
- Occupational Health and Safety Regulations 2017 state that construction induction training must be undertaken by workers engaged in construction and the installation of electricity services.
- Completion of White Card training is a work, health and safety risk control measure.

Completion of accredited safety training unit

Mandatory: Has attained the *VU23631 Work safely on roofs with renewable energy systems* accredited unit of competency. This applies to all tradespersons installing solar hot water or heat pump systems on rooftops (previously obtained *VU22744 Work Safely in the Solar* industry accredited unit of competency is still valid).

See Work safely in the solar industry.

Why:

- *Work safely on roofs with renewable energy systems* is a tailored safety training unit which includes customised working at heights, lockout and energisation requirements, identification and reporting on asbestos, etc.
- A sector advisory group identified a skills gap in the solar industry and developed this training unit. The advisory group was led by the Office of the Victorian Skills Commissioner and included representatives from WorkSafe, Solar Victoria, the Electrical Trades Union, the Clean Energy Council, the Plumbing Pipes Trades and Employee Union, Master Plumbers, the National Electrical and Communications Association and multiple solar retailers.
- Completion of *Work safely on roofs with renewable energy systems* is a work, health and safety control measure.

Completion of specific training and/or mentoring identified by Solar Victoria

Mandatory: Confirmation all workers engaged to install systems have successfully completed training and/or mentoring as required by Solar Victoria from time to time.

Why:

- Solar Victoria's training and technical mentoring are industry validated and customised for the solar industry in consultation with subject matter experts.
- Training and technical mentoring mandated by Solar Victoria will be available to complete prior to the mandatory completion date set by Solar Victoria.
- Solar Victoria will provide reasonable notice of mandatory training and/or technical mentoring on its website at Training and Workforce Development.

5.1.6 All other on-site solar hot water workers – recommendations for workforce

Completion of accredited safety training at heights unit

Recommended: Has attained CPCCCM2012 (or RIIWHS204) *Working Safely at Heights* accredited training unit.

See Work safely in the solar industry.

Why:

- This training sets out the requirements to work safely on construction sites where the work activity involves working above 1.5 metres from ground level and where fall protection measures are required.
- Completion of *Work Safely at Heights* training is a work, health and safety risk control measure.

Completion of accredited safety training course

Recommended: Has attained 22657VIC Working Safely on Rooftop Renewable Energy Systems accredited course (previously obtained *22515VIC Course in Working Safely in the Solar Industry* is still valid).

See Work safely in the solar industry.

Why:

- *Working Safely on Rooftop Renewable Energy Systems* is an accredited training program and provides vocational outcomes for persons wishing to gain the skills and knowledge required for the safe installation of solar systems.
- Training content includes *VU23631 Work safely on roofs with renewable energy systems* (a training unit developed and customised for the solar industry), White Card/construction induction training, first aid and working at heights.

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5.2 Hot water system and product requirements

The following system and product requirements for solar hot water and heat pump systems aim to enhance safety and quality by maintaining rigorous standards and ensuring products are future-fit.

5.2.1 Hot water systems – mandatory requirements

Listed on the Solar Victoria hot water product list

Mandatory: Listed on the Solar Victoria hot water product list.

Why:

- This listing confirms solar hot water systems meet additional requirements, above minimum industry standards, to be eligible to participate in the Solar Homes Program.

Listed on the Clean Energy Regulator solar hot water heater register

Mandatory Listed on the Clean Energy Regulator's register of solar hot water heaters.

Why:

- Registration with the Clean Energy Regulator confirms that such systems comply with AS/NZS 2712 and may be subject to a product certification audit and compliance regime.
- Listing is currently a requirement under the Federal Government's Small-scale Renewable Energy Scheme (SRES).

Listed on the Essential Services Commission register of products

Mandatory Listed on the Essential Services Commission's register of products.

Why:

- Registration with the Essential Services Commission confirms that such systems comply with AS/NZS 2712 and includes efficiency modelling in addition to the Clean Energy Regulator Register's efficiency modelling.
- Listing is a requirement under the Victorian Government's Victorian Energy Efficiency Certificates (VEEC) Scheme.

NEW Heat pump hot water systems restricted to products containing low Global Warming Potential (GWP) refrigerants

Mandatory: Hot water heat pumps must contain refrigerants with a Global Warming Potential (GWP) less than 700 as defined in the Intergovernmental Panel on Climate Change (IPCC) version 4.

Why:

- High GWP refrigerants contribute towards climate change if released into the atmosphere at end-of-life or from leakage.
- Removal of high GWP refrigerants will contribute towards national commitments under the 2016 Kigali protocols as well as state and national emission reduction targets.
- Restriction of products with less than 700 GWP is consistent with the Essential Services Commission product requirement for heat pump hot water systems to participate in the Victorian Energy Upgrades program.
- The GWP is defined in the Intergovernmental Panel on Climate Change (IPCC) fourth assessment report 2007 (version 4).

UPDATED Hot water heat pump end-user configurable integrated timer

Mandatory: Hot water heat pumps, as a minimum requirement, must have:

- an end-user (customer or occupant) configurable integrated timer that is located on the outside of the unit and allows the hot water heat pump to run between a specified time window; or,
- be connected to a solar PV system and runs the hot water heat pump during periods of solar generation.

The unit shall be capable of running outside of this time window for adequate hot water delivery, to support defrost cycles and to inhibit the growth of Legionella bacteria as per AS 3498.

These features shall be provided as part of the standard product.

Why:

- To maximise self-consumption of solar generation, improve grid stability and reduce carbon emissions.
- As heat pumps operate most efficiently in warmer temperatures, timers can improve the unit's efficiency.
- Reduces the probability of failures for heat pumps running in colder climates.
- Reduces the likelihood of noise complaints at night while people are sleeping.
- Allows an end-user (customer or occupant) to adjust timer settings seasonally to maximise self-consumption of solar generation.
- Removes risk to human safety or damage to components from an end-user attempting to access a timer contained within the internal working of the system.

Consumer protection through whole-of-product warranty

Mandatory: Product manufacturers to provide a minimum five year whole-of-product warranty on all major components listed as:

- Solar hot water major components:
  - Solar collector (any component in the solar collector including, but not limited to, manifold collectors, evacuated tubes, flat plate collectors, collector frames), heat exchanger, controller, thermostat, and valves.
- Heat pump major components:
  - Storage tank, compressor, evaporator, condenser, expansion valve, any other component that has refrigerant, water heat exchanger, controller, thermostat, and valves.
- The systems must be serviced as per the manufacturer's guidelines to maintain warranty.

Why:

- Solar Victoria is aiming to improve program controls to protect consumers and meet compliance requirements.
- The Terms and Conditions for participation in the Solar Homes Program requires retailers to:
  - express the warranty requirement as simply as possible and make it available on their website
  - state that the warranty and responsibilities about installation continue to operate after a retailer is suspended or otherwise ceases to participate in the Solar Homes Program.

5.2.2 Hot water systems – recommendations

NEW Access to hot water during a power outage

Recommended: Product manufacturers should ensure the hot water system can deliver the remaining hot water in the tank during a power outage provided there is no interruption to mains water supply.

Why:

- During a power outage it will ensure households have access to hot water for a period for bathing and cleaning purposes.
- As households electrify, it is necessary that key appliances, such as hot water systems, can provide benefits to consumers during power outages or interruptions.

NEW Electrical installation requirements for hot water heat pumps

Recommended: The electrical installation of a hot water heat pump should meet the following requirements:

- Has a dedicated circuit for the connection of the hot water unit.
- The circuit is protected by an appropriately rated overcurrent protection device and is RCD protected.

Why:

- Ensures best-practice in terms of operational safety for plug-in and fixed wired hot water heat pumps.
- A dedicated circuit prevents nuisance tripping from occurring.

End-of-life management certified to AS 5377

Recommended: Retailers and/or installers offer end-of-life management programs, during product replacement or disposal, with service provider/s certified to AS 5377.

Why:

- The Solar Homes Program aims to support Victoria's emerging circular economy by encouraging best practice approaches and outcomes for materials at the end of their lifecycle.
- AS 5377 establishes Australia's best practice benchmark for the collection, storage, transport and treatment of end-of-life electrical and electronic equipment.
- Future eligibility and installation requirements will be updated periodically. In particular, Solar Victoria recognises the national stewardship approach underway for PV products and materials at the end of their lifecycle.
- See How to manage end-of-life solar PV.

Includes an open communication protocol

Recommended: The installed system should Include an open communication protocol.

Why:

- Open communication protocols support third party (e.g. aggregator, platform provider, distribution network service provider, distribution service operator, etc) visibility, communication and orchestration.
- Systems with open communication protocols may participate in future energy markets and/or flexible export connection arrangements.