

# Interim report (solar systems, short-term)

21 September 2020

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# Executive Summary

Energy Safe Victoria (ESV) engaged Nous Group (Nous) to review Victoria’s electrical inspection regime. As part of this review, Nous developed an interim report (this report) outlining short-term recommendations to improve safety outcomes in solar system installations. The final report may identify enhancements that will flow through to the solar industry.

## Primary regime challenges for solar system safety

Nous conducted desktop analyses and consultation to identify the following primary regime challenges. We reviewed ESV documents and data, as well as public information and reports (including other solar reports from CER<sup>1</sup> and Solar VIC), and spoke to industry stakeholders, including LEIs<sup>2</sup>, peak bodies, DBs<sup>3</sup>, other regulators and Government.

### Race to the bottom

Solar industry is very competitive, driving low inspection prices and compressing scope and quality of inspections. Some LEIs are being driven by commercial incentives over regulatory and safety outcomes.

### Conflicts of interest

Solar installers engage LEIs. This arrangement disincentivises LEIs from reporting defects, as installers can ‘inspector shop’ or withhold payment; and installers are less likely to re-use a LEI who reported defective work to ESV.

### Low inspector competence

Some LEIs do not have the expertise to inspect and certify solar installations. Solar system knowledge is not included in training requirements and competency is not tested. Inspectors with proven competency are not recognised in licensing.

### Rogue operators

Poor and fraudulent RECs<sup>4</sup>/LEIs are not deterred by ESV enforcement as it is seen as being lenient and not followed up. Compliance is being ramped up but remains reactive. This disadvantages compliant actors as there is not a level playing field in the market.

## Preliminary short-term recommendations

This report has been developed mid-review of the wider regime and provides preliminary recommendations in the interim, whilst wider consultation and analysis is completed. The short-term recommendations are designed to provide ‘quick-wins’ and demonstrate measurable impact within six to twelve months.

1

### Targeted solar engagement

ESV should provide targeted information and materials to installers and LEIs on the highest risk and most prevalent issues in installations. This information should be primarily disseminated through existing channels (magazine, email, etc.). Additionally, ESV should engage more deeply with industry on solar, in webinars, conferences, and similar events.

2

### Solar-approved LEIs

ESV should introduce an additional assessment requirement of inspectors before they are permitted to certify renewable system installations (solar as a minimum). In the short-term, this requirement should be developed in partnership with Solar VIC and applied in the Solar Homes program.

3

### Solar response taskforce

Building on the recently established renewables team, ESV should resource a taskforce to analyse the rich Solar VIC data to identify high-risk installers and LEIs. Using this analysis, this taskforce should follow up with targeted desktop and physical audits and spot-checks, and then respond with regulatory levers (education and enforcement) as appropriate.

1. Clean Energy Regulator (CER)  
2. Licenced Electrical Inspector (LEI)

3. Electricity Distribution Business (DB)  
4. Registered Electrical Contractor (REC)

# Scope of the review

# This report provides preliminary findings and recommendations pertaining to Solar.

Energy Safe Victoria (ESV) engaged Nous Group (Nous) to review Victoria's electrical inspection regime. As part of phase one of this review, Nous developed an interim report (this report) outlining short-term recommendations to improve safety outcomes in solar system installations.

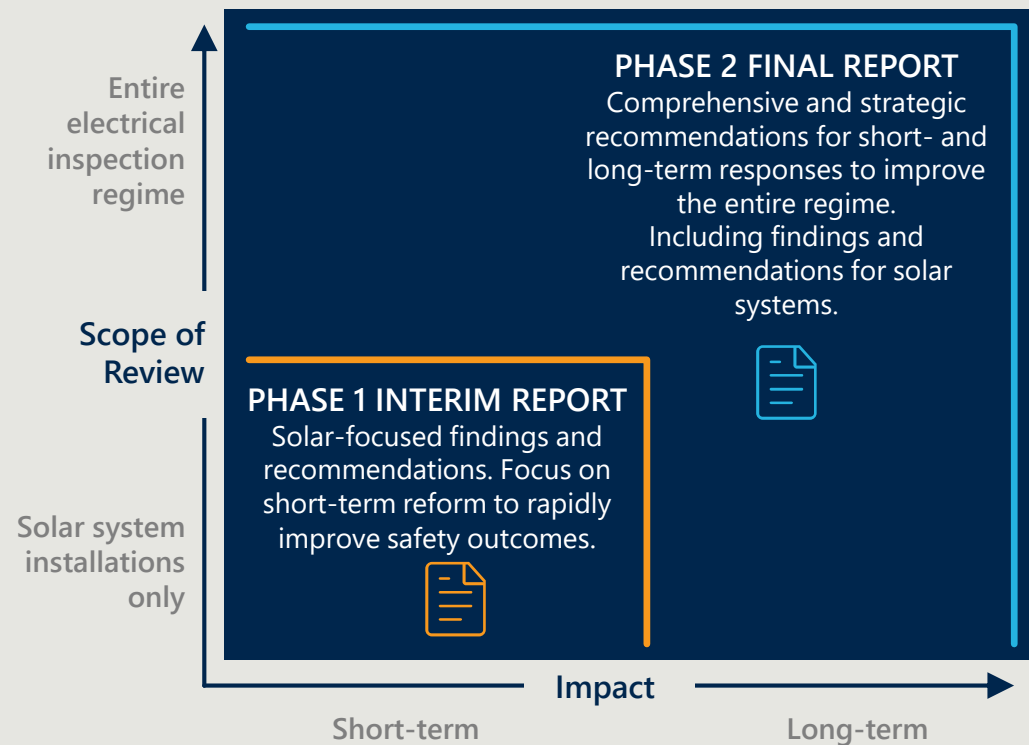
This report pertains specifically to solar. The visual summary of the two phases (and two reports) is provided to the right.

This report has been developed mid-review of the wider regime and presents preliminary findings and recommendations in the interim, as further consultation and analyses are conducted across the entire regime.

Nous' initial findings presented in this report are focused to the greatest extent possible on solar, but we note that the challenges are often complications of the wider regime.

Our short-term recommendations for solar reform are filtered and designed for short term impact on safety outcomes within six to twelve months. These recommendations are preliminary because there may be reforms to the wider regime over a longer time horizon that can also effectively address the issues identified in solar.

Visual summary of the focus of the reports. This report is the phase 1 interim report, highlighted in orange below.



# Preliminary findings

# Preventable safety risks persist in Victorian solar systems.

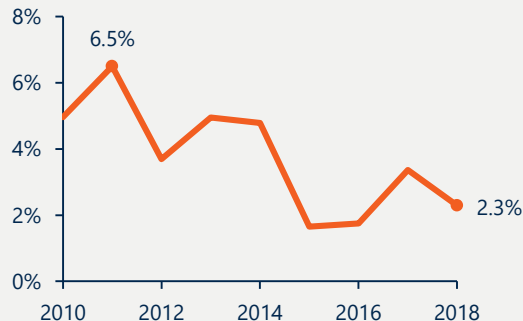
The rate of unsafe defects fell between 2011 and 2018, but 1 in 50 solar installations remain unsafe.

## Solar safety has improved over the last decade...

The Clean Energy Regulator (CER) has been auditing Victorian solar systems over the last decade under the small scale solar audit program.

This program has reported that the rate of unsafe solar installations in Victoria has been improving over the last decade, falling from 6.5 to 2.3 per cent.

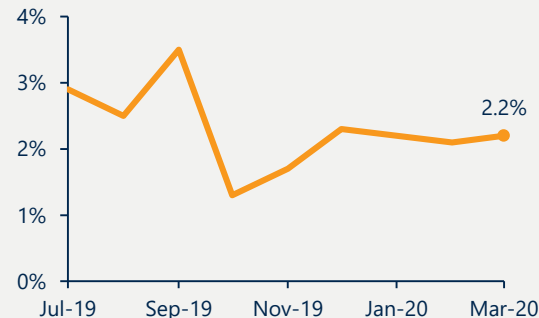
Rate of unsafe installations, 2018 CER<sup>1</sup>



## ... but some Victorian solar systems are still found to be unsafe.

Solar VIC is conducting detailed inspections of ~5 per cent of solar systems installed under the Solar Homes program.

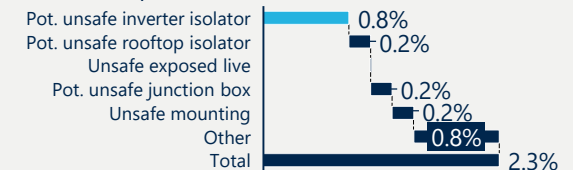
Rate of unsafe installations, Solar VIC 7/19-3/20<sup>2</sup>



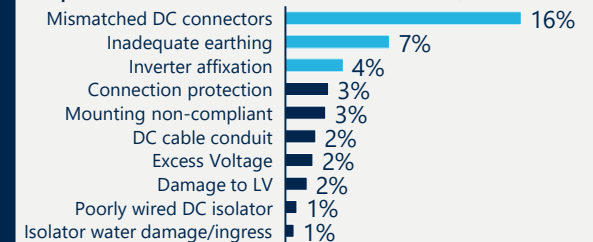
## Defects are driven by a few common issues.

The audit programs also report the type of defects. This reporting indicates that there are a few common defects contributing to the unsafe installations and those that require rectification.

Unsafe issues, CER cal18<sup>4</sup>



Top 10 needs rectification and unsafe issues, SV FY20<sup>5</sup>



1. Clean Energy Regulator (CER), [SRES residual risk report](#)  
 2. Solar Victoria (SV) Safety audit program results.  
 3. Clean Energy Regulator (CER), [SRES residual risk report](#) and [The RET 2018 Administrative Report](#); and Solar

Victoria (SV) Safety audit program results.  
 4. Clean Energy Regulator (CER), [SRES residual risk report](#)  
 5. Solar Victoria (SV) Safety audit program results.

## Despite the unique licensed inspection regime, Victoria lags other states in solar safety.

The CER audit program is nationally consistent and showed that Victoria has the third highest rate of unsafe solar installations in 2018.

Jurisdiction	Regulator/licenser	Inspection extent	Inspector model	Unsafe installation rate <sup>1</sup>
ACT	Access Canberra	All	Regulator	3.6%
NSW	NSW Fair Trading	Sample	Regulator	2.5%
<i>VIC</i>	<i>Energy Safe Victoria</i>	<i>All</i>	<i>Licensed inspector</i>	2.3%
SA	Office of the Technical Regulator, Consumer and Business Services	Sample	Regulator	1.5%
QLD	Electrical Safety Office	Sample	Regulator	0.9%
WA	The Department of Mines, Industry Regulation and Safety	Sample	DB	0.7%
NT	NT WorkSafe	Sample	Regulator	0%
TAS	WorkSafe Tasmania, Consumer, Building & Occupation Services	All	Regulator (outsourced contract)	0%

### Best performer

TAS shows best practice with no unsafe installations found under CER audits. TAS has an unsafe rate of 0.2% across all installations and through interviews the regulator asserted drivers of this best-practice rate were inspecting all solar installations and using independent inspectors.

### Poor performers

ACT and NSW have higher unsafe rates than VIC. In the ACT, the high defect rate is primarily driven by unsafe rooftop isolators (half of the issues at 1.8%). NSW shows that having an inhouse inspector model is not sufficient to drive low unsafe installation rates and that regulators must do more to achieve best practice safety outcomes.

1. Unsafe solar installations, the most recent comparable data available, 2018. Clean Energy Regulator (CER), [SRES residual risk report](#)



## LEIs without the right experience and skills are inspecting solar installations.

Current licensing arrangements allow any G class LEI to inspect solar installations, without screening for technical competency. Education and information regarding solar is limited and ad-hoc.

### Licensing does not ensure inspectors are proficient in solar.

- There is no solar training required before obtaining the G class licence even though it enables LEIs to inspect and certify solar.
- LEI assessment does not include solar system questions or require knowledge of the solar system standards.
- Inspectors are not required to demonstrate ongoing competency in solar to inspect solar installations. This allows some inspectors who have spent decades inspecting other prescribed work, to start inspecting solar installations despite not proving their competency.

### There is limited training and support for LEIs in solar.

- Sentiment is that LEIs lag industry in solar PV – ‘the electrical trade is ahead of the inspectors’.
- There are few quality and accessible training opportunities for inspectors.
- There are limited incentives for inspectors to stay up to date on new technologies, methodologies or standards.
- Inspectors do not have a development pathway or mentor program to develop competence in solar.
- We have heard that communications between ESV and LEIs are limited in general updates and advice.
- Installers and LEIs are requesting more information on solar. They know there are high defect rates, but not what the defects are.
- LEIs assert that ESV does not proactively provide them with enough information, guidance, materials and training to support them in their role.
- LEIs also told us that ESV does not answer enquiries with technical accuracy, timeliness, or consistency.

# Monitoring and enforcement is low-cost but may not adequately reduce safety risk.

The most robust auditing of solar installations is conducted outside of ESV and LEIs, by Solar VIC. Structural issues detract from the efficacy and rigour of the LEI inspection system. Enforcement is not driving a culture of compliance in the industry.

## Conflicts of interest and commercial incentives detract from the benefits of the LEI regime.

### Inspection and LEI regime

- There are conflicts of interest because the regulated entity is the client. LEIs have an obligation to carry out thorough inspections and to report defects to ESV, but they also face the commercial reality of needing to satisfy and maintain their clients. The ability for clients to shop around for inspectors and withhold payments puts LEIs in a compromised position.
- The result is that LEIs are discouraged from conducting thorough inspections and pointing out defects, and particularly from reporting these defects to ESV. Across the entire regime, LEIs report defects in only 1 in 1000 installations (0.1 per cent).<sup>1</sup>

- Whilst these challenges affect the entire regime, they appear to be particularly acute in solar, with low margins for LEIs in the industry pressuring LEIs to drive down prices and in turn 'cut corners' by not getting on the roof or at worst by conducting 'drive-by' inspections.

### ESV audit program and data

- ESV does not conduct any auditing of solar systems under the current audit program.<sup>2</sup>
- Under the existing ESV audit contract, the auditors would be unable to effectively audit a solar system due to: high-level nature of audit scope, low per-audit compensation, and no pre-arranged access making solar inspections difficult.

## Lenient and untargeted enforcement makes the LEI role challenging.

- ESV has issued more warning letters than infringement notices in recent years, but this trend has changed in recent months.
- ESV has also recently established a renewables team which is drawing on Solar VIC's audit data to help guide its enforcement activities. We have heard of up to five LEIs returning their licences to ESV in the last year due to concerns that ESV would uncover their non-compliant behaviour relating to solar.
- Despite this, many LEIs are adamant that 'dodgy' solar installers are operating, with LEIs not reporting them. They have strongly called on ESV to do more to remove these operators.
- Perceived low levels of enforcement makes it more difficult for LEIs to assert themselves in their dealings with RECs, particularly as they cannot enforce compliance themselves.

1. Nous consultations with ESV.

2. TechSafe monthly reports (2020) did not note any solar audits.

## There are also drivers outside of ESV's remit which amplify solar safety issues.



### Solar Homes

The DELWP Solar Homes program is a \$1.3 billion commitment over ten years to residential solar in Victoria. This is driving unprecedented installation volumes in the solar industry.



### LEI workforce

The LEI workforce is ageing (50% over 50<sup>1</sup>) and there can be an unwillingness for the older cohort to conduct rooftop inspections. Additionally, the pipeline is insufficient as candidate electricians do not see the LEI role as attractive. Rather the industry perceives the role as a 'pathway to retirement'.



### Risk-based standards

Solar VIC reported 17 times more issues requiring rectification than unsafe issues in solar installations.<sup>2</sup> This may indicate that Australian Standards requirements are not aligned to safety risk.

Prescriptive standards make requirements unnecessarily burdensome for installers, and makes the LEI role more difficult. Inspectors are compelled to report defects which both Licensed Electrical Workers (LEWs) and LEIs understand do not have an implication on safety, creating tensions in reporting.



### Electrician training

Consulted stakeholders often raised concerns over the quality and capability of electricians in the industry.

Electricians without the required skills and competencies are likely to make mistakes and deliver installations with high defect rates. This issue is amplified in solar, as this is a dynamic and emerging industry with many new products, technologies and systems being introduced.

1. Ellis Jones consulting, 2009.
2. Solar Victoria, Solar Homes Audit Program. Audit results FY19-20: 34% needs rectification, 2% unsafe.
3. Clean Energy Regulator (CER), [SRES residual risk report](#). Findings: 2.3% unsafe, of which: 0.2% unsafe rooftop isolator.

# Drawing on the preliminary findings, four regime challenges emerge as the primary contributors to unsafe solar installations.

## EXTERNAL FACTORS

### Solar boom

The Solar Homes program has driven rapid growth in solar system **installation volume**.

The high demand driven by government subsidies has attracted many LEWs, RECs and LEIs into the solar industry, who have **little or no relevant experience**.

### Technical complexity

Solar systems are complex and were **not covered in core training** for LEWs. Many installers lack the knowledge and skills to install solar safely. There have been no changes to training, education or licensing (for LEWs/LEIs) to respond to this complexity.

Solar introduces **added complexity to the inspection process**, with working at heights and exposure to weather.

### Race to the bottom 1

Some inspectors are driven by commercial incentives, over regulatory outcomes.

Inspection **prices are low** and are compressing inspection **scope and quality**.

To remain financially sustainable, solar inspectors must inspect **high volumes**, further stressing inspection quality.

### Conflicts of interest 2

Solar installers engage inspectors.

This arrangement disincentivises LEIs from **reporting defects**, as installers can 'inspector shop' or withhold payment; and installers are less likely to re-use a LEI who reported defective work to ESV. In response, inspectors often allow and support RECs to rectify defects before certifying the works.

### Low LEI competence 3

Some LEIs do not have the expertise to inspect and certify solar installations.

Solar system knowledge is not included in **training requirements** and competency is **not tested** in the current LEI assessment.

Inspectors with proven solar inspection capability are not recognised in licensing (through a system like classes).

### Rogue operators 4

On balance, it appears that RECs/LEIs are not deterred by the proposition of enforcement as it is seen as being **lenient and not followed up**.

This **disadvantages the quality LEIs and RECs**, who continue to have difficulty competing in the market on price.

ESV is enforcing against bad LEIs (5 licences handed in), however consultations indicated there are more rogue installers and LEIs in industry.

# Preliminary recommendations

# We assessed eight preliminary options against benefits, risk and cost criteria.

	Description	Benefit	Risk	Cost	Rationale
Engage with RECs and LEIs, and provide targeted information and materials	Distribute targeted solar-specific information, and advice through existing channels. Communications should be targeted based on key issues as identified by data.				Recommendation 1
Introduce solar LEI requirements or classes (e.g. Like S Class)	Introduce a solar approved LEI, requiring additional assessment for LEIs to certify solar installations. Increase capability of solar inspectors and quality of inspections.				
Monitor and manage LEI activity and Certificate of Inspection volumes	Develop operational processes to monitor the inspection activities of LEIs. Monitor LEI inspection: volume, number per day, number per REC, and defect reporting rate etc.				
Lift frequency and severity of remedial action	Lift both the volume and severity of enforcement activities undertaken on bad actors (where appropriate, for RECs and LEIs). Introduce robust processes which ensure fair remedial action which targets repeat offenders.				Recommendation 2
Mandate electronic Certificate of Electrical Safety (COES)	Require RECs and LEIs inspecting solar to lodge through an electronic COES. Improve quality and timeliness of data provided to ESV, deter inspector shopping.				
Increase ESV audit volume	ESV carry out more independent audits of solar system installations.				High cost and unnecessary in the short-term given the robust Solar VIC audit program.
Mandate minimum price	Institute a price floor for solar inspections. A higher rate would enable inspectors to complete thorough inspections and make solar more attractive for the best LEIs.				High risk of creating perverse incentives, especially if rushed through. Other reforms can achieve similar outcome.
Cap number of inspections per week/month per LEI	Introduce a maximum number of inspections an LEI can undertake, reducing ability to do high volumes of inspections at a low quality.				Would have only an indirect impact on the key challenges identified, and would be difficult to enforce and potentially easy to subvert.

## Criteria definitions and considerations

Benefit	Full circle is highest benefit (good). Short term impact on safety outcomes in solar installations.
Risk	Full circle is highest risk (bad). Implementation risk and likelihood of adverse unintended consequences.
Cost	Full circle is highest cost (bad). The cost of intervention to government, industry, and consumers.

We arrived at three recommendations to improve solar system safety in the short-term.

### Targeted solar engagement and communications

ESV should provide targeted information and materials to installers and LEIs on the highest risk and most prevalent issues in installations.

This information should be primarily disseminated through existing channels (magazine, email, etc.). Additionally, ESV should engage more deeply with industry on solar, in webinars, conferences, and similar events.

1

### Solar-approved LEIs

ESV should introduce an additional assessment requirement of inspectors before they are permitted to certify renewable system installations (solar as a minimum).

In the short-term, this requirement could be developed in partnership with Solar VIC and applied in the Solar Homes program.

2

### Solar response taskforce

Building on the successes of the recently established renewables team, ESV should resource a taskforce to analyse the rich Solar VIC data to identify high-risk installers and LEIs.

Using this analysis, the taskforce should follow up with targeted desktop and physical audits and spot-checks. The taskforce should then respond with regulator levers (education and enforcement) as appropriate to the issues.

3

# Recommendation 1 – Targeted engagement and communication with industry on common defects.

## Description

ESV should provide targeted information and materials to installers and LEIs on the highest risk and most prevalent issues in installations.

ESV is becoming more active in industry engagement and targeted communications. However, consulted RECs and LEIs attested that whilst they were aware of high defect rates, they were unsure what the prevalent defects were. Many stakeholders called directly for ESV to publish and communicate priority issues so they know “what to look out for”.

## Rationale

- **There is a capability gap in solar** – industry stakeholders highlighted that there is a segment in both RECs and LEIs which are improperly trained and do not have an adequate understanding of solar systems.
- **Defects are concentrated in few issues** – audit data from CER and Solar VIC indicates that a small portion of defects contribute to the majority of technical and unsafe defects (slide 7). As a result, targeted information and training can have an attractive return on investment.
- **Very low cost to ESV** – ESV already has the information and data required to provide targeted communications through Solar VIC data. ESV can effectively distribute the base information through existing channels (e.g. EnergySafe magazine).
- **Industry will value information** – during stakeholder consultations, RECs and LEIs directly requested more information from ESV on solar. Additional and targeted information is expected to be well-received and utilised by industry.
- **Postures enforcement priorities to industry** – a public and widely communicated defect campaign will posture ESV’s focus to industry and indicate ESV’s priority areas of enforcement. This should deter LEIs and RECs from cutting corners in these areas.

## Implementation

The majority of the defect data and necessary information for this recommendation should be readily available to ESV through Solar VIC audit reporting.




To distribute this information, ESV should primarily utilise existing channels to RECs and LEIs, notably the ESV magazine, website and email. Additionally, it is recommended that ESV create and attend industry webinars, conferences, roadshows and similar events to engage with industry, distribute the information and communicate the priority and focus areas in solar installations.

The new ESVConnect portal has potential as an excellent new channel to disseminate information to inspectors. All inspectors using the electronic COES system will be exposed to information on the platform, however not all inspectors may read the magazine or attend industry events.

We note that ESV is maturing in targeted enforcement and communications as it relates to solar. The most recent EnergySafe magazine (issue 58) had an article on solar incidents and some solar-specific FAQs were included. This recommendation intends to extend beyond incident articles and FAQs to clear communications of information/advice on high-risk prevalent issues identified from the data, with direction to appropriate educational materials where relevant.

*Optional* – If both Recommendation 1 and 2 are pursued, ESV could as part of the LEI solar-approval require that LEIs attend some (or all) ESV targeted solar information sessions. This imposes in effect a Continuous Professional Development requirement in the short-term.

## Intervention suitability

Benefit		Targeted information should improve safety of common defects, lifting overall solar installation safety.
Risks		There are no material risks with this recommendation.
Cost		Targeted information and materials can be cost-effectively distributed through existing channels to LEIs and RECs.



# Recommendation 2 – Impose solar-specific competency requirements on LEIs certifying solar.

## Description

ESV should introduce an additional assessment requirement of inspectors before they are permitted to certify renewable system installations (solar as a minimum).

This assessment should verify competent technical experience and knowledge in solar system installations. Additionally, LEIs should show understanding of best-practice inspection processes (working at heights etc., appropriate scope of inspection and testing).

## Rationale

- **Ensures inspectors have the competency** – a lack of inspector competency in solar systems has been identified as a shortfall in the current regime and a driver of unidentified safety risks. Mandating a licence requirement will require a demonstration of competency and understanding of solar by LEIs.
- **Leads to better inspections** – ensuring LEIs have a base understanding of the systems and appropriate inspection processes will improve the quality of inspections conducted under the regime.
- **Finds more of the safety risks** – more thorough and appropriate inspections carried out by capable inspectors will identify and report more risks in solar installations.
- **LEIs are more likely to report** – adding higher barriers to entry to become a solar inspector will deter the undesirable inspectors from doing solar work. ESV can expect that the solar inspectors are less likely to fall into conflicts of interest with their additional investment in solar training.
- **There is existing precedent** – there was an existing LEI licence class for renewable systems (Class S standby generation or cogeneration electricity supply systems). This classification was dissolved in 2009 to meet unprecedented demand for generator connection in response to the Black Saturday bushfires.

## Implementation

A staged approach to implementation is recommended to capture short-term benefits whilst pursuing a more robust long-term solution.




1. **First, impose solar-approved LEI requirement through Solar VIC.**  
As an interim measure, ESV could negotiate with Solar VIC (SV) to introduce a requirement that a solar-approved LEI must certify the installation for the installer to be eligible for the SV subsidy (similar to Clean Energy Council installer accreditation). As part of an opt-in subsidy requirement, this is not expected to require regulatory change and will be fast to implement.
2. **Then, prepare to reinstitute the LEI S class for long-term robustness.**  
ESV should amend the *Electricity Safety (Registration and Licensing) Regulations* to re-introduce a solar/onsite standby generation class to the *Specified classes of electrical inspection work* (Schedule 3), requiring that an appropriately licensed LEI is required to certify a solar system COES.

In both stages, a verification of competency process and/or training requirements for LEIs are needed. In stage 1, ESV should work in partnership with SV to develop and administer the requirements, however ESV, as the regulator, should lead defining the assessment. In stage 2, ESV should lead the development and administration of the process.

Also, ESV should be active in engagement with LEIs and the industry in the development of the approvals/classes and communicate clearly the new changes.

*Optional* – to ensure that LEI supply meets demand for solar system inspections, ESV may consider a restricted S-class licence for electricians and installers with demonstrated deep expertise. The ‘inspectors’ with the restricted class licence would only be able to certify solar, and not other G-class installations.

## Intervention suitability

Benefit		Safety – better inspections will find more of the issues. Transparency – better inspectors should report more.
Risks		Improving competency does not increase defect reporting rate. Addresses solar issue, not future technologies.
Cost		New assessment and training pathway, further administration of licensing, higher inspection cost.

# Recommendation 3 – Targeted enforcement and engagement through a solar response taskforce.

## Description

Building on the successes of the recently established renewables team, ESV should resource a taskforce to analyse the Solar VIC data to identify high-risk installers and LEIs. Using this analysis, this taskforce should follow up with targeted desktop and (as appropriate) physical spot-checks and technical audits.

The objective of this taskforce is to quickly identify key problem installers and inspectors, and to appropriately apply regulatory levers to incentivise compliance. For actors displaying a lack of education, provide tailored information, for actors displaying fraudulent behaviours, apply enforcement levers.

This short-term action will provide a signal to the industry, showing that ESV is placing more emphasis on safety and compliance and is willing to investigate and enforce against installers and inspectors as needed.

## Rationale

- **ESV has rich data from Solar VIC** – Solar VIC is capturing comprehensive data on Victorian solar installations through the thorough audit regime.
- **Demonstrate active enforcement** – in consultations, some stakeholders criticised ESV’s enforcement processes and the severity and frequency of enforcement. Stakeholders have voiced that they have ‘lost confidence’ in ESV’s capacity and willingness to enforce compliance. This effort will demonstrate ESV is committed to consistent and fair enforcement.
- **Stem the emerging culture of non-compliance** – Nous has heard that due to lenient enforcement and the untargeted nature of ESV auditing, a culture of non-compliance is emerging in some RECs and LEIs. Data-driven risk based enforcement may break the momentum of this non-compliance culture.
- **Proactively communicate relevant findings** – complementary to enforcement, ESV can utilise insights from the taskforce’s analysis to inform a targeted, proactive information campaign on solar best practice and shortfalls.
- **This approach has demonstrated effectiveness** – the ESV renewables team has shown promise in improving solar systems safety, with up to 5 LEIs handing in their licences when facing concerns ESV would uncover their non-compliance.

## Implementation

This recommendation is a combination of two options (see slide 14): Monitor and manage LEI activity and lift frequency and severity of remedial action.




The taskforce should be sophisticated in the choice of remedial actions to industry following the findings of the data analysis. Whilst enforcement is a focus, as identified by stakeholders, it should not be used bluntly where another action may be more effective in driving better outcomes. For example, for a LEI who overlooked a certain defect whilst otherwise acting appropriately and competently, a more appropriate response would be an informal letter and direction to appropriate education or materials (as opposed to enforcement).

This taskforce is intended as a temporary targeted initiative, to utilise the detailed data uniquely available through Solar VIC. To maintain a similar ongoing team, ESV should assess where there are opportunities to draw out and develop richer data from licensing, installations and inspections/audits. Additionally, the taskforce must have complete and timely access to ESV data (e.g. licensing).

This recommendation has the added benefit of piloting what ESV could look like as a data-sophisticated risk-based regulator. Processes developed and lessons learnt from this initiative would support ESV’s broader ambitions.







If ESV pursues the solar response taskforce, there are opportunities to integrate this recommendation with recommendation 1. The rich analysis and data from the taskforce will complement a stronger and targeted information campaign.

## Intervention suitability

Benefit		Rapid detection and enforcement on poor actors, deterring others, and improving overall industry quality and safety.
Risks		Potential impact on supply of inspectors and installers with higher perceived compliance enforcement.
Cost		Low cost to industry. ESV would need to reprioritise internal resourcing.

## Our three recommendations address the identified key challenges to solar safety.

The identified regime challenges are complex and structural in nature requiring broader, systemic reform to overcome. Nevertheless, the short-term recommendations will partially address the challenges and drive better outcomes in the interim, whilst ESV pursues structural changes to the regime.

Recommendation	Summary	Race to the bottom	Conflicts of interest	Low inspector competence	Rogue operators
<b>R1   Targeted solar communications and engagement</b>	ESV should provide targeted information and materials to installers and LEIs on the highest risk and most prevalent issues in installations. This information should be primarily disseminated through existing channels (magazine, email, etc.). Additionally, ESV should engage more deeply with industry on solar, in webinars, conferences, and similar events.				
<b>R2   Solar-approved LEIs</b>	ESV should introduce an additional assessment requirement of inspectors before they are permitted to certify solar system installations (solar as a minimum).  In the short-term, this requirement should be developed in partnership with Solar VIC and applied in the Solar Homes program.				
<b>R3   Solar response taskforce</b>	ESV should resource a taskforce to analyse the rich Solar VIC data to identify high-risk installers and LEIs. Using this analysis, the taskforce should follow up with targeted desktop and physical audits and spot-checks. The taskforce should then respond with regulator levers (enforcement or education) as appropriate to the issues.				



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## About Nous

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Nous Group is an international management consultancy operating in 10 locations across Australia, the UK and Canada.

For over 20 years we have been partnering with leaders to shape world-class businesses, effective governments and empowered communities.

400

PEOPLE

20

YEARS

10

LOCATIONS