Ministry for Regulation
Te Manatū Waeture

Improving the solar installation process

Final report of the review of regulations surrounding small-to-medium-scale solar installation process

July 2026

Published in July 2026 by the Ministry for Regulation, Wellington, New Zealand.

ISBN 978-1-991372-15-4 (Online)

This document is available on the Ministry for Regulation website: **regulation.govt.nz**

Use of Artificial Intelligence

The Ministry has used Artificial Intelligence (AI) tools to support this review, in line with the Government Chief Digital Officer's Responsible AI Guidance for the Public Service: GenAI. AI was used to support submissions analysis and some aspects of the preparation of this report. The review team have reviewed all content developed using AI tools to ensure it is accurate.

Contents

Executive summary

Residential and business demand for solar systems is increasing. The technology is proven, demand is growing, and the benefits are clear.

But for many households and businesses, getting solar installed can feel harder than it should. Instead of a clear, predictable process, people often face multiple steps, unclear requirements, and delays at different points along the way. The fragmented nature of regulation across the many steps a consumer faces means that what should be a relatively simple upgrade can become time consuming and frustrating.

What's going wrong?

Our review found that the current system is more complicated than it needs to be, with barriers arising across building, planning, electricity network, metering, and inspection processes. These issues are not driven by a single rule or agency, but by how the system operates as a whole as it has evolved over time. The review found that there can be a gap between how regulatory requirements are intended to operate and how they are experienced in practice. Rules that appear effective on paper do not always produce effective outcomes for consumers. Many of the barriers identified by the review stem from system performance issues rather than the absence of regulatory settings, highlighting the importance of how the system operates in practice. For consumers and businesses, this can result in higher costs, longer timeframes, and uncertainty about what is required or when a system will be ready to use. In some cases, this can discourage investment in solar.

Across the system, the same issues come up repeatedly:

- It is hard to know what steps to follow — requirements are not always clear and can be interpreted differently depending on where you are.
- The process does not flow well end-to-end — different steps are not well coordinated, leading to delays.
- Timelines are unpredictable — approval times and processes vary across the country, making it difficult to plan.
- Some parts of the system lack transparency or choice — in areas like metering, consumers can have limited visibility and control.
- Some requirements are unnecessarily onerous — low-risk installations can still face processes that add cost and delay without clear benefit.

New Zealand's regulatory system has not kept pace with changes in solar technology and rising consumer uptake, and installation processes remain fragmented. This has led to unnecessary delays for consumers, uncertainty, and less efficient outcomes. By contrast, Australia's framework has evolved in response to these changes, supporting more streamlined, consistent, and efficient installation processes.

Recent regulatory changes are a step in the right direction

We acknowledge that recent changes are a step in the right direction. Building consents are generally no longer required for residential rooftop installations. The Electricity Authority has explored and/or made changes to the Electricity Industry Participation Code 2010 in a number of ways that affect the solar installation process positively — such as consulting on ways to maximise benefits from local electricity generation[1], improving network connections[2], and reforming distributed generation pricing to promote efficient investment.[3] Changes to make it easier for consumers to access their own data, are also a step in the right direction.[4]

However, our view is that the changes above do not go far enough. Regulators are still playing catch-up on issues that could have been dealt with some time ago.

What still needs to change?

Fixing this does not require a complete regulatory overhaul. Instead, this report recommends a focused set of changes to remove unnecessary barriers and improve how the system works in practice. These changes are designed to make installing solar:

	Faster — reducing delays and speeding up approvals.
	Simpler — removing disproportionate requirements and making the rules clearer and easier to follow.
	More innovation and competition — supporting innovation and giving consumers greater choice.

Recommendations

The recommended package of reforms focuses on removing friction across the system. The cost-benefit analysis (CBA) also estimates that the package of recommendations could deliver $28 million in net benefits over 10 years under a conservative scenario where rooftop solar uptake does not increase. If the reforms also lead to additional rooftop solar installations, estimated net

[1] Electricity Authority. (2025). *Maximising benefits from local electricity generation*. https://www.ea.govt.nz/projects/all/network-connections/consultation/maximising-benefits-from-local-electricity-generation/

[2] Electricity Authority. (n.d.). *Network connections*. https://www.ea.govt.nz/projects/all/network-connections/

[3] Electricity Authority. (2026). *Reforming distributed generation pricing to promote efficient investment*. https://www.ea.govt.nz/projects/all/distributed-generation-pricing-principles-reform/consultation/reforming-distributed-generation-pricing-to-promote-efficient-investment/

[4] Ministry of Business, Innovation and Employment. (n.d.). *Open electricity*. https://www.mbie.govt.nz/business-and-employment/business/consumer-data-right/consumer-data-right-policy-design/open-electricity

benefits increase to around $50 million over 10 years. These benefits arise from reduced delays, lower installation costs, more efficient regulatory processes, and enabling plug-in solar.

Overall, the changes will help ensure that New Zealand is the simplest place in the developed word to install solar while continuing to maintain safety and quality. Appendix A illustrates how our package of recommendations will streamline the customer journey for small-to-medium-scale solar installations.

Recommendation	Change
Building Act	
1. Amend Schedule 1 of the Building Act 2004 to clarify the building consent exemption settings for solar installations.	
Resource Management	
2. Create nationally consistent rules about when resource consents can be required for solar, and exempt systems under 300kW and (if roof-mounted) that fit entirely on the roof.	
Electricity Distribution Businesses (EDBs)[5]	
3. Require distributors to publish clear and detailed information about their application processes on their websites.	
4. Create a standardised process for connecting to distributors and support distributors to adopt best practice.	
5. Increase the default export limit from 10 kW per connection to 10 kW per phase.	
6. Require distributors to approve applications, under 10kW, made under the streamlined process by the end of the next working day, and create a streamlined process to approve applications under 100kW within 5 working days.	
7. Require distributors to publish information about hosting capacity on their networks and ensure that fees are fair and reasonable.	
Metering	
8. Make metering data more accessible to both consumers and to electricity market participants.	
9. Improve competition in metering and give consumers a genuine choice of metering provider.	
10. Publish consumer-friendly information about electricity meters.	
11. Introduce enforcement action for unnecessary meter upgrades and expectations for meter companies and retailers if errors occur.	
Electricity retailers	
12. The Electricity Authority should use its market facilitation role to improve retailer processes and communication.	

[5] EDBs own and operate local electricity networks. They are also referred to as 'lines companies' or 'distributors'.

Electricity inspections	
13. Exempt accredited installers from inspections for solar installations of up to 100kW.	
14. Strengthen enforcement of existing requirements for inspectors to report failed inspections to WorkSafe's high-risk database.	
Plug-in solar	
15. Legalise plug-in solar.	

Introduction and scope

1. This report presents the findings of our regulatory review into the installation of residential and small-to-medium-scale solar photovoltaic (PV)[6] systems in New Zealand ('the review'). The review was initiated in response to concerns raised through stakeholder engagement and public feedback, including red tape tipline summissions, that the current solar installation process can be unnecessarily complex, slow, and inconsistent.
2. The review was undertaken in accordance with the Terms of Reference agreed by the Minister for Regulation.[7] These Terms of Reference directed the review to examine how the regulatory system operates across the end-to-end installation process, to identify the main sources of cost, delay, and uncertainty, and to recommend changes to improve system performance while maintaining safety and quality.
3. The scope of the review focused on small-to-mediumrscale distributed generation, particularly residential and small business systems that connect to local electricity networks. It covered the key regulatory interfaces that affect the installation process, from system design and approvals through to installation, connection, and commissioning.
4. The review did not consider utility-scale generation or electricity market design issues, except where these are incidental to the installation process. The review only considered regulatory changes and did not consider whether subsidies should be provided. The review notes that subsidy schemes have played an important role in increasing solar uptake in other countries such as Australia. However, this was outside the scope of the review.
5. The review makes several recommendations that would require amending the Electricity Industry Participation Code 2010[8] ('the Code') to implement. The Electricity Authority is responsible for making and administering the Code. We note that the Electricity Authority has recently made positive changes to the Code to improve the solar installation process, and that further work is underway. The Crown Entities Act 2004 limits the Government's ability to intervene in the Electricity Authority's functions, and this independence is reflected in section 12(3) of the Electricity Industry Act 2010. While the Government should not interfere in the Electricity Authority's operations, the Ministry anticipates that the Electricity Authority will give due consideration to the recommendations of the review.
6. The report begins with an overview of the solar installation system and its key participants, then examines the main issues identified through the review, their impacts, and recommended improvements. It concludes with a proposed package of reforms and implementation considerations.

---

[6] Solar photovoltaic (PV) systems are solar panels that convert sunlight into electricity.
[7] Ministry for Regulation. (2026, May 8). *Terms of reference: Residential and small and medium-scale solar review*. https://www.regulation.govt.nz/about-us/our-publications/terms-of-reference-residential-and-small-and-medium-scale-solar-review/
[8] Electricity Authority. (2010). *Electricity Industry Participation Code 2010*. https://www.ea.govt.nz/code-and-compliance/the-code-electricity-industry-participation-code-2010/

Methodology

7. The review draws on:
    - stakeholder engagement
    - engagement with government agencies
    - supporting analysis and research of domestic and international material.
8. The approach is consistent with the Ministry for Regulation's standard methodology, which emphasises evidence-based analysis and triangulation across multiple sources.

Stakeholder engagement with industry

9. We undertook engagement to capture perspectives from across the solar installation system.
    - **Online survey** — we used an online survey to gather input on experiences of the installation process. The survey received approximately **200 responses** from a wide range of participants, including: consumers, installers, electricity distribution businesses (EDBs), retailers, metering providers, local authorities, industry bodies, and consumer groups. We asked open-ended questions about what is working well, key issues or barriers, and potential improvements.
    - **Targeted interviews** — we complemented the online survey with approximately 20 targeted interviews with stakeholders across the sector, including: installers, EDBs, retailers, metering providers, and regulators in both New Zealand and Australia. Interviews followed a semi-structured format focussing on identifying sources of delay, cost, and complexity, and options for improvement.

Engagement with government agencies

10. We engaged with relevant government agencies and regulators involved in the solar installation process, including those responsible for building, planning, energy, and electrical safety frameworks. This engagement helped us to understand how regulatory settings operate in practice, identify constraints and trade-offs, and test emerging findings and potential recommendations. The feedback reflects the cross-system nature of the process, with responsibilities spread across multiple regimes and organisations.

Supporting research and analysis

11. The eview was supported by targeted research and analysis, including: review of relevant legislation, regulations, and codes; mapping of the end-to-end installation process; and

synthesis of stakeholder feedback. We also drew on comparisons with selected international jurisdictions.

How the review considered the Regulatory Standards Act (RSA) 2025

12. The set of principles for responsible regulation (section 9) of the RSA requires agencies to identify where legislation is inconsistent with the principles. This section is of most relevance for the Ministry's regulatory reviews.

13. At a high level, these principles relate to the impact of legislation on the rule of law, liberties, the taking of property, taxes, fees, and levies, and the role of the courts. They also relate to good law-making, specifically about problem definition and rationale for intervention, consultation, cost-benefit and impact analysis, implementation arrangements, clarity of effect, and review and stewardship. The authoritative source of the interpretation of these principles is the statutory guidance issued by the Minister for Regulation and the Attorney-General, which is available on the Ministry's website.

14. While the principles are designed for use by government agencies when preparing Consistency Accountability Statements (CAS), they can also help us to identify problems in existing regulatory regimes and assess possible improvements. The eview applied the principles in the following ways:

    - The criteria we used to assess the current state and options broadly cover the principles of responsible regulation. Additionally, we explicitly considered how our recommendations would impact private property rights.
    - The review's process aligns with the good law-making principles of problem identification and option selection, cost-benefit and impact analysis, and implementation arrangements. We have clearly identified the problems with the current state, considered non-legislative options to solve these problems, engaged extensively with regulated parties and regulators, compared costs and benefits and quantified where possible, and laid out implementation plans for our recommendations. Whilst we engaged thoroughly with stakeholders on the issues identified in the review, the timeframes of the review did not allow for full public consultation on the recommendations.
    - Our recommendations are likely to improve the alignment of existing regulatory systems with the RSA principles. This includes making it easier for individuals to make the best use of their private property by making it easier and cheaper for them to install solar on their properties.

15. The Ministry will continue to refine how the principles of responsible regulation can set the direction for our reviews.

System overview: How solar installation currently works

Overview of the solar installation process

Figure 1: Overview of solar installation process

New Zealand: Small-scale solar regulatory pathway

Decides to install solar / chooses installer

Installer does initial assessment (evaluates site)

Installer designs system

Installer submits a grid connection application to the Electricity Distributor

Electricity distributor assesses the application

Electricity distributor issues a connection offer

Solar Installer/Consumer accepts offer

Installation

Electricity distributor sends technician to turn off fuse 1

Solar installer installs mounting system and panels. 2

Licensed electrician installs wiring, inverter and switchboard 3

Electrical inspector inspects work 4

Installer contacts the electricity distributor

Electricity distributor sends technician to reconnect fuse 5

Electricity Distributor gives approval to operate/export 6

Meter update (if required)

Solar system switched on

Other regulatory requirements can also be triggered
Consumers may need a **building consent** if the design of the solar array is not carried out or reviewed by a Chartered Professional Engineer and either of the following apply:

- the site is very windy (for example, exposed coastal or hilltop areas).
- the solar system is larger than 40 m² on a roof or 20 m² on the ground.

Consumers may still need **resource consent** because planning rules are set and applied by individual councils.

- E.g. Central Hawke's Bay District Council requires a resource consent for solar systems larger than 20kW.

Variation in distributor processes
Streamlined applications under 10kW must be processed within 10 working days, non-standard applications (such as those in areas with network congestion) take up to 30 working days, and applications over 10kW can take up to four months.

Limited availability of inspectors can cause delays
Especially in provincial and rural areas, where some consumers are waiting up to six weeks for an inspection and paying extra for the cost of the inspector travelling to them.

Inspectors are also selected by installers, limiting their independence as they have an incentive to pass installations to maintain commercial relationships.

Unpredictability in metering
Solar installations can require electricity meters to be upgraded to smart meters with export capacity. Electricity retailers organise the meter upgrades which can be delayed by up to three months as metering providers are associated with specific Installation Control Points, and it is difficult for some retailers to shift to other metering providers due to historic contractual arrangements.

The key stages are outlined below (all days are working days)

16. Installing rooftop solar typically involves a number of steps and interactions between the homeowner, installer, EDB, retailer, metering provider, and electrical inspectors. While the process is generally well established, it can vary depending on the property, the network, and the parties involved. **Figure 1** above provides an overview of the solar installation process.

Step 1: The installer designs the system and provides a quote

17. First, the homeowner works with an installer to design a system that suits the property. This usually involves installers completing a site assessment to check factors like roof space, layout, and electricity use and the homeowner comparing quotes.

Step 2: The installer submits a distributed generation (DG) connection application to the EDB (24 hours to 3 months)

18. Once the system is designed, the installer applies to the local EDB for approval to connect the system to the network and to export electricity back to it. EDBs are currently required to respond to requests within 10 working days. Under the Code, different timeframes apply depending on the size of the system:

    - Under 10 kW and eligible for streamlined application — 10 working days.
    - Under 10kW and not eligible for streamlined application (eg. in a location where there is network congestion, non-compliant equipment proposed to be used, or applicant does not provide the necessary information in their application) — 30 business days, with a further 20 business days if agreed by the applicant.
    - Over 10kW — timeframes depend on the capacity of the system — between 45–80 business days from the date of the final application.

Step 3: Review and approval of the design by a Chartered Professional Engineer (will only apply in some situations)

19. This step is only required for rooftop installations above $40m^2$, rooftop installations in areas where design wind speeds exceed 44m/s, and ground-mounted solar arrays between $20m^2$ and $40m^2$ in urban areas.[9] In some cases, compliance may be demonstrated through a pre-engineered kitset where the solar mounting system has already been designed or engineered for specified wind and loading conditions, or through a review by a Chartered Professional Engineer.

Step 4: Seek and receive resource consent (will only apply in some situations)

20. Resource consent is not typically required for standard residential rooftop installations. Whether or not this is required will depend on local planning requirements. Factors that can

[9] Urban areas refer to any area that is not designated as 'rural' under the district plan of the council for the area in which the solar panels are being built. Rural residential and lifestyle areas are therefore included under urban areas for this review.

trigger the need for a resource consent include if the property is in an area with a heritage overlay or an area of outstanding natural landscape, if the system is over a certain size, or if the system is ground-mounted.

Step 5: The installer proceeds with installation

21. If the application is approved, the installer can proceed with installation. This involves fixing panels to the roof, installing wiring, and connecting the system to an inverter that converts solar energy into usable electricity. The installer may have an electrician working as part of the team, or they may subcontract onto the project.

Step 6: The electrician certifies the installation; the electrical inspector inspects the installation (2 days to 6 weeks)

22. After installation, the system must be checked to make sure it is safe and compliant. An electrician provides a Certificate of Compliance, and an independent inspector carries out a separate inspection before the system can be used. Whilst in some cases the inspections can be carried out within a couple days, in other cases they can result in an additional delay of up to 6 weeks. Once the inspection has been completed, inspectors have up to 20 working days to provide the Record of Inspection to the electricity distributor, which can further delay connection and the customer's ability to begin using their solar system.

Step 7: The metering provider replaces or reconfigures the meter if required (2 weeks to 3 months)

23. The next step is to update or replace the electricity meter, if required. A suitable meter is needed to measure both the electricity used and any excess electricity exported back to the grid. This step is arranged through the electricity retailer and can take several weeks, or in some cases up to three months.Some meters can be updated remotely or updated manually by a technician during an on-site visit (rather than needing a new meter).

Step 8: The EDB receives the paperwork from the installer/electrician and the electrical inspector

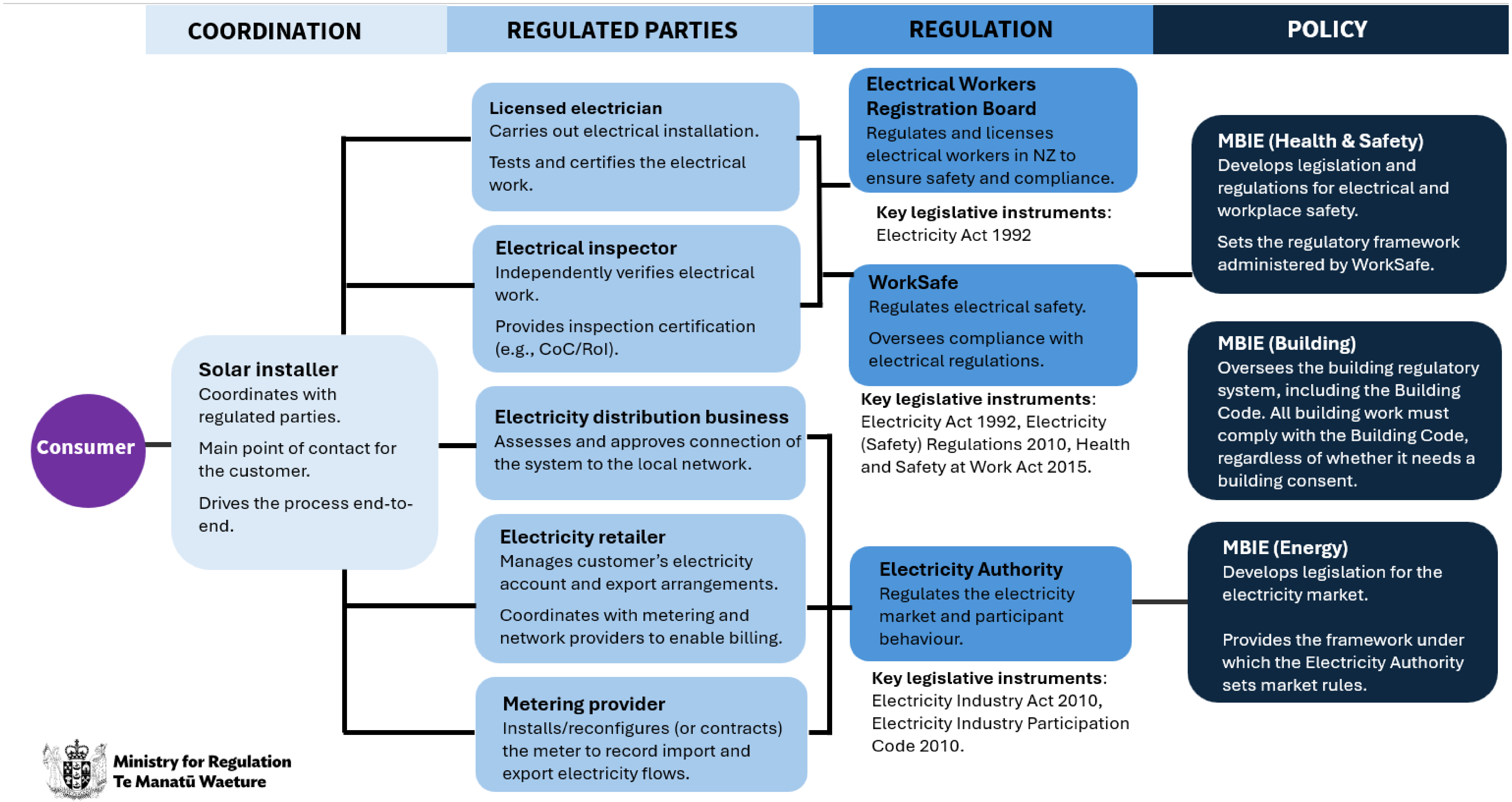
24. Once the meter is in place and approvals are complete, the system can be switched on. The household can then use the electricity it generates, and in many cases export excess electricity to the grid.

Businesses and agencies involved in the installation process

25. The solar installation process involves a range of organisations, each responsible for different parts of the system. These roles are shaped by how New Zealand's electricity sector is structured, with generation, networks, and retail being carried out by separate parties.

26. **Figure 2** below provides a summary of roles and responsibilities of different organisations in the installation process.

Figure 2: Roles and responsibilities



27. The key parties involved in the installation process are:

- **Solar installer and licensed electrician** — design and install the solar system. They are responsible for ensuring the system meets technical and safety standards and for providing certification of the work. Installers are not directly regulated under the Code. However, they are regulated under separate health and safety legislation (through WorkSafe) and licensing regulations (via the Electrical Workers Registration Board).
- **Electrical inspector** — independently inspects solar installations to ensure they comply with electrical safety requirements before they are connected. They provide an independent check on installation quality and safety.
- **Electricity distribution businesses (EDBs or distributors)** — own and operate the local electricity networks. They assess whether a solar system can be safely connected to their network and may set limits on how much electricity can be exported. EDBs are natural geographic monopolies, as it is not efficient to duplicate networks of poles and wires. This means there is usually only one provider in each area. Because of this, they operate under regulation to ensure they provide reliable services and set competitive prices. EDB service quality is largely governed through separate economic regulation and regulated by the Commerce Commission under Part 4 of the Commerce Act 1986. The Code sets the rules governing how the electricity industry operates.
- **Electricity retailer** — the companies that sell electricity to households. They arrange for the installation or upgrade of meters and may offer buy-back rates for excess solar electricity. Retailers contract with electricity distribution businesses to deliver electricity to homes. Electricity retailers are primarily regulated by the Electricity Authority, which sets and enforces the rules governing how retailers operate in the market. Retailers are subject to explicit minimum service standards in the Code (particularly the Consumer Care Obligations).
- **Metering provider** — responsible for installing and managing electricity meters. They must ensure that metering systems are accurate and comply with the Code, which sets standards for how electricity use is measured and recorded.

28. The process involves multiple regulatory systems and multiple regulators. Key regulators involved are:

- **The Electricity Authority** — New Zealand's electricity market regulator, responsible for making, administering, and enforcing the Code, which sets the rules governing how the electricity industry operates.
- **WorkSafe New Zealand** — oversees electrical safety across the system.

- **The Electrical Workers Registration Board (EWRB)** — responsible for licensing, registering, and disciplining electrical workers, and setting competency requirements for the electrical workforce.
- **The Ministry of Business, Innovation and Employment (MBIE**) — responsible for the building and energy regulatory systems.

29. Other government agencies also play a role in the process:

- **The Commerce Commission** — economic regulation of EDBs, including monitoring performance of all EDBs and setting limits for revenue and reliability of EDBs except those that are small and consumer-owned. The Commerce Commission also has a broader role in relation to promoting and enabling effective competition.
- **The Ministry of Cities, Environment, Regions and Transport (MCERT)** — responsible for the resource management regulatory system.
- **Local councils** — involved where planning or environmental rules apply, such as when resource consent may be required.
- **The Energy Efficiency and Conservation Authority (EECA)** — provides independent information and guidance to consumers and works to improve the quality and consistency of the market.

Issue 1: Building requirements create unnecessary complexity and inconsistency

30. The residential solar installation process involves multiple regulatory regimes, including building, electrical, and electricity market requirements. This chapter reflects the challenges that arise in practice within the building regulatory framework, where rules that work in principle can still create friction in how they are applied.
31. The Building Act 2004 regulates building work associated with solar installations and requires all building work to comply with the Building Code, regardless of whether building consent is required. Since October 2025, most rooftop solar installations can proceed without building consent under Schedule 1 of the Building Act. Schedule 1 also provides exemption pathways for some larger rooftop and urban ground-mounted solar installations where the design of the structural fixings is carried out by a Chartered Professional Engineer (CPE).
32. The current framework allows most rooftop solar installations to proceed without building consent. Rooftop installations up to $40m^2$ are generally exempt, while larger rooftop installations can also remain exempt where the design of the structural fixings is carried out or reviewed by a CPE.
33. Schedule 1 also contains exemption pathways for ground-mounted solar installations. Outside of rural areas, installations up to $20m^2$ are generally exempt, while installations between $20m^2$ and $40m^2$ in non-rural areas may proceed without building consent where a CPE carries out or reviews the design.
34. In rural zones, ground-mounted solar arrays are exempt with no size limit, provided specified exemption requirements are met. However, stakeholder feedback suggests these pathways are not always well understood or applied consistently in practice.
35. The key Schedule 1 exemptions relevant to solar installations are set out below:

Clause	Type	Chartered Professional Engineer (CPE) required?	Requirements for exemption
Clause 28C	Ground-mounted solar panel arrays	No	• ≤20 m^2 per array (urban), no size limit in rural zones • Mounted on frame on the ground • More than one post fixing into ground • Height ≤4 m from ground to top • ≥5 m setback from buildings, roads, boundaries • Wind: ≤44 m/s or wind zone ≤ “high”
Clause 28D	Roof-mounted solar panel arrays	No	• Total area ≤40 m^2 per roof structure • Panels mounted on frame/structure attached to roof with structural fixings • Wind: ≤44 m/s or wind zone ≤ “high”
Clause 48	Ground-mounted solar panel arrays	Yes — design must be carried out or reviewed by a CPE	• Ground-mounted solar panel array exceeds 20m^2 but does not exceed 40m^2 in urban areas • Engineering design addresses structural adequacy, including foundations, supports and fixings
Clause 48A	Roof-mounted solar panel arrays (large / complex)	Yes — design of structural fixings must be carried out or reviewed by a CPE	• >40 m^2, or • wind zone > “high” or > 44m/s • Structural fixings and system must be engineered for loads and performance

International evidence and comparison

36. Australia generally relies on state-based planning and building frameworks supported by technical standards and compliance requirements, while New Zealand relies on Schedule 1 exemptions within the Building Act:

    - In New South Wales, both rooftop and ground-mounted installations are commonly classified as “exempt development”, meaning no formal approval is required where prescribed conditions are met. These conditions typically include that the system is installed on an existing lawful dwelling, does not protrude excessively beyond the roofline, is not located on heritage listed land, does not exceed 150m^2 and 5m tall (if ground-mounted), and is structurally adequate and compliant with the Building Code.

- In Queensland, rooftop solar is generally treated as self-assessable building work, meaning no building approval is required where the installation complies with applicable requirements, including structural sufficiency, fixing to the building, and compliance with relevant building and planning provisions.
- In Victoria, rooftop solar installations do not not require a permit for residential solar panels so long as the building is not in a heritage overlay area or visible from a main street.
- Ground-mounted solar usually requires development approval in states other than New South Wales, with individual councils setting their own criteria.

37. Across these jurisdictions, the common feature is that low-risk solar installations can generally proceed without obtaining project-specific approval where defined requirements are met.
38. In theory, New Zealand's framework should achieve a similar outcome. Most rooftop solar and rural ground-mounted solar systems can proceed without building consent, and existing Schedule 1 exemptions also allow larger rooftop systems and some larger urban ground-mounted systems to be exempt where CPE review is provided.
39. However, stakeholder feedback suggests these exemption pathways are not always understood or applied consistently in practice. As a result, installations that could theoretically proceed without building consent may nevertheless be referred for consent or subject to additional requirements.
40. This creates an important difference between the operation of the New Zealand framework and how it works in practice. While New Zealand's legislation is broadly intended to enable solar in a similar way to Australia, uncertainty around the exemption pathways can result in a more restrictive outcome in practice. This suggests the issue is not the absence of an exemption pathway, but whether that pathway is sufficiently clear and consistently applied.

We found the framework does not work consistently in practice

41. We identified three main issues with how the framework operates in practice:
    - Existing exemptions for larger rooftop and ground-mounted solar installations are not always understood in practice.
    - Uncertainty regarding Schedule 1 can lead to conservative decisions, unnecessary consent applications, and additional costs.
    - Inconsistent Building Consent Authority (BCA) practices vary for some installation types, particularly larger and non-standard installations.

42. Together, these issues reflect a framework that should work reasonably well in theory but is not always operating as intended. The primary challenge is not that the legislation requires consent for most rooftop solar installations. Rather, uncertainty about how exemption provisions apply can create inconsistency, additional cost, and avoidable delay.

Issue 1: Exemption pathways are not always understood or applied consistently in practice

43. Schedule 1 provides exemptions for standard rooftop solar installations and rural ground-mounted solar. It also allows certain larger rooftop and urban ground-mounted solar installations where the design is carried out or reviewed by a Chartered Professional Engineer to be exempt. However, stakeholder feedback and engagement with agencies suggest these pathways are not always well understood.

44. Where the exemption pathway is not well understood, installers and property owners may incorrectly assume that rooftop systems exceeding $40m^2$ and ground mounted systems in rural areas require building consent. In some cases, this can result in unnecessary consent applications or additional engagement with councils before work proceeds, despite an exemption pathway potentially being available.

45. Stakeholder feedback suggests that the interaction between multiple Schedule 1 provisions can be difficult to navigate in practice, particularly where exemption pathways are located in different parts of the Schedule. The drafting of the ground-mounted solar exemptions is also unclear and could lead readers to conclude that ground-mounted solar arrays in rural areas require building consent. As a result, installers, consumers, and councils can incorrectly assume that rooftop solar systems exceeding $40m^2$ automatically require building consent when an exemption pathway may be available.

46. This issue is particularly relevant for larger residential systems, farms, commercial rooftop installations, schools, and community facilities seeking to install solar systems that exceed standard residential sizes. In these situations, uncertainty about the exemption framework can create confusion about whether consent is required and what evidence must be provided.

Confusion about consent requirements can lead to unnecessary building consent applications

"Not having to get building consent on residential new builds and small ground arrays in the rural sector. Waste of everyone's time. Understand its needed for larger systems" – **Installer**

Issue 2: Uncertainty about Schedule 1 can lead to unnecessary costs and delays

47. Where Schedule 1 and the exemption pathways are not well understood, participants often adopt a conservative approach. Stakeholders advised that rooftop systems exceeding $40m^2$ and ground-mounted systems in rural areas are sometimes treated as requiring building consent, additional engineering documentation may be requested, or councils may become

involved earlier than necessary, even where an exemption pathway may ultimately apply. In some cases, installers may choose to pursue building consent rather than risk future disputes about interpretation.

48. This uncertainty can increase costs, create delays and produce different outcomes for similar installations. The issue is therefore not necessarily that building consent is required under the legislation. Rather, uncertainty about how the exemption framework operates can create practical barriers that undermine the intent of the legislation.

49. Stakeholders also highlighted the absence of a clear and consolidated source of information explaining:
    - when building consent is required
    - when Schedule 1 exemptions apply
    - when CPE review is required
    - how Building Code compliance should be demonstrated
    - how building requirements interact with electrical and network requirements.

Issue 3: BCA practices differ for larger and non-standard solar installations

50. There is variation in how some councils interpret and apply Schedule 1 for larger rooftop systems, solar carports, ground-mounted systems and other less common installations. This can result in:
    - inconsistent decisions on whether consent is required
    - varying expectations for engineering input (including when CPE design is required)
    - additional information requests
    - variable processing timeframes across regions.

51. Councils with less experience dealing with solar projects may take a more cautious approach, resulting in different expectations regarding engineering review, supporting information, or whether a building consent is required. Installers operating across multiple regions reported that similar installations can sometimes receive different treatment depending on the council involved.

52. These issues appear to stem less from the legislative framework itself and more from differing interpretations of how the framework should operate. We acknowledge that MBIE has published guidance to support consistency of interpretation of engineering-reviewed exemption pathways. However, stakeholder engagement indicates that further guidance for this particular area would reduce the likelihood of variation, particularly for installation types that fall outside standard residential rooftop systems.

53. Taken together, these issues suggest that the current framework is generally capable of enabling solar installations without building consent where appropriate safeguards exist,

but that its operation in practice could be improved through clearer legislation and guidance.

Recommendations

Recommendation 1: Amend Schedule 1 of the Building Act 2004 to clarify the building consent exemption settings for solar installations

54. We recommend amending Schedule 1 of the Building Act 2004 to make clearer how the existing exemption regime for solar installations should operate, including for those types of solar installations where appropriate engineering review is provided. This would clarify the application of exemptions for rooftop solar installations above $40m^2$, ground mounted solar in rural areas and ground-mounted solar installations between $20m^2$ and $40m^2$ in urban areas.
55. This would make it clearer how solar exemption pathways operate and when engineering review is required. Removing the ambiguity and uncertainty would prevent individuals, businesses and BCAs incurring the time and cost of processing unnecessary building consent applications.

How would it work?

56. This recommendation would involve:

- Amending Schedule 1 to improve the visibility and readability of solar-related exemption provisions.
- Clarifying the relationship between clauses 28C, 28D 48, and 48A, including the exemptions for rooftop installations above $40m^2$, ground mounted solar in rural areas and ground-mounted solar installations between $20m^2$ and $40m^2$ in urban areas.
- Making it clearer when engineering review can provide a pathway to exemption for larger rooftop and urban ground-mounted solar systems.
- MBIE reviewing existing guidance and decision-support tools to determine what updates would support any legislative amendments and improve consistency of interpretation.

How long will it take to implement?

57. Updated guidance could be released within three months, providing immediate clarity on how existing solar exemptions should operate. Schedule 1 amendments to clarify existing exemption pathways could be progressed within 12 months.

Would it solve the issue?

58. This recommendation would significantly improve clarity and consistency across the solar installation system. By making it easier to understand when exemption pathways apply, consumers, installers, engineers and councils would be less likely to incorrectly assume that larger rooftop or ground-mounted solar systems require building consent. This should reduce unnecessary consent applications, minimise inconsistent interpretation across regions, and improve confidence in applying the exemption framework as originally intended.

This will make installing solar simpler and faster

59. The primary benefit of this recommendation is improved certainty and consistency. Consumers and installers would have a clearer understanding of when building consent is required and when an exemption pathway applies. Councils would have clearer guidance on how the legislation should be interpreted. This should reduce unnecessary consent applications, avoidable requests for additional information, and delays arising from uncertainty about the current framework.
60. Over time, these changes should result in a more predictable and nationally consistent system while maintaining appropriate engineering oversight for larger or more complex installations. The result would be a framework that better reflects the existing policy intent that most rooftop solar installations should be able to proceed without building consent.

Issue 2: Planning barriers affect a subset of consumers, but can be significant

Resource consent rules can make simple solar installations harder

61. Resource consent is not typically required for small-scale solar installations, but it still applies in some situations and in some areas. Where it does apply, obtaining a resource consent can add cost, delay, and uncertainty. Examples of situations where resource consent may be required include if:
    - the system is ground-mounted (rather than rooftop)
    - the system is to be located on a carport
    - the system is larger than a typical residential install (for example, on a milking shed, school, or marae)
    - the property is in an area indicated as an ‘outstanding natural landscape’ (ONL) in the district plan
    - the property is in an area indicated as ‘heritage’ or ‘special character’ in the district plan.

Extra cost, time, and uncertainty affect households and businesses

62. Getting a resource consent can be costly and typically adds a minimum of 3–6 weeks to the process. For a typical low to moderate complexity application, the total cost can range from around $3,000–$10,000. This can include application fees, technical reports, and sometimes legal or consultant support. The resource consent process can also be a useful tool to consider assessments of the effects of a proposed development on landscape or heritage.
63. The process can also introduce uncertainty. Applicants may need to wait for decisions, respond to requests for more information, or manage changing requirements. This can make it harder to plan projects, lock in pricing, or coordinate installation.
64. For businesses, farmers, and households, these factors can delay or discourage investment in solar. Stakeholders told us that the process can feel disproportionate, particularly for installations that have limited environmental impact.

Resource consent requirements can appear excessive

- *"Consenting! Especially for ground mounts requiring resource consents! I understand for solar farms, but for farmers or industrial applications, where solar can sit behind the meter and offset load directly, we should be able to install systems up to 300kW (or larger?) without the need for resource consents."* **— Installer**
- *"Consenting requirements for dairy farm ground mounted systems and other agriculture installations. This is adding significant cost for resource consents when these systems have little to no impact on the surrounding area. There needs to be a smarter approach to allow farmers simplified pathways to install solar on ground mounted structures. These systems are often positioned near the dairy sheds or next to giant pivot irrigators but these small structures that have less impact than pivot irrigators need resource consent in some regions while pivot irrigators do not. Madness."* — **Installer**

Inconsistent council rules and thresholds create unnecessary friction

65. Inconsistent council rules and thresholds create unnecessary friction due to two underlying causes:
    - Some councils require resource consent in situations where the impact of the solar installation is relatively small. For example, certain plans require consent for installations above specific sizes.
    - There is no consistent national approach. Under the Resource Management Act 1991 (RMA), councils have the power to decide when resource consent is needed, unless national direction sets limits. This creates a patchwork of requirements across the country, which can be confusing and inefficient for people working across different regions.
66. This reflects a broader system issue, where decentralised decision-making leads to variation in how similar activities are regulated. While local flexibility can be useful, in this case it appears to be creating unnecessary friction.
67. Local flexibility can be useful where there are different local situations and circumstances, so decentralised decision-making can tailor solutions to local needs. However, in many instances there is limited local variation for solar installations (for example, in relation to ground-mounting or carport installs), such that the high costs and friction created by local variation are likely to outweigh any local flexibility benefits. There may also be national-level spillover benefits from a standardised national rule that facilitates more solar connections, which would not otherwise be taken into account by local decision-making.

Recommendation 2: Create nationally consistent rules about when resource consents can be required for solar, and exempt systems under 300kW and (if roof-mounted) that fit entirely on the roof

How would it work?

68. Under the proposed reforms to the resource management system, central government would be able to set nationally consistent planning rules. This includes Transitional National Rules (TNRs), which would apply during the transition to the new system. The legislation that would enable the reforms is currently at select committee stage and due to be reported back to Parliament in late July. This option is dependent on the relevant legislation being passed by Parliament.

69. MCERT has indicated that the list of topics to be covered by TNRs has been agreed by the Minister Responsible for RMA Reform, and the Parliamentary Under-Secretary to the Minister Responsible for RMA Reform. However, the TNRs will ultimately be agreed by Cabinet when they go through the statutory process.

70. A TNR would standardise how solar installations are treated. It would override existing local rules and prevent councils from requiring resource consent for certain types of installations.

71. MCERT officials have noted that the same outcome could be achieved using standardised plan content (rather than developing a TNR), which MCERT officials are currently developing. The only difference between the two options is timing. We are recommending the TNR option as it would enable change to occur earlier.

72. The proposed criteria are that resource consent would not be required for any solar installation (rooftop, ground-mounted, or other) that:
    - is under 300 kW; and
    - if roof-mounted: fits entirely on the roof of the building (for example: house, carport, garage, factory, milking shed).

73. TNRs would be replaced over time by permanent National Rules in the new system.

How long will it take to implement?

74. The timing of a TNR is dependent on the timing for when resource management reforms are enacted. It would also depend on whether the TNR was part of the first tranche of TNRs, or the second tranche. MCERT has advised that earliest that a TNR could be in place would be late 2027, assuming that:
    - the resource management reforms are enacted in 2026
    - a statutory process is initiated in early 2027
    - small-to-medium-scale solar installation is part of the first tranche of TNRs.

Would it solve the issue?

75. The extent to which this would solve the issue would depend on the specific wording used in the TNR. If the TNR was defined in a similar way to that proposed above, we believe this would resolve the issue. It would:

    - remove the need for resource consent for most small-to-medium-scale solar installations
    - create a consistent national approach
    - reduce unnecessary cost and delay.

76. This approach is also aligned with broader reforms that aim to simplify and standardise planning rules across New Zealand.

This will make installing solar faster and simpler

77. In practice, this would mean that most households, farmers, and businesses could install solar systems without needing to apply for resource consent, as long as they meet the defined criteria.
78. This would reduce upfront costs, speed up installations, and provide greater certainty about what is allowed. It would also remove differences between regions, making the process more consistent no matter where you live.
79. At a system level, this change would help ensure that regulatory requirements are better matched to the scale and impact of the activity.

Issue 3: Delays and variability in getting approval from electricity distributors

Delays and uncertainty in connecting solar often stem from how distribution networks operate

80. Installing rooftop solar in New Zealand involves several steps, including getting approval from the local EDB. While some people experience a smooth process, others face delays, unexpected costs, or unclear requirements.

81. This reflects a broader pattern across the system. The solar installation process relies on multiple organisations working together, but their processes and incentives are not always aligned. As a result, the experience can vary significantly depending on where you live and who is involved.

These issues affect costs, timeframes, and confidence in investing in solar

82. Where the process does not work well, the effects can be real and immediate. People may face delays in getting approval, incur unexpected costs, or need to redesign their system late in the process. Businesses installing solar across different regions can face additional complexity due to inconsistent rules and processes.

83. Uncertainty can also reduce confidence. If people cannot predict whether their system will be approved, or how much electricity they will be allowed to export, they may decide not to invest, or to delay investment. This is because the uncertainty increases the 'option value of waiting', where it can be highly valuable to wait for better information and avoid a costly irreversible investment. This has wider implications for the uptake of solar and for how efficiently the electricity system operates.

We found inconsistent processes, limited data, and weak incentives are driving the problem

84. The review found a set of connected issues that together make the process of installing solar more difficult than it needs to be. These issues are not isolated. They reflect a wider pattern across the system, where multiple organisations are involved but there is limited

coordination, inconsistent processes, and gaps in the information available to support decision-making.

Issues with processing applications

Some EDBs are slow to process applications for distributed generation

85. While some EDBs are able to assess applications relatively quickly (within minutes), others take much longer (weeks or months). The application process varies significantly between EDBs. Each EDB has its own forms, requirements, and timelines. For consumers and installers (particularly those working across different EDBs) this can be confusing and time-consuming. Some EDBs have very efficient processes for assessing applications quickly – WEL Networks and Powerco were specifically mentioned by submitters as good examples.

86. The Code sets timeframes for processing distributed generation (DG) applications:

    - Within the staged process outlined in Part 6, Schedule 6.1, Part 1A — distributors are required to confirm whether an application is complete within five business days, and then provide notice of final approval to the applicant no later than 10 business days after the date on which the application was submitted (Part 1A, which has a number of requirements, one of which is that the system is under 10kW).
    - For systems larger than 10kW, or smaller than 10kW but that do not meet the other requirements under part 1A — the timeframes range from 30 working days to 80 business days.

- "In the [REGION] applying to [EDB] in the last 6 months has been a complete nightmare. Some DG application we can be waiting 4 months for final approval delaying jobs considerably." — **Solar installer**
- "The lines company applications need to be streamlined NZ wide it should be a 2–5 minute process to apply and approve not a massive long time-consuming process with long wait times as it is now." — **Solar installer**
- "Standardise and speed up the application/approval process by law to ensure power companies do not deliberately drag out the process — say 5 working days as there is no reason to take any longer." — **Consumer**

Low complaint numbers appear likely to be indicative of information inadequacy

87. The Electricity Authority has noted that they have received no complaints in the past 5.5 years in relation to EDBs taking longer to respond to applications than required under the Code. We understand that some installers may be hesitant to lodge a formal complaint with the Elecricity Authority, as they may be concerned that doing so could affect working relationships with other sector participants.

88. Given this issue was raised by a number of survey respondents, this suggests one or both of the following:
    - Consumers and installers may not be aware of the application timeframes in the Code — while requirements are set out in Part 6 Code (which is available on the Electricity Authority website), there does not appear to be any consumer-facing information provided on the requirements in the Code relating to the installation process.
    - The process of reporting a breach is not user-friendly.
89. Based on a review of the information available on the Electricity Authority website, there appears to be a lack of consumer-facing information on what consumers and installers should expect from participants under the Code. It appears that consumers would need to engage directly with the 1,303 page Code to understand what they are entitled to expect from sector participants involved in the solar installation process. Although the process to report a breach appears relatively straightforward, this step is dependent on awareness of the details of the Code.

Lack of data contributes to slow processing times

90. While EDBs have good visibility over high-voltage parts of their network (for example, subtransmission and distribution feeder lines), they typically have very limited visibility at the low-voltage level (for example, residential streets).
91. In the context of solar installations, limited visibility on the low voltage parts of the network makes it difficult for EDBs to quickly and accurately identify the parts of the network that are constrained in a specific location — which is the key question EDBs need to answer in order to process a DG application.
92. Metering data gives EDBs visibility over low voltage parts of the network, however they face relatively high transactions costs of accessing and assembling the data across multiple providers. As multiple metering providers may operate in the area that an EDB serves, some EDBs need to combine datasets from several sources in order to obtain sufficient data to quickly and accurately assess network congestion for an application. This can require repeated negotiation and processing costs, and in some cases creates incentives for data to be withheld or priced in a way that limits access. As a result, some EDBs only obtain part of the data they need to assess applications quickly and accurately.
93. This lack of visibility can have direct consequences for consumers and installers. In some cases, people only find out about network capacity constraints — such as export limits — late in the process. This means a system that has already been designed may need to be scaled back or redesigned to meet network requirements. This creates additional cost, delays, and frustration, and can affect the financial viability of a solar installation. It is also inefficient for installers, who may need to redo work or manage customer expectations partway through the process. In some cases, delays occur when applications contain errors

or where system specifications change during installation, requiring the process to restart or be reassessed.

- "The connection of solar to networks is typically slow and inconsistent by network. Networks do not generally understand their own networks so are slow to respond and very conservative on the size of the connection they will allow." — **Electricity retailer**
- "From an EDB perspective, upfront data quality improvements would address one of the most common and avoidable causes of delay in the approvals process. (…) better upfront visibility of network constraints would reduce surprises later in the process and support more efficient connection decisions." — **EDB**

EDBs lack incentives to improve processing times

94. EDB regulation (and as as result, EDBs themselves) is primarily focused on ‘keeping the lights on, and the costs minimal’. There are limited incentives for EBDs to improve the speed and efficiency of solar approvals. Faster, simpler processes would benefit installers and consumers, but the costs of improving systems fall largely on EDBs, with little direct benefit to them. Some of these challenges may also be linked to the fact that EDBs are not typically consumer-facing, except in specific areas like outage reporting and distributed generation applications. More broadly, widespread uptake of solar has the potential to disrupt traditional EDB business models by reducing growth in electricity delivered through the network while increasing demands on network planning and operation.
95. However, there is variation in terms of how EDBs are responding to solar. Some EDBs have made deliberate decisions to obtain the necessary data, and have developed efficient, user-friendly application processes.

Minor changes to an application can have disproportionate impacts

96. Minor changes to a solar installation can lead to disproportionate delays and costs. Even small adjustments — such as minor changes to the size of the system — may require a full reapplication for network approval, often with the same fees and processing time as the original. This can delay installation and create unnecessary administrative burden, particularly where changes are minor.

Some EDBs require export limits that appear overly cautious

97. The technical requirements associated with connecting solar can be difficult to understand and navigate. Export limits, including the national default limit (10kW), can appear restrictive. In some cases, systems are designed based on assumed capacity, only for that capacity to be reduced during the approval process. This creates uncertainty and increases project risk.

Fees charged by some EDBs as part of the application process appear to be high

98. The Code permits EDBs to charge application fees for distributed generation connections, with maximum fees ranging from $140 for systems of 10 kW or less, to $7,690 for systems of

1 MW or more (excluding GST). Some distributors charge the maximum fees, while others charge lower fees or do not charge application fees at all. In addition, under the Code EDBs can charge between $180–$1,850 for observation/testing of systems larger than 10kW. If a connection requires network upgrades, engineering studies, site-specific investigations, asset modifications, or other connection works, distributors can recover those costs separately under the connection agreement and the pricing principles in Part 6.

99. While we note that application fees are regulated under the Code, some stakeholders commented that some fees appeared to be high in some situations. There are also concerns about how the costs of network upgrades are allocated, particularly where those upgrades provide benefits beyond the individual customer who initiated them.

- "The lines companies saying it is not the correct phase (we visit and know the phase, they don't and for example [EDB] want to charge 700 dollars to visit to confirm our statement." — **Solar installer**
- "[EDB 1] applications insanely complex and expensive, many unnecessary forms. Retailer applications all over the show and often cannot find where/how/with what to apply. No easy system with [EDB 1] or [EDB 2] to check on progress." — **Solar installer**

100. The Electricity Authority has noted that charging $700 to visit to confirm a statement is not within the fee levels permitted by the Code. The Electricty Authority has also noted that for applications over 10kW, or for under 10kW in areas where there is network congestion, the EDB may charge for a network study if the EDB determines that one is required in order to assess the application. This cost will be additional to the application fees.

Lack of national standards or common rules agreed by all EDBs

101. There is little consistency across electricity networks in the pathway[10] that EDBs use to process applications creating delays and confusion. Installers report different forms, requirements, and timeframes between networks, making it harder to work across regions.

102. As a result of these variations, some stakeholders suggested that national standards or common rules across all EDBs could help simplify the process. Greater standardisation, including a shared national process or platform, could simplify applications, reduce costs, and improve the experience for consumers.

103. We note that the Electricity Authority has implemented national standards for processing applications above 10kw (that come into force 1 December 2026) and assessing network capacity to connect generation (that come into force 11 November 2026), and is currently working on further potential improvements to connection management processes.

- "What causes it: A lack of enforceable, unified national standards for how lines companies manage small-scale connections. Each EDB effectively acts as its own

[10] This term refers to the broader experience of the process — not the methodology used to calculate export limits.

> gatekeeper with separate rules, forms, and timelines. What impact it has: Complexity, delays, and hidden administrative red tape. While consumers might see a smooth physical installation, the underlying "back-end" process with lines companies adds friction and acts as a deterrent for rapid, widespread decentralised energy adoption." — **Consumer**

Some EDBs have good application processes

104. Some stakeholders reported that the process works well in certain networks, with clear, simple requirements and minimal delays. These examples were seen as effective models that could be applied more widely across other areas.

EDB perspective

105. EDBs raised concerns about both process and network impacts as solar uptake increases. They noted that application errors can slow approvals and create delays, while higher solar exports can cause network issues such as congestion and overvoltage. Some consider that current export limits may not be sustainable without further controls or investment, and support more flexible approaches to manage exports while maintaining reliability.
106. Taken together, these issues point to broader system drivers. There are limited incentives for EDBs or retailers to improve the solar installation process, particularly given that EDBs operate as local monopolies and consumers cannot easily switch providers. There is also no shared, system-wide approach to data access or standardised application processes. This creates coordination challenges across multiple organisations and leads to higher transaction costs, inefficiencies, and a less predictable experience for consumers and businesses.

We considered ways to improve transparency, efficiency and consistency

107. We considered a range of options to address the underlying drivers identified in the review. These focused on improving access to data, making application processes easier to understand, reducing unnecessary variation between EDBs, and ensuring that technical and regulatory settings are better aligned with how the system is now operating.
108. A common theme across these options was that the current system does not consistently provide the information, coordination, or incentives needed for efficient decision-making. The recommendations below reflect different ways of addressing these gaps.

Recommendation 3: Require distributors to publish clear and detailed information about their application processes on their websites

How would it work?

109. We recommend that EDBs publish clear and detailed information about their application processes on their websites to help address information asymmetries. This would include the steps involved, required information, timelines, and how decisions are made. This would allow consumers and installers to better understand what is required upfront and reduce uncertainty during the process.

110. The Electricity Authority has provided feedback that they have work underway in this area — specifically changes to the Code:

- to describe a new methodology for export limits assessment, due to come into effect in November 2026
- in relation to connection management policy, due to come into effect in December 2026
- to require EDBs to publish these documents on their websites.

111. However, what we are proposing is different in that:

- the primary purpose of our recommendation is ensuring that EDBs provide better information to consumers and installers about the application process.
- we are not suggesting that the Code needs to be changed for this to occur.

112. For the avoidance of doubt, we are not suggesting that the changes the Electricity Authority is making as mentioned above are unnecessary, simply that they are different to what we are proposing.

How long will it take to implement?

113. We expect this option could be implemented within three months.

Recommendation 4: Create a standardised process for connecting to distributors and support distributors to adopt best practice

How would it work?

114. We recommend that Electricity Authority establishes a more streamlined DG application process across the sector. The variation in processes creates significant inefficiencies and frustration. However, there appear to be mechanisms other than mandating a single process through regulation that could achieve a better outcome.

115. This option would involve the Electricity Authority opting to use its market facilitation role (as provided for under section 16(f) of the Electricity Industry Act 2010) to improve DG application processes across the sector. This would involve the Electricity Authority:

- seeking feedback directly from installers and consumers on their experience with different EDB processes
- comparing DG application processing times across EDBs
- engaging with sector participants to identify examples of best practice, as well as practices that create unnecessary barriers
- publicly identifying EDBs with processes that are working well
- exploring opportunities for other EDBs to adopt or adapt those approaches.

116. The above-described approach is broadly similar to the thematic reviews undertaken by the Financial Markets Authority.[11]

How long will it take to implement?

117. We expect this recommendation could be implemented within 12 months.

Recommendation 5: Increase the default export limit from 10kW per connection to 10kW per phase

How would it work?

118. The 'default export limit' is a threshold described in the Code that determines whether an application is eligible to be assessed under the streamlined process described in Part 6, Schedule 6.1, Part 1A of the Code. The Electricity Authority recently amended the Code to require that all EDBs provide the streamlined pathway described in the Code for applications of 10kW for straightforward, small-scale DG — such as household solar and battery systems.[12]

119. While this is certainly a step in the right direction, we recommend increasing the default export limit from 10 kW for residential properties, to to 10 kW per phase.[13] The current national default limit of 10 kW applies regardless of a property's electrical configuration, which can unnecessarily constrain larger or multi-phase properties such as farms, commercial buildings, and some larger homes.[14] Moving to a per-phase limit would better

[11] For example: Financial Markets Authority. (2026, April 15). *Operational resilience thematic: Findings and insights*. https://www.fma.govt.nz/library/reports-and-papers/operational-resilience-thematic/

[12] Electricity Authority Te Mana Hiko. (2026, April 7). *New rules encourage more solar to networks*. https://www.ea.govt.nz/news/press-release/new-rules-encourage-more-solar-to-networks/

[13] Electrical 'phases' are separate power circuits within a property's connection, with larger properties often using multiple phases to handle higher electricity capacity.

[14] The Electricity Authority recently amended the Code to require distributors to apply a default export limit of 10 kW for small-scale distributed generation from 11 May 2026 (in place of the previous typical 5 kW limit), allowing more electricity to be exported to the local network while still enabling lower or flexible limits where needed for safety and reliability. Most residential properties in New Zealand are connected using single-phase supply, with three-phase connections used in a smaller number of cases, typically for larger or higher-demand properties.

reflect how electricity systems are designed and allow these properties to export more electricity where network capacity permits.

120. This would enable more efficient use of existing infrastructure, reduce the need to oversize or redesign systems, and improve the economics of solar by allowing customers to export a greater share of the electricity they generate.

How long will it take to implement?

121. We understand the Electricity Authority is aware of this issue, and has sought early industry feedback, via the Network Services Technical Group, on an early draft of a potential proposal. The Electricity Authority will follow its standard processes for consulting on any potential changes to the Code.

Recommendation 6: Require distributors to approve applications, under 10kW, made under the streamlined process by the end of the next working day, and create a streamlined process to approve applications under 100kW within 5 working days

How would it work?

122. We recommend shortening the time allowed for EDBs to process distributed generation applications be reduced:

- For systems that meet the criteria for the streamlined process outlined in Part 6, Schedule 6.1, part 1A (which has a number of requirements, one of which is that the system is under 10kW) — from 10 working days to by the end of the next working day.
- Establish a second streamlined process for solar installations between 10kW and 100kW, mirroring the existing streamlined process for eligible installations under 10kW. Applications that meet standard technical criteria would be deemed approved after five working days, reducing approval timeframes from the current 30–80 working days. EDBs would retain the ability to extend the assessment period where there are documented network congestion concerns or specified technical requirements are not met, but would be required to notify the applicant and publish the reasons for the extension.

123. These requirements would reflect what is already achievable in the most efficient parts of the system and create a clear expectation of timely decision-making. This would reduce delays and uncertainty for consumers and installers, allow installations to proceed more quickly, and improve confidence in investing in solar. Overall, the change would accelerate the installation process, reduce unnecessary waiting time, and promote more consistent, efficient performance across EDBs. Applications that are not processed within this timeframe should be deemed approved by default.

124. We recognise that achieving these timeframes will require EDBs to have timely access to relevant network and consumption data. Recommendation 8 in the next chapter addresses this by improving access to metering data, enabling faster and more accurate assessments of network capacity, and supporting more efficient application processing.

How long will it take to implement?

125. We understand that the Electricity Authority is aware of this issue. The Electricity Authority has sought early industry feedback, via the Network Services Technical Group, on an early draft of a potential proposal. The Electricity Authority will follow its standard processes for consulting on any potential changes to the Code.

Recommendation 7: Require distributors to publish information about hosting capacity on their networks and ensure that fees are fair and reasonable

How would it work?

126. To support Recommendation 6, we recommend two further measures to make the EDB connection process faster, simpler and fairer.

EDBs to publish clear, accessible information on hosting capacity within their networks	• At present, limited visibility of network constraints means that consumers and installers often design systems without knowing whether export will be restricted, leading to redesign, delay, and additional cost later in the process. • Providing upfront information on available capacity would support better decision-making, reduce uncertainty, address information asymmetries, and enable more efficient connection processes by aligning system design with network capability from the outset. • While we note that there is currently a requirement in the Code that EDBs publish the locations or areas where export congestion currently exists or is reasonably expected to occur within the next 12 months, this information is either not published or not easily accessible from some EDB websites. Several EDBs publish simple statements that no congestion is expected within 12 months. • By contrast some EDBs already publish clear information on congested areas, and some publish interactive hosting capacity showing export capacity across the network.
Ensure that fees and charges are fair, reasonable, and proportionate to the services provided	• This includes preventing excessive or duplicative charges, such as requiring full reapplication fees for minor changes to an installation. Greater consistency and transparency in fee structures would reduce unnecessary cost burdens on consumers, improve confidence in the connection process, and ensure that charges better reflect the underlying cost of service rather than administrative complexity or variation across networks.

How long will it take to implement?

127. The steps to implement recommendations 6, 7 and 8 would include the Electricity Authority developing a consultation paper, seeking feedback, and developing a decision paper. This process typically takes 9–18 months depending on the complexity and need to make changes after considering submissions (including reconsulting if those changes are material), plus any implementation/transition time needed for industry.

128. The Electricity Authority has noted that it has already identified the need to regulate for a variation process for changes to existing installations, which will include prescribed maximum fees.

129. The Electricity Authority is required to comply with certain statutory obligations before making any changes to the Code:

    - consult with the Commerce Commission (section 54V of the Commerce Act 1986)
    - follow specific consultation requirements (section 39 of the Electricity Industry Act 2010).

Would it solve the issue?

130. Taken together, recommendations 4–8 would address the key barriers identified in the EDB connection process, particularly information gaps and process inconsistency. By improving transparency (through clearer process information, hosting capacity data, and reasons for decisions), setting stronger expectations on timeliness, and reducing unnecessary costs and administrative friction, the package would make the system significantly more predictable and easier to navigate.

131. Consumers and installers would have a clearer understanding of what is required to install solar and what to expect at each stage of the process. In practice, the application process would be much quicker and more consistent. Consumers would have better access to information about network capacity before investing, reducing the risk of redesign and delay later in the process. Decisions would be made faster, and application requirements would be applied more consistently across networks.

132. For installers and businesses operating across regions, a more standardised and transparent system would reduce complexity and improve efficiency. While genuine network constraints would still need to be managed, these changes would substantially reduce avoidable friction, improve confidence in the connection process, and support greater uptake of solar while maintaining safety and network reliability.

Implementing change will rely on the Electricity Authority and existing regulatory mechanisms

133. The Electricity Authority maintains and enforces the Code and, as an independent Crown entity, operates at arm’s length from Ministers. It is therefore responsible for deciding

whether and how to implement the review's recommendations within its functions. While the Government should not intervene in the Electricity Authority's operations, the Ministry anticipates that the Electricity Authority will give due consideration to the review's recommendations.

Issue 4: Lack of transparency and competition on metering

Some consumers will need to upgrade their meter as part of the process of installing solar

134. Despite New Zealand having high uptake of smart meters, many consumers still need to have some sort of change made to their meter if they install solar. For a solar installation to work properly, the meter needs to record both the electricity a household uses (imports) and the electricity it sends back to the grid (exports).

135. Some existing smart meters can do this, some cannot, and some need to be reconfigured (either in person or remotely). The costs of each of these options vary — with a new meter including installation costing approximately $180–$230, remote reconfiguration approximately $20–$30, and in-person reconfiguration approximately $190–$230.

136. Consumers typically do not have enough information to know whether an upgrade is genuinely required, or whether their existing meter could have been reconfigured instead. While consumers are able to identify the type of meter they have using the online tool[15] on the Electricity Authority's website, there is no straightforward way to then know what that means in terms of whether an upgrade is genuinely needed or not. Decisions about upgrades are typically made by retailers or metering providers.

Barriers to switching metering provider, or meter swap provider, limit competition

137. Retailers rely on metering providers to supply the consumption and export data needed for billing customers. However, metering providers also increasingly provide a service directly to consumers. The way metering services are currently structured means most consumers cannot choose their metering provider.

138. In theory the Code allows retailers to change metering providers, including a process to determine costs. However, in practice metering providers are locked-in to specific properties through long term contracts that make it difficult and costly to switch metering provider. This is particularly problematic where there are issues such as poor service and significant delays in carrying out metering upgrades or reconfigurations, which are often required as part of the solar installation process.

---

[15] Electricity Authority. (n.d.). *Your meter*. https://www.ea.govt.nz/your-power/your-meter/address/

139. Whilst such contracts may have a short-term economic rationale by ensuring that metering providers are able to recover the costs of the installation, the contracts create ongoing competition concerns after those initial costs have been recovered. This lack of competition is leading to worse outcomes for consumers and the market.

140. We have not undertaken a full competition analysis, but on the basis of the information we have, we believe this is an issue. Current regulatory settings enable a closed loop where consumers are effectively locked into a particular metering provider. This results in a number of issues:

- **Reduced competitive pressure on providers to improve price or service quality** — consumers cannot compare providers or switch to one that offers better prices, service, or functionality; metering providers therefore face limited pressure to compete.
- **Information asymmetries make it difficult for consumers to make informed choices or hold providers to account** — consumers have very little visibility over what metering services they receive, what those services cost, or whether they represent good value.
- **It makes it difficult for new entrants to enter the market** — as incumbents are difficult to displace because of contractual settings.
- **Retailers can also experience poor customer service** — retailers have little ability to switch to an alternative provider and, whilst larger retailers may be able to manage these issues more effectively than smaller retailers, there remains little competitive incentive for metering providers to improve service quality.

141. Overall, regulatory settings appear to result in a model that is neither efficient nor in the long-term benefit of consumers.

142. We note that both the Electricity Authority and MBIE do not agree that this lack of metering competition is an issue but do agree there is an issue with delays in metering being enabled to support generation. However:

- We heard from multiple stakeholders that this part of the process was an issue (see next page for further details); consumers reported frustration when they have made a signficant investment to install solar but are delayed from using their system.
- This issue is complicated by the fact that, unlike other services, consumers can't 'shop around' for other metering providers; if there is a significant delay to upgrade their meter, the consumer has no choice but to wait.
- Metering providers have little incentive to improve their wait times — as they will be aware that consumers have no ability to choose to go elsewhere (other than via choosing another retailer) — leading to delays that are unreasonable.

143. The Electricity Authority does not agree that giving consumers a genuine choice of metering provider would resolve this issue. The Electricity Authority has already identified the need to regulate to ensure both retailers and metering providers perform the necessary work within a reasonable timeframe and that they must perform a remote reconfiguration if the meter supports this option. They have sought early industry feedback, via the Network Services Technical Group, on an early draft of a potential proposal.

These broader issues lead to practical challenges in the solar installation process

144. The implications of the structural issues described are apparent in the solar installation process.

Delays getting meter upgrades

145. We understand that in some areas there can be delays of up to three months for metering upgrades. If there was a genuine market for metering providers, this would mean that the consumer could then approach a different metering provider if one had long delays (as consumers commonly do when trying to find tradespeople in a tight market). In addition, if metering operated as a genuinely competitive market, this would likely lead to better prices for consumers and better service (i.e., fewer delays).

- "The most frustrating aspect of my experience was the process of enabling solar export through the electricity meter. Although the solar system was installed and operational, I experienced approximately two months of delays before being able to export electricity to the grid and receive the full benefits of the system." — **Consumer**
- "Slow meter upgrades (3 month waits in some instances)" — **Installer**

Potential for supplier-induced demand leading to additional costs for consumers

146. Stakeholders have told us that some consumers have been told their meter needed to be replaced when their existing one had the technical capability to record import/export. While the extent of this practice is unclear, it is clear that the combination of information asymmetry and lack of competition increase the risk of this occurring.

When meters are not set up properly, creating billing issues, it is unclear who is responsible

147. Customers currently bear costs associated with meters that have been incorrectly installed. Where this occurs, it appears to be not uncommon that the issue can be very difficult to sort out. Whether fault for the error sits with the metering provider or the retailer is likely to be dependent on the specifics of each situation. However, it would appear reasonable to expect that both parties (retailers and metering providers) undertake some form of check to confirm that the meter has been correctly configured, and to have systems in place to identify where an issue has arisen.

- "We had an issue where our first power bill was strangely expensive. So I looked into it and realised we weren't making any generation from the solar. We contacted the solar company, and they said that the import/export meter hadn't been installed yet, and I needed to contact my electricity retailer to get one installed." — **Consumer**

Process improvements could reduce the risk that errors occur or identify them earlier

148. Business process improvement would potentially go a long way to improving this stage of the customer journey. This could involve retailers and metering providers identifying critical steps and putting checks in place to ensure they are completed correctly and consistently. In this context, stakeholders suggested that automated checks, such as alerts when a property starts exporting electricity or when information is missing, could help prevent errors and identify issues earlier, reducing delays and avoiding problems going unnoticed.

- "Or there could be a smart way for the electricity retailer to initiate having one installed, instead of waiting for the customer to happen to notice they are giving their solar away for free. The retailers obviously know when a house is generating electricity. That could send a red flag in their system which sends an automated email etc etc." — **Consumer**

Consumers pay for metering, but do not have full access to their own metering data

- "I was disappointed that my smart meter wasn't accessible. Tuning a solar system to a retailer's tariff scheme requires detailed electrical stats (voltage, current, power, power factors etc). My meter records this info, but it's inaccessible to consumers." — **Consumer**
- "There is no easy way for a customer to understand where the best [solar] plan for them is. So, I mean, I had a four-tab spreadsheet for myself to try and work out, and I still didn't get it right." — **Consumer/advocacy organisation**

149. Consumers pay for metering services (indirectly, via their retailer) but often cannot easily access their own electricity data. This limits their ability to understand and optimise their solar use, particularly given delays in data sharing that reduce its usefulness for real-time decision-making.

150. Access to metering data is key to speeding up EDB processing times and enabling faster solar installations. However, current limited access reflects deeper structural features of the market. Metering data is held by multiple providers, and EDBs must negotiate access and assemble datasets from different sources in order to assess network capacity at a local level. This creates high transaction costs and delays, particularly where multiple providers are involved, and can also create incentives for data to be restricted or priced in ways that limit access. At a system level, this resembles what economists describe as a "tragedy of the anticommons", where multiple parties control access to a shared resource. Because no

single party holds the full dataset and each requires separate negotiation, the data is often underutilised, leading to incomplete information and slower decision-making. In practice, this limits EDBs' ability to accurately assess network capacity and respond quickly to connection requests, contributing to slower processing times and more conservative connection outcomes.

151. If consumers had better access to their own data at a very granular level, this would have other potential benefits. In the UK, smart meter rollout in combination with data access frameworks has led to the development of apps (e.g., Hugo Energy, Ivie) that provide dashboards and insights on household energy use, help track costs and usage patterns, and improve the accuracy of the quote process.

152. The Electricity Authority has recently strengthened consumer access to electricity usage data through a 2025 Code amendment that removes fees and clarifies access rights.[16] MBIE is progressing a broader reform ("Open Electricity") that will introduce a consumer data right — enabling secure, standardised, and near real-time sharing of usage data with third parties.

We recommend a series of changes to improve transparency and enable greater consumer choice in metering services

153. We recommend progressing options that improve transparency and enable greater consumer choice in metering services. This includes:

- making metering data more accessible — both to consumers and to other sector participants[17]
- giving consumers a genuine choice of metering provider
- providing clear, accessible information to consumers about meters, capabilities, and pricing
- reviewing the regulatory settings to ensure meter upgrades only occur when necessary
- reviewing regulatory settings to ensure that the costs for metering errors are not borne by the consumer.

154. These changes work together. Better information helps consumers understand their options, while stronger rules and greater choice create incentives for providers to compete on price and service.

---

[16] Electricity Authority. (2025, April 30). *Electricity Industry Participation Code Amendment (Improving consumer access to their electricity information) 2025*. https://www.ea.govt.nz/code-and-compliance/code-amendments/improving-consumer-access-to-their-electricity-information/

[17] In this report, 'metering data' refers to ICP-level data obtained from meters, including usage data (import and export), and/or network performance data (such as voltage and power quality).

Recommendation 8: Make metering data more accessible to both consumers and to electricity market participants

155. This recommendation is essential to supporting the implementation of Recommendation 6 and enabling EDBs to process applications significantly more quickly than currently occurs. One of the key reasons the most efficient EDBs are able to process applications within minutes is that they have timely access to comprehensive metering data. This recommendation would enable all EDBs to establish similar capabilities, reducing solar installation timeframes by several weeks or months for customers in areas where access to data is currently limited. While EDBs have the right to install a duplicate meter, this is likely to be a less efficient approach than the metering provider providing the data on the basis of the incremental cost of doing so.

156. Metering data plays a critical role in enabling EDBs to assess DG applications quickly and accurately. It provides insight into how electricity is being used on the network and whether there is sufficient capacity at a particular location. It also has wider value, including allowing EDBs to better understand low-voltage network conditions, identify outages, and proactively manage health and safety risks. This recommendation will therefore have benefits to all electricity consumers (not just households with solar), by improving the quality of the network service provided by EDBs.

157. At present, this data is underused. While some EDBs purchase access to metering data, they may only obtain data from a single provider and rely on estimates for Installation Control Points (ICPs)[18] served by other providers. Access is also shaped by regulatory settings, including limits on the prices EDBs can charge, which can discourage investment in data that would improve customer experience and system efficiency. As a result, EDBs are often required to make decisions based on incomplete information, contributing to slower processing times and more conservative connection outcomes.

158. The Electricity Authority has noted that access to metering data is a business decision for EDBs, and both MBIE and the Electricity Authority have suggested that they do not need access to ICP-level metering data. This view contrasts with what we heard from EDBs througout the review, and also public statements from multiple EDBs that they do need access to metering data, that the current approach is inefficient, and that this should be a priority for regulatory change. The five largest EDBs have made the following statements:

- Vector (2022): identified access to data as the highest priority for changes to EDB regulation, noting, "We have the impression that the Authority has not sufficiently appreciated the criticality of enabling access to and use of network operational data by distributors. This is absolutely critical to enabling distributors to evolve their

[18] An Installation Control Point ('ICP') is the unique identifier used in New Zealand for an individual electricity connection to the distribution network.

capability in distribution system operation, efficiently allocating network capacity among network users and managing constraints. None of this will be possible without a high degree of visibility on our low-voltage (LV) networks."[19]

- Unison and Centralines (2023): "Metering Access Providers (MEPs) need active regulation ensuring fair pricing, given their market power and the criticality of the information to increasing competition in the electricity industry. Beyond improving access to MEPs consumption and power quality data and cost, the greatest benefit to consumers in the long-term will likely come from addressing now how distributors and flexibility providers should structure their relationships to promote competition, reliability, and efficient operations."[20]
- Powerco (2024): "Removing administrative and compliance costs (e.g., data systems, arrangements between parties) to access meter data should be a priority for the regulator."[21]
- Orion (2024): suggested one of the top priorities for the Electricity Authority be to "progress and complete improvements to accessing information held by Metering Equipment providers. Orion considers that it is imperative that the Authority enables commercial access to operational meter data."[22]
- WEL Networks (2025): "successful digitalisation will require updated regulations, cost-effective solutions, and integration of new technologies. Real-time data visibility from smart meters is crucial for network monitoring, DER integration, and consumer empowerment. However, efficiency of data flows and affordability of automated systems remain concerns. Interoperability is essential, particularly for coordinating DER at the low-voltage level, and requires standardised data models and protocols."[23]

159. While retailers are currently required to provide usage data to consumers on request, we understand that some retailers provide it in a format that makes it very difficult for consumers to analyse. While the Open Electricity work programme is intended to make it easier for consumers to access their own data, the data needs to be provided in a format and level of granularity that meets consumers' needs (i.e., real-time responses via smart devices).

---

[19] Vector Limited. (2023, February 28). *Submission on the Electricity Authority's issues paper: Updating the regulatory settings for distribution networks*. https://www.ea.govt.nz/documents/3417/4._Vector_Submission_mnk9kHJ.pdf

[20] Unison Networks Limited & Centralines Limited. (2023, November 15). *Submission on the Electricity Authority's consultation paper: Proposed changes to the DDA template, consumption data template, and related Part 12A clauses*. https://www.ea.govt.nz/documents/4082/Unison_and_Centralines_submission_DDA_15_November_2023.pdf

[21] Powerco. (2024, April 19). *Optimising consumer outcomes with an evolving future system: Submission on the Electricity Authority consultation paper "The future operation of New Zealand's power system"*. https://www.powerco.co.nz/-/media/project/powerco/powerco-documents/who-we-are---pricing-and-disclosures/submissions/2024/future-operation-of-new-zealands-power-system.pdf

[22] Orion New Zealand Limited. (2024, October 16). *Submission on the Electricity Authority's proposed 2025/26 appropriations and indicative work programme*. https://www.ea.govt.nz/documents/7312/Orion_Group.pdf

[23] WEL Networks. (2025). *Consultation paper—Our future is digital* [Submission to the Electricity Authority]. https://www.ea.govt.nz/documents/7839/WEL_Networks_submission_-_Our_future_is_digital.pdf

How would it work?

160. This recommendation involves a more fundamental shift to a model similar to that used in Australia and the UK — where data is easily accessible to consumers and to sector participants (EDBs and retailers) under permissioned flows. Consumers can authorise third parties (e.g., apps, aggregators) to access the data with permission. Costs would be determined under a defined framework. This approach would treat metering data as a shared enabling layer for the electricity system, rather than something that EDBs must individually purchase and assemble.

How long will it take to implement?

161. The steps to implement this recommendation would include the Electricity Authority developing a consultation paper, seeking feedback, and developing a decision paper. This process typically takes between 9–18 months dependant on the complexity and need to make changes after considering submissions (including reconsulting if those changes are material), plus any implementation and transition time needed for industry.

162. The Electricity Authority is required to comply with certain statutory obligations before making any changes to the Code:

- consult with the Commerce Commission (section 54V of the Commerce Act 1986)
- follow specific consultation requirements (section 39 of the Electricity Industry Act 2010).

Would it solve the issue?

163. This change is vital to reducing delays in the DG application process to EDBs. The Commerce Commission has noted that this recommendation would unlock broader ‘out of market’ benefits — beyond the solar installation process. For example, it would increase consumers’ ability to compare energy plans and switch retailers.

Is metering data accessible to sector participants in other jurisdictions?

In Australia, national electricity rules set out the role of metering coordinators as third parties separate from electricity retailers and distributers. However, they are usually selected by the retailer. These metering coordinators are responsible for installing and maintaining household meters and collecting metering data. The metering coordinators maintain a database through which distributors, as well as government regulators and other permitted participants, can securely access the metering data. Technical requirements for how the data is shared via the database are set by the Australian regulators.

In the UK, a private company licensed by the UK Government manages the network which transfers metering data from households to their energy retailer. The data is anonymised in accordance with requirements set by the UK regulator and can be requested by distributors through a database managed by the licensed company. All energy suppliers are required to use this database.

Recommendation 9: Improve competition in metering and give consumers a genuine choice of metering provider

164. Consumers currently have little or no choice over who provides their meter, which means they also generally have no choice in who performs the meter upgrade or reconfiguration – if this is needed as part of the solar installation process. This can limit flexibility and create delays where the metering provider (or their contractors) cannot deliver upgrades or configuration changes in a timely way.

165. This lack of choice can also reduce competition between metering providers at the consumer level. Where consumers cannot choose, providers have weaker incentives to offer better service, lower prices, or faster upgrades. This can contribute to poor customer experiences, particularly for those installing solar who need timely meter changes to export electricity.

166. While it may have been true that historically metering data was simply an input into a retailer's business, we suggest that this is now an outdated view, for the following reasons:

    - Consumers already pay for metering services through their retailer and have a legitimate interest in accessing and using their own consumption data to make informed decisions about solar, retail plans, and usage generally.
    - Consumers pay for the metering upgrade needed to enable solar exports, making them the purchaser of the service. However, they have no say over who provides that service and can become frustrated when delays prevent them from using a system they have already paid for.

- Meters and metering data are not commodity products. As smart home technologies become more common, consumers are likely to place greater value on meters and data connections that support these features. Enabling a pathway for consumer choice will be critical for this to occur.

167. Making it easier for independent licenced electricians that are qualified to install meters would also help to speed up installation times. Waiting for the metering provider to send out their own electrician to carry out the installation leads to delays. In some cases retailers already have agreements in place that enable local electricians to carry out the meter installations. However, it appears that this practice is not widespread. Removing barriers to this could enable a scenario where electricians contracted by the solar installer can carry out the metering upgrade at the same time as installing the solar panels.

168. Giving consumers the ability to choose their (a) metering provider and (b) who carries out the meter upgrade or reconfiguration would help create a more competitive and responsive market. It would allow consumers to select providers that best meet their needs and improve accountability for service quality and performance.

How would it work?

169. We recommend the Code is revised to give consumers a genuine choice of (a) metering provider and (b) metering upgrade or reconfiguration provider. This proposal would require changes to how metering data is provided to retailers, EDBs, and consumers, including how costs are allocated.

How long would it take to implement?

170. The steps to implement this recommendation would include the Electricity Authority developing a consultation paper, seeking feedback, and developing a decision paper. This process typically takes between 9–18 months depending on the complexity and need to make changes after considering submissions (including reconsulting if those changes are material), plus any implementation/transition time needed for industry.

171. The Electricity Authority is required to comply with certain statutory obligations before making any changes to the Code:
    - consult with the Commerce Commission (section 54V of the Commerce Act 1986)
    - follow specific consultation requirements (section 39 of the Electricity Industry Act 2010).

Will it fix the issue?

172. If implemented fully, this has the potential to significantly reduce delays and other challenges currently experienced by consumers.

Recommendation 10: Publish consumer-friendly information about electricity meters

173. Most consumers have very limited understanding of their metering options. Information about different meter types, provider capabilities, and pricing is not readily available or easy to compare. This makes it difficult for consumers to make informed decisions, even where choices exist.

174. This lack of transparency can lead to confusion and poor outcomes. Consumers may agree to upgrades they do not need, face unexpected costs, or experience delays because they are not aware of alternative options. It also limits competitive pressure on providers, as consumers are not well equipped to compare services.

175. Improving access to clear, consistent information would help address the underlying information asymmetry. It would support more informed decision-making and enable consumers to engage more effectively with retailers and metering providers, particularly when installing solar.

How would it work?

176. We recommend that better information is made available to consumers in relation to their metering options. This proposal would involve EECA publishing detailed information to help consumers understand their choices. This includes information on:

- meters commonly currently used or available in New Zealand, including:
  - a profile of the capabilities of the product (to help a consumer make an informed decision of which meter is most suitable for their needs)
  - whether the meters are capable of recording import/export data, and if so whether this needs to occur in person, or can be done remotely
  - which metering providers offer the product (or website link)
- links to pricing pages on metering providers' websites – showing prices for different services, such as remote reconfiguration, in-person reconfiguration, and in-person meter upgrade.

How long would it take to implement?

177. Changes to improve transparency could be progressed within a month of aggregating information through EECA's existing channels.

Will it fix the issue?

178. This recommendation alone (without the other recommendations on metering) is likely to have only a minor impact. However, when paired with the other recommendations, this could noticeably improve the experience for customers.

Recommendation 11: Introduce enforcement action for unnecessary meter upgrades and expectations for meter companies and retailers if errors occur

179. There is currently limited accountability where unnecessary meter upgrades occur or where meters are incorrectly configured. Consumers may be required to pay for upgrades that are not needed, or bear the cost of errors that sit outside their control. This creates unfair outcomes, reduces trust in the system, and creates inefficiencies due to costs being borne by those that are not well placed to mitigate them.

180. These issues are particularly problematic for solar installations, where correct meter configuration is critical to recording exported electricity. Incorrect setups can lead to delays, lost revenue, and additional costs for consumers trying to resolve problems.

181. Consumers are currently vulnerable to potential unnecessary charges due to a combination of (a) information asymmetry in relation to the technical capabilities of meters, and (b) an inability to choose to obtain the update/upgrade service from an alternative metering provider. Introducing clearer rules and enforcement would help address these gaps. Part 10 of the Code imposes enforceable obligations on metering providers in relation to metering installation compliance, accuracy, certification, replacement, and correction of defects. However the Code does not appear to explicitly prohibit metering providers from upgrading meters (and charging customers for doing so) when the meter does not need to be upgraded.

182. We understand the Electricity Authority is aware of both these issues, and doing further work on them.

How would it work?

183. We recommend the Electricity Authority revise the Code to create enforcement action for unnecessary meter upgrades and clarify where costs sit if a meter is configured incorrectly. This proposal would involve changes to the Code to:

    - Introduce enforcement action where a metering provider requires a customer to upgrade their meter, even though their existing meter already has the required functionality. The aim is to encourage providers to only require upgrades when they are genuinely necessary.
    - Establish who bears the costs (i.e., the metering provider and/or retailer and/or installer, and in which situations) if a meter is either not upgraded or reconfigured, or there is an error in the way the process is carried out. Costs for errors should not be borne by the consumer.

How long would it take to implement?

184. The steps to implement this recommendation would include the Electricity Authority developing a consultation paper, seeking feedback, and developing a decision paper. This

process typically takes between 9–18 months depending on the complexity and need to make changes after considering submissions (including reconsulting if those changes are material), plus any implementation and transition time needed for industry.

185. As noted above, the Electricity Authority is aware of these issues, and currently doing further work on them.

186. The Electricity Authority is required to comply with certain statutory obligations before making any changes to the Code:

- consult with the Commerce Commission (section 54V of the Commerce Act 1986)
- follow specific consultation requirements (section 39 of the Electricity Industry Act 2010).

Will it fix the issue?

187. This recommendation alone (without the other recommendations on metering) is likely to have only a minor impact. However, when paired with the other metering recommendations, this could noticeably improve the experience for customers.

In practice, this set of changes would give consumers more control and clarity

188. These changes would address key drivers of the problem, including limited information and lack of competition. If implemented, these changes would mean that consumers have clearer information about their meter and whether an upgrade is actually needed. They would be better able to compare providers, understand pricing, and choose services that suit their needs. In some cases, this could avoid unnecessary upgrades and reduce costs. Over time, increased competition between providers is likely to improve service quality and reduce delays. This would make the process of installing solar panels more straightforward and predictable.

Issue 5: Improve retailer processes

189. Electricity retailers play an important role in how solar systems are connected, used, and valued. Our review identified that poor retailer processes and communication can slow down installations. These do not need to be regulated but should be addressed using other forms of action available to the Electricity Authority (as the relevant regulator), to reduce delays and complexity for consumers, in line with good regulatory practice.

Poor retailer processes create delays

Stakeholders report delays related to retailers' roles in the process

190. Feedback indicates that retailer processes are a key cause of delays in the metering stage after solar installation. Consumers and industry participants report slow and complex retailer-led processes, with export meters sometimes taking months to install and frequent follow-ups required, resulting in delays of several weeks before systems are fully operational.

- "I receive the request to inspect a solar system from the installer, with the COC and design plan and less than 50% of the time I'm chasing retailers for the metering request change. In some cases, there is 3-week delay in obtaining these." — **An individual working in the sector**
- "[There is] just slow meter installation and inspection and commissioning. We were making power going back to the grid for 2 to 3 weeks before [RETAILER] began paying us." — **Consumer**

Stakeholders also report coordination and communication issues

191. Stakeholders report that poor coordination between installers, retailers, and EDBs, particularly around metering, creates delays and confusion in the solar installation process. Inconsistent retailer processes, unclear responsibilities, and difficulties arranging import and export meter changes mean systems are often installed but cannot export electricity, leading to customer frustration, additional costs, and delays in system activation.

- "Import export meter change process with energy retailers. This is the most painful part of installing a solar system. Every retailer has a different process, and their staff

- aren't trained on that process. Retailers are hard to get hold of and this causes delays for the customer and take up lots of admin time." — **Installer**
- "Electricity retailer frequently being non-responsive including not communicating directly with us when system was ready to go." — **Consumer**

Stakeholders report that having multiple processes results in inefficiencies

192. Installers reported that inconsistent retailer processes for metering changes are a major source of delay in solar installations. Each retailer has different requirements, systems, and timeframes, and some still use outdated or manual processes, which creates inefficiencies and confusion. These delays are outside installers' control but are often attributed to them by customers. A more standardised and streamlined process would help reduce delays and administrative burden.

- "Metering is another major issue. Energy retailers currently have too much control over the meter changeover process, and there does not appear to be a standardised approach for requesting import/export capable meters. Some retailers process these requests quickly, while others are very slow and still require manual forms or outdated processes. This creates delays that are outside the installer's control, but the customer often sees the solar company as responsible for the delay." — **Installer**
- "Metering: Inconsistent processes from the various retailers causing delays, some take days or weeks to get appropriate service orders to install meters." — **Electrical inspector**

Stakeholders made several specific suggestions for improvement to the process

193. Stakeholders made three specific suggestions for improving the process:
    - Upgrade meters before installation – delays and extra costs often occur when meters are upgraded late. Installing import-export smart meters upfront would allow same-day commissioning and avoid repeat visits.
    - Standardise retailer processes – different retailer requirements, costs, and timeframes (sometimes months) slow installations and create confusion.
    - Let installers deal directly with retailers – installers are often excluded, causing delays and requiring customers to provide technical information.

However, sometimes the process runs smoothly

194. Sometimes the process can run smoothly. Where metering upgrades are completed early, the solar installation process can be straightforward, allowing systems to be connected and exporting immediately. Some consumers and installers report fast and efficient upgrades, including remote updates. However, experiences vary widely, with others facing delays,

inconsistent retailer requirements, and slow processes that can delay system activation by several weeks.

- "As we already had a smart meter installed in the last couple of years, our power company was able to remotely update our meter in order to export to the grid, which was done within a day, so this was also done extremely efficiently and easily." — **Consumer**

Recommendation 12: The Electricity Authority should use its market facilitation role to improve retailer processes and communication

195. While some consumers report positive experiences interacting with retailers as part of the solar installation process, from our engagment more frequently, consumers and installers reported a frustrating experiences with retailers particularly in relation to poor processes and/or communication.

196. Stakeholders suggested regulating or creating a standardised process in some other way. We do not believe that it should be regulated, but it should be addressed.

How would it work?

197. This option would involve the Electricity Authority opting to us its market facilitation role (as provided for under section 16(f) of the Electricity Industry Act 2010) to improve retailer performance. This could involve the Electricity Authority seeking feedback, comparing processes, identifying best practice, highlighting good examples, and exploring opportunities for process efficiencies.

198. The approach described above is broadly similar to thematic reviews undertaken by the Financial Markets Authority.

How long will it take to implement?

199. We estimate that it would take approximately six months to action this recommendation. However, the Electricity Authority has indicated that its work programme for the next 12 months is already set.

Would it solve the issue?

200. While we considered other options, we believe that the proposal has the potential to resolve the issue, and is the most effective, efficient, and proportionate response to it.

Issue 6: A one-size-fits-all inspection model is creating delays, inconsistency and weak system oversight

201. A final step can delay households from using solar. Consumers who install rooftop solar may expect to begin using their system shortly after installation is complete. However, before a system can be connected, the Electricity (Safety) Regulations 2010 require an inspection by an independent electrical inspector to confirm the installation is safe and compliant.[24] While the regulations do not expressly require inspections to be undertaken in person, this appears to be the standard practice.

202. In practice, this part of the process is often not visible to consumers. Installers typically manage the inspection and certification steps on behalf of the customer, meaning homeowners may have limited awareness of the requirement for an independent inspection or the factors affecting timing. However, while the process is largely hidden, the impact on the consumer is not.

What works in theory is not working well in practice

203. The issue isn't just a hidden final delay, but a process bottleneck. Our review identifies the current inspection model is no longer operating as smoothly or proportionately as once intended. What was intended to operate as a final safety check introduces avoidable friction into the installation process. Multiple handoffs, unclear expectations, and inconsistent processes create a fragmented experience that reduces efficiency and makes the customer journey less predictable. These issues are not minor inefficiencies, but reflect deeper structural flaws in how the current model is designed and applied. There are four main issues within the current inspection scheme:

- Universal inspection requirements are not matched to risk.
- Inspectors are not always familiar with solar systems.
- Limited inspector availability can leave consumers waiting.

[24] Specifically, regulations 70–71.

- Commercial relationships can blur independence and weaken oversight.

Universal inspection requirements are not matched to risk

- "When it came to the inspection process it was disappointing to see the duplication of checks by multiple organisations." — **Consumer**
- "The delay for an independent inspector and the meter swap out seems unnecessary when we're using qualified electricians that don't normally need their typical electrical work inspected." — **Solar installer**

204. All solar installation work is classified as "high-risk prescribed electrical work" under the Electricity (Safety) Regulations 2010, meaning every solar installation in New Zealand must be independently inspected before it can be connected. This one-size-fits-all model applies the same level of oversight to all installations, regardless of their complexity or the capability of the installer.

205. A licensed electrician refers to a person authorised under the Electricity Act 1992 and its regulations to carry out prescribed electrical work, including installing and certifying electrical systems. At a statutory level, licensed electricians and electrical inspectors are not set up as distinct roles, both are treated as authorised persons who can carry out prescribed electrical work. In practice, the distinction is created by the Electrical Workers Registration Board (EWRB), which sets separate registration classes, qualification requirements, and limits of work.[25]

206. Residential solar uptake remains in an early phase, with just over 63,000 systems installed by the end of 2024, representing only a small share of New Zealand households. EECA notes that the market is still in early adoption, and that uptake is slowed by upfront costs, information gaps, and a complex decision-making process. If these barriers are reduced and uptake increases, the current uniform inspection model is likely to come under increasing pressure.

207. The disproportionality of the current approach is clear at the inspection stage. A standard rooftop system on a family home, installed by an experienced and licensed electrician, must go through the same independent inspection process as a much larger or more complex installation, such as a solar system on an industrial site or a solar plant. Despite obvious differences in scale, complexity, and risk, the regulatory response is the same. We have not identified any reports or evidence pointing to significant or systemic safety incidents associated with small-to-medium-scale solar installations in New Zealand.

[25] From September 2026, both inspectors of grid-connected solar systems (mains parallel generation) must hold a 'Mains Parallel Generation endorsed registration class (endorsement)' to install solar. All electricians working on solar installations will be required to hold this endorsement from 1 September 2028.

Inspectors are not always familiar with solar systems

- “There appears to be a lack of consistent knowledge among inspectors, along with a lack of standardised process when interpreting solar regulations and relevant electrical standards… In some cases, inspectors are vague about what they believe the issue is, or which specific regulation, standard, or clause they believe has not been met” — **Solar installer**

208. Electrical inspectors are not dedicated solely to solar installations, but inspect a wide range of electrical work, including checking the safety of a home’s main switchboard upgrade, verifying the connection of a new house to the mains supply, or inspecting wiring in high-risk environments like pools.

209. Although solar-specific training and endorsement pathways are intended to build capability in this evolving part of the sector, installers told us that inspector knowledge of solar systems is not always strong or consistent. They described a disconnect between qualified electricians with solar-specific endorsements and the inspectors assessing their work.

210. Installers also reported that some inspectors apply additional guidance that is not legally binding, while others appear to have limited understanding of solar systems or do not consistently identify poor-quality work.

Limited inspector availability can leave systems waiting

- “The inspector took a long time to be organised.” — **Consumer**
- “Getting an inspection to source the installed system took 6 weeks, which seemed way too long to my mind.” **— Consumer**

211. Completed installations can only move as quickly as inspectors are available. This was the central issue stakeholders raised about the current inspection model. The problem was not that inspections themselves take a long time, but that getting one booked can become the final bottleneck.

212. That bottleneck can look very different depending on where you live. A household in a major urban centre may be able to get sign-off relatively quickly, while a similar system in a smaller town or rural area can wait much longer simply because there are fewer inspectors nearby and greater travel distances between jobs. In effect, the final step can become a postcode lottery. Some respondents reported inspections occurring the same day or within 1–5 days, while others experienced waits of up to 6 weeks. On top of this, after an inspection is completed it can take a further 4 weeks for the inspector to issue a Record of Inspection (ROI) which will allow the system to be turned on.

213. Longer travel distances can materially increase the cost of getting an inspection done, and those costs are passed through to the consumer. One installer told us that the price of an

inspection for their work can range from $300–$1,000 depending on the region. The result is that two otherwise identical households can face very different delays and prices, not because one installation is riskier, but because of where they live.

Commercial relationships can blur independence and weaken oversight

- “The electrical inspector is hired by the electrician, if the electrician is a cowboy and the inspector sees their work as poor, the electrician can ignore that inspector and find an inspector who will pass the install.” — **Electrical inspector**
- “I’ve known other inspectors that have lost contracts from large solar companies who fail installations, which then find another inspector to pass the work instead of actually fixing or changing what’s wrong.” **— Electrical inspector**
- “Inspectors will turn a blind eye to compliance and quality issues as this could lead to them losing that electrician as a client and any future work. The process of getting an electrical inspector needs to be separate from the electrician to make it independent and remove this conflict of interest.” — **Solar installer**

214. The current regulatory design of the inspection regime weakens both the independence of the safety check and the quality of the data used to oversee the system. Although an independent inspection is intended to provide an impartial check on installation quality, in practice it operates within an ongoing business relationship between installers and inspectors. Further detail on the stakeholder feedback underpinning this finding is provided in the Summary of Engagement.

215. As inspectors are hired by the installers they inspect, the inspectors have conflicting incentives. Stakeholder feedback showed that installers tend to build relationships with particular inspectors or lean toward those they expect will take a more permissive approach, removing the independence of the inspection function. In parallel, inspectors have weak incentives to formally record non-compliance. Although the Electricity (Safety) Regulations 2010 require inspection results to be recorded in the Electricity and Gas High-risk Database (EGHRD), inspectors reported that in practice, uploading failed inspections to this database can add administrative burden and risk damaging commercial relationships with installers.

216. If failures are not consistently recorded, the result is not only a weaker safety check at the individual installation level, but also a skewed picture of how the system is performing overall. This limits confidence that inspection data provides a complete view of non-compliance, recurring issues, or where regulatory attention is most needed.

Recommendation 13: Exempt accredited installers from inspections for solar installations of up to 100kW

Recommendation Overview

217. We recommend a transition away from universal in-person inspections toward a more targeted model and, over time, greater use of self-certification for electricians. Electricians with a mains parallel endorsement, or equivalent endorsement relevant to solar work, would be able to self-certify their work where they are working for an accredited installer company (i.e., a company accredited through an industry accreditation scheme endorsed by EECA). This would not change the existing electrical worker licensing framework: electrical work would still need to be carried out by electricians who meet the same licensing and endorsement requirements that apply today.

218. The primary safety mechanism would be targeted audits and random spot checks, supported by the ability for regulators to intervene where data suggests heightened risk or potential non-compliance. Digitisation would also be a key enabler of this shift, supporting more consistent oversight, better data collection, and improved visibility of system performance.

What the new inspection model would look like

219. Instead of every installation needing a full in-person inspection, safety would be built into who can do the work, how it is certified, and how the system is monitored. This recommendation moves the system from checking everything, to checking where it matters most:

- Accreditation (entry control)
- Self-certification (delivery pathway)
- Spot checks (independent assurance)

Accreditation would act as a strong "front door" for safety

220. Only installers who meet clear, nationally recognised requirements would be able to access the simpler pathway for small-to-medium-scale solar installations (up to 100kW).

221. This threshold aligns with the current limit used in Australia's Small-scale Renewable Energy Scheme (SRES), reflecting a level at which simplified assurance pathways have been successfully applied. The threshold should be subject to periodic review (for example, every three years) to assess whether it remains appropriate, considering uptake trends, technological developments, and lessons from comparable international schemes.

222. This simpler pathway would be accessed through the approved accreditation scheme currently being developed by EECA which will endorse industry-led accreditation schemes

for installers that meet certain criteria for competence, safety, and installation quality.[26] The accreditation scheme proposed by this review would build on EECA's Installer Accreditation Scheme, which is currently being developed in conjunction with industry, by incorporating additional criteria to support streamlined compliance pathways, rather than creating a duplicate scheme. The aim is to ensure that only capable, proven installers can work with fewer checks, lifting quality upfront rather than relying on inspection at the end.

223. Installers who are not accredited, are ineligible for or removed from the scheme, would continue to be subject to full in-person independent inspections before connection (the status quo).

Endorsed electricians would be able to self-certify their work

224. Electricians with a mains parallel endorsement (or equivalent endorsement relevant to solar work), working within an accredited installer company would be able to self-certify their work.

225. The electrician would complete the work, check that it is safe and done properly, and upload photos or videos of the installation, covering the same checks currently done during an in-person inspection, into WorkSafe's EGHRD. This replaces the need to wait for an in-person inspection and allows systems to be connected much sooner.

Spot checks would provide ongoing assurance.

226. A proportion of installations would still be inspected in person, or remotely after completion. These checks would be:

- a mix of random sampling and risk-based targeting
- focused on identifying poor performance or emerging risks
- randomly assigned to independent inspectors through a central process, rather than chosen by installers.

227. This ensures the system continues to detect issues and maintain safety outcomes, without slowing down every installation. As there would be fewer inspections and these would happen after the systems have been switched on it would remove the current inspection bottleneck that slows down the installation process.

228. This would also seek to mitigate the conflicts of interests inherent in the current system ensuring that checks at the beginning of the process (i.e., accreditiation) and the end of the process (i.e., spot checks) are genuinely independent and provide robust safety assurances.

Evidence and international experience

229. Australia shows that a system can maintain assurance even when inspections are not carried out in the same way everywhere. The Clean Energy Regulator (CER) runs its own inspection

[26] This could include existing schemes such as the Sustainable Energy Association of New Zealand (SEANZ) solar installer accreditation.

and audit program for its Small-scale Renewable Energy Scheme (SRES) on top of state and territory regimes, which vary in how they approach inspection, from in-person checks to, in some cases, limited or no routine inspection that relies instead on certification and targeted spot-checking.

230. Appendix A of the CER's inspection update suggests that audit outcomes for small-scale rooftop solar photovoltaic systems were broadly similar across jurisdictions, despite those different underlying inspection settings.

231. Our neighbours in Australia tell a clear story. They operate in a system with similar electrical standards and safety expectations to New Zealand but use a range of different approaches to inspecting installations. Despite this variation, strong safety outcomes are maintained because the system has a clear, underlying capability to monitor what is happening on the ground, detect poor-quality work, and respond where risk emerges.

232. The United States provides a further example of how alternative assurance models can maintain safety while reducing unnecessary friction. Remote virtual inspections (RVI) were initially adopted by many jurisdictions during the COVID-19 pandemic to allow solar inspections to continue while reducing the need for physical site visits. However, what started as a pandemic workaround has evolved into a long-term solution, delivering faster approvals, lower costs, and more efficient inspections without compromising assurance.

233. The success of RVI is not the technology itself, but the systems and safeguards operating behind the scenes. The inspection approach sits within a safety infrastructure of inspection protocols, photo and video evidence requirements, technical standards, audits, and independent oversight that gives regulators visibility of installation quality and the ability to respond when risks emerge. Evidence reviewed by the Interstate Renewable Energy Council (IREC) found that remote inspections can achieve an equivalent, and in some cases higher, level of code compliance than traditional onsite inspections. In New York, quality assurance reviews identified deficiencies in around 22 per cent of installations that had already passed an in-person inspection.

234. The key insight is that assurance does not operate in isolation. When supported by strong standards, oversight, and clear accountability mechanisms, there is greater scope to adopt more innovative and efficient approaches without compromising safety.

A trial of a streamlined safety assurance process is proposed

235. Remote inspections are already being used across parts of the United States for residential solar installations. These programmes show that alternative approaches can provide a clear line of sight into how installations are actually carried out, supported by consistent, auditable records.

236. A trial is needed to build the evidence base for a streamlined process in New Zealand. WorkSafe has indicated there is very limited effectiveness data on current inspection outcomes, making it difficult to assess how well the current model is performing or how

alternative approaches would compare. This gap is not unique to New Zealand. Jurisdictions such as Victoria, which also rely on in-person inspections, face similar limitations in system-level data.

237. During the trial remote inspections and spot checks would be used to both ensure the safety of installations and to collect evidence on installer performance. If the trial shows that accredited installers are reliably carrying out safe installations, this would provide evidence that greater reliance on self-certification could be achieved without reducing safety. If remote inspections were systematically identifying significant issues, it would indicate that remote inspections are necessary to support safety outcomes. Both remote inspections and self-certification would be significantly faster than in-person inspections. If spot checks were regularly identifying significant issues that had not been detected through remote inspections, it would indicate that further design work and testing are needed before moving towards a greater reliance on self-certification.

238. At the end of the trial the evaluation would assess whether an alternative model could deliver similar or superior safety outcomes without causing undue delays in the installation process. At the same time, a trial helps manage risk. Testing the model in a controlled environment allows issues to be identified and addressed early, before wider rollout, while maintaining safety throughout the transition.

Benefits

239. This change would deliver immediate, tangible benefits for households and businesses installing solar. By removing the need to wait for an in-person inspection in the majority of small-to-medium-scale solar projects, installations could be completed and connected much sooner, saving days or even weeks in time to connection.

240. It would also reduce inspection-related costs, particularly travel and scheduling costs that can vary widely today, lowering upfront installation costs for consumers.

241. Safety checks at the front end (through accreditation) and at the back end (through spot checks) would no longer be tied to commercial relationships between inspectors and installers. This would provide more robust and genuinely independent assurance of installer competence and the safety of installations. This will create a modern regulatory system that ensures safety without causing unnecessary costs or delays. These gains are not just about speed and cost, they support a system that can keep up. As solar uptake grows, the current model is likely to come under increasing strain. This new approach allows the inspection regime to operate at pace, shifting away from a rigid, one-size-fits-all process to one that is more responsive, targeted, and scalable.

How would the proposal and trial period work?

242. Implementing this change would involve several steps and could be incorporated into the existing work being led by EECA to develop an approved accreditation scheme.

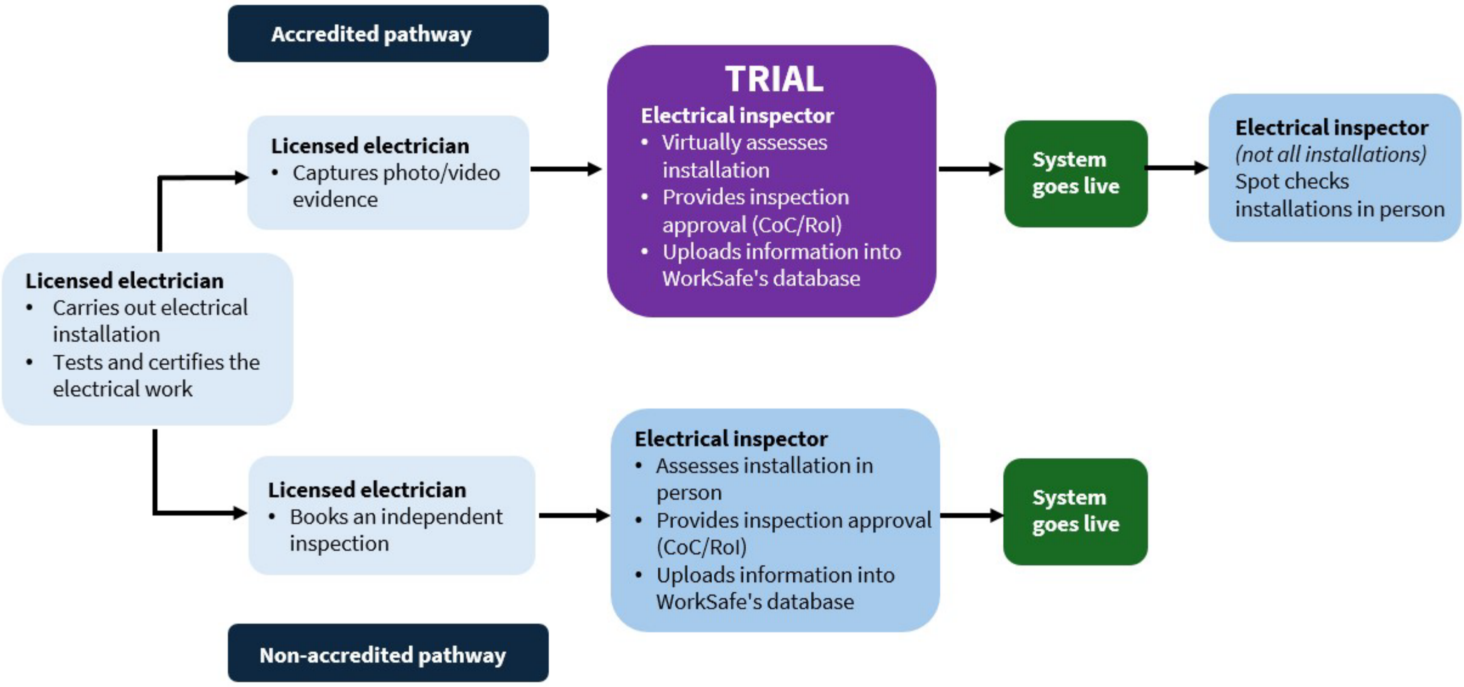
1. **Establish the trial**	**The trial phase would operate as follows:** → Accreditation (entry control) → Remote inspection (digital evidence reviewed independently) → Spot checks (independent assurance) Remote inspections would replace most in-person checks during the trial. Electricians with a mains parallel endorsement, working within an accredited installer company, would complete the installation and check that it is safe and done properly. They would then upload photos or videos of their work, which would be sent to an independent inspector assigned through a central process. The inspector would review the evidence and confirm whether the installation passes or fails. If it passes, they would issue the Record of Inspection (ROI) and Certificate of Compliance (CoC), just as they do today. Installers would need to meet clear entry requirements before they could use the simpler pathway. For the trial accredited installers could volunteer to be part of the trial, with EECA retaining final discretion on which installers participate in the trial. **The key elements of the trial are:** • All inspectors are required to record information about failed inspections to inform the regulator. • Accredited installers could follow a simpler process, uploading photos or videos of their work for remote review instead of waiting for an inspector to visit. • Non-accredited installers would stay in the current system and require a full in-person inspection to act as the control group. • Randomised spot checks (i.e., in-person secondary inspection) after systems are turned on for some accredited installations to monitor for risks from the remote inspection.
2. **Build the data** *(what data is needed and where it is stored)*	• Clear guidance would be developed on what photos or videos need to be provided, based on what inspectors currently check. • To support delivery, two pathways would be developed: 1. **A simple trial approach**: a low-cost, practical setup that can be put in place quickly for the 12-month pilot. This would focus on getting the model up and running without unnecessary complexity.

	2. **A longer-term system**: a more developed platform for wider rollout if the model proves effective, including tools for assigning inspections, submitting evidence, and monitoring performance. • Both approaches would be worked through with the regulator to make sure they are practical.
3. Run the trial and collect evidence	• Mains parallel endorsed electricians working within an accredited installer would upload digital evidence of completed installations, based on the checklist as described above. • After the photos or videos are submitted, they would be sent to an independent inspector, assigned at random, who would review them and record whether the installation passes or fails in WorkSafe's EGHRD system. • On top of this, a random sample of approved installations would be subject to in-person inspection after completion. We recommend at minimum, **15 per cent of all trial participants** be randomly selected for an in-person inspection after completion. • The Ministry would work with EECA and other relevant agencies to design the inspection process in a way that preserves independent assurance, for example by allocating inspections through the trial process.
4. Evaluate the trial	• After 12 months EECA would carry out an evaluation and report back on the trial. • The results from the trial would be reviewed to see how well it worked, including whether it was safe, effective, and efficient. The approach would then be updated based on what was learned and feedback from the sector. • If accredited installers consistently deliver safe outcomes, it would provide evidence that greater reliance on self-certification could be achieved without reducing safety. If significant issues are identified, further testing and safeguards would be required before proceeding. • EECA reports to Ministers on the outcome of the trial.
5. Transition to end-state model	• Installations would be certified by the mains parallel endorsed electrician and recorded digitally. **No independent inspection checks would be required.** • Spot checks by independent inspectors would play a bigger role, moving beyond a fixed trial rate to a mix of random checks and targeted audits led by the regulator.

6. Maintain ongoing monitoring and oversight	• The system would keep track of how well things are working over time, including safety outcomes. The level of checking could be increased if issues start to appear or performance drops.

243. Final design decisions on the accreditation scheme and trial, in line with the intent of this recommendation, would sit with EECA in consultation with WorkSafe, MBIE, the Ministry for Regulation and other relevant agencies. The Ministry for Regulation has published guidance on regulatory sandboxes that will inform the design and conduct of the trial.[27]

Process Diagram



Would it solve the issue?

244. In the immediate term, a more targeted system would reduce delays and focus checks where they matter most. The removal of universal inspections means most small-to-medium-scale installations would no longer need to wait for an in-person check before being used, electricians could complete the work, submit evidence, and connect systems more quickly. At the same time, oversight would improve by shifting inspection effort toward higher-risk installations or those with a history of issues, ensuring scrutiny is applied where it adds the most value.

245. Over time, this moves the system from a static inspection model to a dynamic assurance regime. One that can better detect poor performance, respond to emerging risks, and

[27] Ministry for Regulation, Regulatory Sandboxes: Adapting your regulatory system in a safe-to-try way. (https://www.regulation.govt.nz/publications-and-resources/resource-library/regulatory-sandboxes/)

reduce unnecessary burden on compliant participants while maintaining safety outcomes. This would result in a more streamlined, transparent, and consistent system, with clearer expectations, better data, and more predictable timeframes.

Recommendation 14: Strengthen enforcement of existing requirements for inspectors to report failed inspections to WorkSafe's high-risk database

Recommendation Overview

246. This recommendation is intended to operate alongside Recommendation 13 and would apply across both the proposed accredited pathway and the existing non-accredited inspection pathway. Its purpose is to improve the quality, completeness, and usability of information about inspection outcomes.

247. We consider WorkSafe's EGHRD an important but underutilised regulatory stewardship tool. To understand whether the current inspection regime is working, and whether future changes improve outcomes, we need reliable information about inspection performance, including how often installations fail and the reasons for those failures. At present, that information appears incomplete. Although inspectors are already expected to record failed inspections in WorkSafe's EGHRD, feedback suggests reporting does not always occur consistently. Inspectors told us that recording failed inspections can create additional administrative effort, particularly where issues are subsequently corrected and the installation ultimately passes inspection. This creates the incentive to focus on recording the final successful outcome rather than documenting both the initial failure and subsequent rectification.

248. The result is a significant evidence gap. Information about inspection outcomes is not consistently captured, limiting visibility into installation quality, common failure types, recurring issues, and emerging risks. It also weakens the evidence base needed to monitor system performance and evaluate whether future changes are improving outcomes.

249. WorkSafe has already taken positive steps to improve the operation of the EGHRD, including changes introduced in February 2026 to make it easier for inspectors to identify and record failed inspections. These changes are an important step forward. However, if the database is to fulfil its potential as a system-wide source of intelligence, a more active stewardship approach will be required by the regulator. This could include using existing regulatory and operational tools to improve awareness of reporting obligations, reduce unnecessary administrative burden, support more consistent reporting practices, and actively monitor the completeness and quality of the information being collected.

How long will it take to implement?

250. No legislative amendments are required to implement this recommendation. Existing settings already provide for the reporting of failed inspections to WorkSafe's EGHRD. The implementation challenge is therefore one of compliance rather than regulatory design.

251. This recommendation could be implemented through operational and enforcement measures, including compliance monitoring, targeted follow-up, and the use of existing enforcement tools where appropriate. As implementation relies on existing legislative settings, it could be progressed as quickly as WorkSafe is able to prioritise and resource the activity.

Will it fix the issue?

252. Strengthening enforcement of existing reporting requirements will close a major data gap by ensuring failed inspections are consistently recorded, giving us a reliable picture of both current performance and how the new model is working.

Issue 7: Regulations prevent the use of plug-in solar units

What is plug-in solar?

1. Plug-in solar is a small solar system that can be connected to a home, typically using a standard wall socket. Unlike traditional rooftop solar, which is permanently installed by an electrician, plug-in solar systems are designed to be simple, low-cost, and easy to use.
2. Plug-in solar provides an option for consumers who might not otherwise be able to install a rooftop system (for example, people living in apartments, renters, or people in lower-income households).

What is involved?

3. Plug-in solar systems usually include one or a few solar panels and a small inverter. Some plug-in solar products may also incorporate battery energy storage.
4. These systems are sometimes called “balcony solar” or “portable solar” because they can be installed in different places, such as balconies, backyards, or garages, and can be moved if needed.
5. In Germany, plug-in systems are typically low-capacity units (often between 300W and 800W), and are widely available at relatively low cost compared to traditional rooftop systems. Typical retail prices range from approximately $500–$1,500 per unit, depending on size and features, making them significantly more affordable than rooftop systems, which can cost $10,000 or more.

How much electricity do they produce?

6. On a sunny day, a system of of 300W–800W can generate enough electricity to cover part of a household’s daytime use, such as running a fridge or powering lights.

Where is plug-in solar currently used?

7. Germany has been using plug-in solar systems for several years and is widely seen as the most advanced example, with over 1 million registered plug-in solar devices installed by households as of 2024, reflecting strong adoption particularly among apartment residents and renters.
8. Other countries are now following suit, including the UK, which has introduced a light-touch framework allowing small plug-in systems (typically up to 800W) to be installed with simplified requirements (for example, a “connect and notify” approach for qualifying systems), supported by updated wiring rules. Several European countries are also developing similar frameworks.

Regulations currently prevent the use of plug-in solar units in New Zealand

253. Plug-in solar systems are not currently permitted in New Zealand. This reflects a combination of explicit legal restrictions and broader regulatory settings that are designed for traditional, permanently installed solar systems, and do not currently provide a recognised safe and compliant way for plug-in solar to be used in New Zealand

254. Responsibility for regulations affecting plug-in solar sits across multiple agencies. WorkSafe oversees electrical safety and enforcement under the Electricity (Safety) Regulations 2010, including the application of wiring rules and prescribed electrical work requirements. MBIE (including Standards New Zealand) is responsible for the regulatory framework and associated technical standards (such as AS/NZS 3000 and AS/NZS 4777). The Electricity Authority regulates electricity market and network connection requirements under the Electricity Industry Participation Code.

There is an explicit legal prohibition on inverters used in plug-in systems

255. The Electricity Regulations (Prohibited Electrical Fittings – Inverters) Notice 2012 (NZ Gazette 2012-go152)[28] (Notice) imposes a direct legal restriction on plug-in solar.

256. The Notice prohibits the manufacture, importation, sale, and use of inverters that are fitted with a lead and plug and capable of supplying electricity into an installation via a socket outlet. This includes plug-in "grid-tie" inverters commonly used in plug-in solar systems. The Notice states that these devices are considered electrically unsafe because they:
    - allow electricity to be supplied downstream of circuit protection devices
    - create a risk of overloading household wiring, potentially leading to fire
    - may compromise the operation of protective devices, such as circuit breakers and residual current devices (RCDs). This means electricity may flow through household circuits in ways not anticipated under current design assumptions, creating risks that are not explicitly managed under existing New Zealand standards.

257. In addition to this, existing standards for grid-connected photovoltaic systems, including AS/NZS 4777.1, do not currently provide a recognised pathway for PV systems to connect to an electrical installation through a plug-and-socket arrangement. There is also no applicable standard that has been verified as suitable for plug-in solar systems in New Zealand conditions. As a result, suppliers and consumers do not currently have a recognised technical framework that sets out how plug-in solar systems can be safely deployed and used in New Zealand.

[28] New Zealand Gazette. (2012). *Notice ID 2012-go152*. **https://gazette.govt.nz/notice/id/2012-go152**

258. While these risks are well understood in principle, international experience suggests that they can be effectively mitigated through certified inverter design (including anti-islanding protection), output limits (typically ≤600–800W), and circuit-level safeguards. Jurisdictions such as Germany have deployed plug-in systems at scale without evidence of widespread electrical failure or fire incidents when these controls are in place.

259. More fundamentally, plug-in solar raises a number of unresolved technical and system-level issues in the New Zealand context. These include:

- risks from reverse power flow into household circuits
- cumulative impacts where multiple devices operate on a single circuit or within a household
- compatibility with New Zealand's electrical system design which differs from systems used in countries like Germany, meaning plug-in systems need to be tested to ensure they operate safely in local conditions.[29]

260. These issues are not yet addressed through a defined set of standards or product requirements in New Zealand, which limits the ability of regulators to safely enable the technology.

There are also several broader regulatory barriers

261. In addition to the explicit prohibition on plug-connected inverters, a range of broader regulatory settings create barriers to plug-in solar. These reflect the design of the electricity safety and installation frameworks, which are based on permanently installed systems.

262. New Zealand's electricity safety framework is built around permanently installed systems, requiring licensed installation, inspection, and certification, while plug-in solar systems are small, portable, and consumer installed. A range of regulatory settings contribute to this, including:

- Wiring Rules (AS/NZS 3000) and related standards
- Inverter and installation standards (AS/NZS 4777)
- Electricity Industry Participation Code 2010
- Electricity (Safety) Regulations 2010

263. See the table below for more information on each of the regulatory barriers above.

[29] New Zealand uses a 'multiple earthed neutral (MEN)' system, which has specific safety characteristics that affect how electricity flows through a house or building.

Wiring Rules (AS/NZS 3000) and related standards
Agency responsible: WorkSafe
	• The Electricity (Safety) Regulations 2010[30] require electrical installations to comply with the Wiring Rules (AS/NZS 3000) and related standards. These rules are based on the expectation that:
	  ○ Equipment connected to mains electricity is permanently installed (hard-wired).
	  ○ Installation work is carried out by licensed electrical professionals.
	  ○ Systems can be inspected, tested, and certified as compliant.
	• Plug-in solar systems do not meet these requirements because they connect via a socket outlet rather than at the switchboard, are typically designed for self-installation, and do not readily support formal inspection or certification processes.

Inverter and installation standards (AS/NZS 4777)
Agency responsible: MBIE (Standards New Zealand)
	• Grid-connected solar systems must comply with the AS/NZS 4777 standards, which set requirements for the safe installation and operation of inverter-based energy systems. These standards require:
	  ○ connection at a controlled point (typically the switchboard)
	  ○ dedicated isolation switches and protection mechanisms
	  ○ verified anti-islanding capability.
	• Plug-in systems fall outside this framework because they:
	  ○ connect downstream of the switchboard
	  ○ bypass the standard installation configuration
	  ○ cannot be readily tested or certified in accordance with the standard.

Electricity Industry Participation Code
Agency responsible: Electricity Authority
	• The Electricity Industry Participation Code[31] sets out requirements to ensure that all generation connected to the network must be known, assessed, and managed. Under Part 6 of the Electricity Industry Participation Code, all distributed generation must:
	  ○ be approved by the local EDB
	  ○ follow a formal application and connection process
	  ○ comply with technical and export limits.
	• Plug-in solar systems are inconsistent with these requirements because they:
	  ○ can be installed without notifying the network operator
	  ○ may export electricity to the grid without approval
	  ○ reduce network visibility and control.

Prescribed electrical work requirements under the Electricity (Safety) Regulations 2010
Agency responsible: WorkSafe
	• Work involving solar systems connected to mains voltage is classified as prescribed electrical work, which must be carried out by licensed practitioners. Plug-in systems:
	  ○ are designed to be installed by consumers
	  ○ do not involve licensed electricians
	  ○ do not undergo inspection or certification.
	• The prescribed electrical work framework also creates barriers for plug-in solar. While some homeowner electrical work and extra-low voltage solar systems are not

[30] *Electricity (Safety) Regulations 2010* (SR 2010/36) (NZ). **https://www.legislation.govt.nz/secondary-legislation/pco-drafted/2010/36/en/latest/**

[31] Electricity Authority. (n.d.). *The Code: Electricity Industry Participation Code 2010*. https://www.ea.govt.nz/code-and-compliance/the-code-electricity-industry-participation-code-2010/

	prescribed electrical work, low-voltage systems and connections to fixed wiring generally are. Plug-in solar challenges this framework because it is designed to be connected by consumers through a socket outlet rather than through the usual fixed-wiring installation pathway. • This creates a further compliance barrier under current regulatory settings.

This affects who can access solar and how easily people can use it

264. This issue matters because it affects both access to solar technology and the ability of the regulatory system to accommodate emerging innovations.

265. Plug-in solar provides a lower-cost and more flexible entry point to solar, particularly for renters, apartment residents, and lower-income households who are often excluded from traditional rooftop systems.

266. More broadly, the issue highlights a system-level challenge: regulatory frameworks designed for larger, fixed installations can create disproportionate barriers for smaller, lower-risk technologies. This can limit consumer choice, slow innovation, and reduce the overall efficiency of the system.

267. At the same time, the current restrictions to plug-in solar in were introduced in response to electrical safety concerns, including risks relating to reverse power flow, household wiring, and protection devices. There is also uncertainty about how plug-in solar products would perform across New Zealand's housing stock, given variations in the age and quality of existing electrical installations. While international experience suggests these risks can be managed, appropriate safeguards and technical standards are needed before plug-in solar can be enabled in New Zealand homes.

International experience suggests that it is possible to enable plug-in solar in a safe and controlled way

268. International experience suggests that plug-in solar can be enabled safely within a defined regulatory framework. For example:

    - Germany has established a defined product category supported by certification, output limits, and simplified connection processes, with widespread household uptake.

269. The UK has recently begun enabling plug-in solar through updates to technical standards and legislation from March 2026 onwards, allowing small-scale systems to be connected

under a 'connect and notify' model.[32] Work is ongoing to refine technical standards to provide clearer safety and performance requirements for these systems.

270. Across these jurisdictions, plug-in systems are typically treated as low-capacity, certified distributed generation products, with safety managed through inverter certification (including anti-islanding), output limits, and simplified notification processes, rather than full installation-based controls.

271. This indicates that enablement is feasible through a defined regulatory framework that establishes safety requirements for plug-in solar. While technical standards may continue to evolve over time, international experience suggests they do not need to be fully developed before plug-in solar can be enabled under appropriate regulatory conditions.

Plug-in solar would provide an option for consumers who cannot install a rooftop system

- "As a renter I want to be able to plug in solar panels… and take it with me when I move." — **Consumer**

Potential for faster approvals

- "Plug-in solar would remove a large part of the current friction in approvals." — **Consumer**

Recommendation 15: Legalise plug-in solar

How would it work?

272. The preferred approach is to remove existing regulatory barriers by amending the Electricity (Prohibited Electrical Fittings — Inverters) Notice 2012, developing a suitable safety standard, and making targeted amendments to the Electricity (Safety) Regulations 2010 to enable plug-in solar systems under defined conditions.

273. These amendments would enable use of plug-in solar in New Zealand and specify minimum technical and safety requirements. Matters such as maximum system capacity, inverter protections, certification requirements, and connection conditions could be prescribed.

[32] A "connect and notify" model allows eligible small-scale systems to be installed without prior approval, provided they meet defined technical standards. The installer or consumer must notify the network operator after installation so the system can be recorded for network visibility and management.

274. As the review was commencing, the Minister for Energy commissioned MBIE to enable plug-in solar. This includes early work on determining the approach to developing or modifying standards, and then incorporating them into electricity safety regulations.

275. The Ministry for Regulation acknowledges that a number of electrical safety risks have been identified in relation to plug-in solar, including risks associated with household wiring, protection devices, and reverse power flows. There is also uncertainty about how plug-in solar products would perform across New Zealand's housing stock, given variations in the age and quality of existing electrical installations. As part of the work already commissioned by the Minister for Energy, MBIE will also determine appropriate safety requirements that would be required before plug-in solar is enabled in New Zealand.

How long will it take to implement?

276. Targeted regulatory amendments to the Electricity (Safety) Regulations 2010 and the Electricity (Prohibited Electrical Fittings – Inverters) Notice 2012 could be progressed within 9–12 months, subject to the standard development processes being met.

277. This means that regulatory settings can specify what is permitted, including core safety requirements, system capacity limits, certification requirements, inverter protections, and connection conditions.

Would it solve the issue?

278. Yes. This would resolve the issue by removing the current legal prohibition on plug-in solar and enabling safe use in New Zealand.

This will make it easier for more people to use solar

279. Enabling plug-in solar in New Zealand would deliver a range of distinct benefits:

- **Improved access to solar**: Provides a low-cost entry point for households currently excluded from rooftop solar (including renters, apartment residents, and lower-income households), improving equity of access to distributed generation.
- **Stimulate market innovation and competition**: Encourages development of new products, services, and business models, increasing consumer choice and driving cost reductions.
- **Proportionate regulatory approach**: Enables simplified compliance pathways compared to traditional solar installations, reducing administrative burden while maintaining safety.

Significant out-of-scope issues identified during the review

280. During the course of the review several important issues were identified that are out of scope of the review and therefore the review has not provided recommendations on. However, as these issues can have a significant impact on the performance of the regulatory system and on the future uptake of solar it is important to draw attention to these issues. These include:
    - pricing settings that disincentivise solar uptake
    - regulatory practice not reflecting consumer experience
    - fragmented regulatory responsibilities

Pricing settings that disincentivise solar uptake

281. The price that consumers receive for electricity exported to the grid is a key factor influencing decisions to invest in solar. Stakeholders raised concerns about the gap between the price they pay for electricity and the buy-back rates they receive for exported electricity, as well as the limited ability to shop around for alternative export arrangements. These issues can affect payback periods, consumer perceptions of value, and the attractiveness of investing in solar. While pricing settings fall outside the scope of this review, they play a central role in shaping the overall attractiveness of solar and the pace at which distributed generation is adopted.
282. Current market arrangements limit competitive pressure on export pricing. At present, most consumers must sell electricity back to the same retailer from which they purchase it, which can constrain their ability to secure the best available price. Greater flexibility, such as allowing separate providers for import and export, could improve outcomes by introducing competition for exported electricity.
283. The Electricity Authority has previously considered enabling such arrangements through Multiple Trading Relationships, but has not progressed this, in part due to the currently small size of the solar market. While this reflects a concern to balance costs and benefits across the sector based on the current size of the market, it may also inadvertently limit uptake. On a forward-looking basis as uptake increases, the benefits from more competitive market settings will increase.
284. Stakeholders raised a range of concerns about how current electricity pricing and retailer practices affect the value of small-scale solar. While these issues sit largely outside the scope

of this review, they were raised frequently and are noted here for completeness. The issues include:

- **Billing arrangements may reduce the value of solar generation.** Concerns were raised about how electricity is measured and billed, particularly for three-phase connections. Where import and export are not netted over a billing period, consumers can face high prices for imported electricity while receiving lower payments for exported electricity at the same time. If the absence of phase netting is not due to any underlying costs, then this can distort signals for efficient solar uptake by reducing overall returns from solar systems.
- **Inefficiently low and variable buy-back (export) rates.** Stakeholders frequently raised concerns that retailer buy-back rates for excess solar generation are inefficiently low (i.e., below what might be expected in a competitive market), inconsistent, and not transparent. This can reduce the financial viability of solar and undermine confidence in long-term returns.
- **Retailer limits and restrictions affecting value and choice.** Some stakeholders reported that retailer policies, such as limits on system size or eligibility for solar tariffs, can restrict access to favourable pricing arrangements. While there may be a valid reason for these policies, they may also reduce competition between retailers for solar customers and limit consumers' ability to optimise returns.
- **Constraints on accessing alternative pricing arrangements.** There was support for enabling more flexible arrangements, such as using different retailers for buying and selling electricity, or sharing surplus generation locally. These options could improve competition but are currently limited within existing market structures.
- **Perceptions that pricing structures disadvantage solar customers.** Some stakeholders reported that, after installing solar, they faced higher fixed charges, increased import tariffs, or lower export payments. This may reflect information failures or shrouded pricing, where prices differ materially from customers' original expectations. These concerns were raised but were difficult to substantiate within the scope of the review.

285. These issues relate primarily to electricity market design, pricing regulation, and retailer behaviour. While they fall outside the scope of this review, they are relevant to the overall value proposition of solar and may warrant further consideration by the Electricity Authority and other system regulators.

Regulatory practice not reflecting consumer experience

286. The review did not have time to delve deeply into the regulatory practices of regulators in the sector. However, we saw a recurring gap between how some requirements are designed and how they play out in practice for consumers. In several cases, we found that whilst there are in theory rules in place intended to address certain issues there appeared to be limited visibility and awareness that those rules are not consistently followed on the ground.

Requirements on paper only work if they are applied. Updating requirements, on its own, is unlikely to change outcomes unless it is paired with active monitoring, engagement, and a clear focus on how behaviour changes in practice.

287. The review surfaced examples of delays, workarounds, or non-compliance affecting consumers that did not always match regulators' existing intelligence, which often relies heavily on input from sector participants. While industry perspectives are important, they do not always reflect the day-to-day experience of consumers or frontline workers.

288. We also observed that engagement approaches can make it difficult for consumer voices to be heard. Regulatory requirements, such as the Code, and consultation documents are often long, technical, and written for an expert audience. This makes it harder for individuals, such as households looking to install solar or electricians carrying out installations, to engage meaningfully, even where they are directly affected. As a result, there is a risk that regulatory settings are shaped more by those with the time, expertise, and incentives to participate, rather than by a balanced view of how the system is working overall.

289. Taken together, these factors can create a disconnect between regulatory intent and real-world outcomes. Strengthening direct engagement with consumers and frontline workers, alongside more systematic monitoring of how requirements are actually applied, would help close this gap and support more effective, practical regulation.

Fragmented regulatory responsibilities

290. The energy sector is regulated by several agencies with different roles, including MBIE, WorkSafe, the Electricity Authority, the Electrical Workers Registration Board, and EECA. Each has a clear legal function, but the overall system is spread across multiple organisations and laws. This makes things more complex for participants, including consumers, and can lead to overlaps, gaps, and inconsistent application of requirements. These issues are not unique to solar and reflect wider features of the energy regulatory system.

291. More broadly, the way responsibilities are set up makes it harder to take a whole of system view. Agencies are mainly focused on delivering their own mandates, such as safety or market performance. Over time, this has led to a system that has grown more complex and less joined up which can limit coordination and make it harder to respond to issues that cut across the system. This may also help explain why there is limited visibility across agencies of how costly and time-consuming the end-to-end customer journey can be. These institutional issues affect the wider energy sector, not just solar, and are therefore outside the scope of this review.

Appendix A: Personas

Common regulatory steps to install small-scale solar

Ministry for Regulation
Te Manatū Waeture

Regulatory steps commonly required to install small-scale solar – for a homeowner

Note this is a composite persona that represents regulatory steps that a small-scale solar installation may encounter. It does not include time for the physical installation of the solar panels. The new process assumes all review recommendations are adopted.

Ariana is a homeowner in a suburban town who wants to install rooftop solar which will cover approximately 40m2.

"I want to install solar to reduce the cost of my electricity bills and to sell some solar power back to the electricity network."

~~$640~~ > $200

~~3 months~~ > 6 days

Solar installer designs the system for Ariana

Solar installer contacts Electricity Distributor (EDB)

- Solar installer applies to the local EDB, which costs $140.
- The EDB doesn't have access to the low-voltage network data for Ariana's area so there is a delay in processing the application.
- Approval is granted to connect to the network after 10 days.

NEW PROCESS:

1. The installer applies to the EDB.
2. The EDB has access to the network data and the process is largely automated so the application is approved within one day.

~~$140~~

~~10 days~~ > 1 day

Installer installs the solar panels on Ariana's house

Independent electrical inspection

- Due to limited availability of inspectors, an inspector is not available for 20 days.
- The inspector arrives, inspects the solar installation, and approves the installation. This costs $300.
- The inspector provides the Record of Inspection (ROI) to the EDB after an additional 15 days.

NEW PROCESS

1. The installer that Ariana uses is an accredited installer recognised by EECA, so inspections are not required for all installations.
2. Ariana's installation is not selected for a 'spot check' inspection.
3. The installer can sign off on the installation without an inspection.

~~$300~~

~~35 days~~

Meter upgrade

- Ariana contacts her electricity retailer about exporting energy generated from her solar installation.
- The retailer informs Ariana that she needs a meter upgrade.
- Ariana enters the queue (40 days) for a meter upgrade.
- Two weeks into the wait Ariana finds a retailer offering her a better rate for selling her surplus solar energy back to the grid so decides to swap retailers.
- The new retailer uses a different metering company. Ariana is placed at the back of the queue for a meter upgrade with this new metering company and has to wait 40 days. The upgrade costs $200.

$200

~~20 days~~ > 5 days

NEW PROCESS:

- Ariana contacts her electricity retailer about exporting energy generated from her solar installation.
- The retailer informs Ariana that she needs a meter upgrade.
- Ariana chooses a meter company that can install the meter within a week.

Solar system goes live

Appendix A: Personas

Common regulatory steps to install medium-scale solar

Regulatory steps commonly required to install medium-scale solar – for a farmer

Note this is a composite persona that represents regulatory steps that a medium-scale solar installation may encounter. It does not include time for the physical installation of the solar panels. The new process assumes all review recommendations are adopted.

Ministry for Regulation
Te Manatū Waeture

James is a rural dairy farmer who wants to install solar panels on the roof of his milking sheds, with a capacity of 100kW which will be larger than 40m2.

"I want solar panels to help power my 400-cow dairy farm"

~~$11,000~~ > $1,300

~~6 months~~ > 1 month

Solar installer designs the system for James

Solar installer contacts Electricity Distributor (EDB)

- The solar installer applies to the local EDB, which costs $1540.
- The EDB checks the limited low-voltage network data it has and visits James' farm to check the connection point at a cost of $1850.
- Application is approved.

NEW PROCESS:

1. Solar installer applies to the EDB ($770), they have visibility of the data so can design the installation accordingly.
2. EDB has full access to the data so can quickly process the application.
3. The EDB approves it within five days.

~~$3,390~~ > $770

~~30 days~~ > 5 days

Building consent

- James applies for building consent. He does not need a building consent if it is reviewed by a chartered professional engineer, but this information is not clear to James, so he applies for a building consent to be safe.
- Council requests more information.
- James provides more information.
- Building consent is approved.

~~$1,500~~

~~16 days~~

Solar installer applies for resource consent

- James hires consultants to help with the resource consent application
- James applies for resource consent in parallel with the application for building consent.
- Council requests more information.
- James provides more information.
- Resource consent is approved.

~~$5000~~

~~30 days~~

Can be done in parallel to building consent

Installer installs the solar panels on James' milking shed

Independent electrical inspection

- Due to limited availability of inspectors and the rural location, an inspector is not available for 30 days.
- The inspection costs $300 but as James lives in a rural area the inspector charges an additional $300 to cover travel expenses.
- Inspector inspects and approves the installation.
- Inspector provides the Record of Inspection (ROI) to the EDB after an additional 15 days.

NEW PROCESS:

1. The installer that James used is an accredited installer recognised by EECA, so inspections are not required for all installations.
2. The installation is not selected for a 'spot check' inspection.
3. The installer is able to sign off on the installation without an inspection.

~~$600~~

~~45 days~~

Independent building consent inspection

BCA inspects for building consent and issues a certificate of compliance

~~$0~~

~~3 days~~

Meter upgrade

- James contacts his electricity retailer about exporting energy generated from his solar installation.
- The retailer informs James that he needs a meter upgrade. There is a delay of 40 days for a meter upgrade.

$500

~~30 days~~ > 5 days

NEW PROCESS:

1. James contacts his electricity retailer about exporting energy generated from his solar installation.
2. The retailer informs James that he needs a meter upgrade.
3. James chooses a meter company that can install the meter within a week.

Solar system goes live

Glossary

A

Accredited installer — an installer who meets set requirements and is approved to carry out solar installations under a recognised scheme.

B

Building consent — approval required under the Building Act for certain building work, including some solar installations.

C

Certificate of Compliance (CoC) — a document issued by an electrician confirming that electrical work has been completed safely and meets legal requirements.

Connection approval — approval from an electricity distributor to connect a solar system to the electricity network.

D

Distributed generation (DG) — electricity generated at or near where it is used, rather than at large power stations (for example, rooftop solar).

Distribution network — the local electricity system of poles, wires, and equipment that delivers electricity to homes and businesses.

E

Electricity distribution business (EDB or distributor) — companies that own and operate the local electricity network (poles and wires) and approve connections to it.

Electricity retailer — a company that sells electricity to households and businesses and manages billing and customer accounts.

Electricity Authority — the regulator responsible for setting and enforcing the rules that govern the electricity market.

Electrical inspector — an independent person who checks that electrical work, including solar installations, is safe and complies with regulations.

Electrician (licensed) — a qualified professional authorised to carry out electrical work and certify it meets safety requirements.

Export (electricity) — electricity generated by a solar system that is sent back to the grid.

Export limit — a cap set by an EDB on how much electricity can be exported to the network from a property.

G

Grid — the network of power lines and infrastructure that delivers electricity from generators to consumers.

I

Import (electricity) — electricity taken from the grid by a household or business.

Installation Control Point (ICP) — the unique identifier used in New Zealand for an individual electricity connection to the distribution network.

Installer — a person or company that designs and installs solar systems. This may include electricians or specialist solar providers.

Inverter — a device that converts electricity from solar panels (DC) into usable electricity for homes (AC).

K

Kilowatt (kW) — a unit of power equal to 1,000 watts. It is commonly used to describe the size or capacity of a solar system.

Kilowatt-hour (kWh) — a unit of energy representing electricity used over time (for example, one kilowatt used for one hour).

L

Low-voltage network — the part of the distribution network that connects directly to homes and small businesses.

M

Meter — a device that measures how much electricity a property uses and (for solar) exports.

Metering provider (MEP) — a company responsible for installing, maintaining, and managing electricity meters.

Meter configuration — the setup of a meter to correctly record electricity imports and exports.

Multiple Earthed Neutral (MEN) system — the electrical grounding system used in New Zealand to manage electrical safety and fault currents.

P

Plug-in solar — a small solar system that can be plugged into a standard socket, rather than permanently installed.

Photovoltaic (PV) — technology used in solar panels to convert sunlight into electricity.

Prescribed electrical work — electrical work that must be carried out by a licensed professional under New Zealand law.

R

Resource consent — approval from a local council required for certain activities under planning rules.

Retail plan (electricity) — a pricing plan offered by an electricity retailer, including charges for electricity use and payments for exported solar electricity.

S

Smart meter — a digital meter that records electricity use (and export) and can send data remotely.

Solar panel — a device that captures sunlight and converts it into electricity.

Solar system (PV system) — a system of solar panels, inverter, and related equipment used to generate electricity.

Spot check (inspection) — a targeted or random inspection used to verify installation quality.

W

Watt (W) — a unit of power used to measure the rate of electricity generation or use.