



Electricity Engineers'  
Association

# **Solar Workshop 2026**

**Towards a national solar roadmap**

**Tuesday, 22 September 2026 · 1.15pm – 4.30pm · NZICC, Auckland**



Electricity Engineers'  
Association

# Welcome and aligning on the why

**Nicki Sutherland**

Electricity Engineers' Association, EEA

**Gareth Williams**

Chief Operating Officer, SEANZ

# Are we aligned on the vision?

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**Building a common industry vision to overcome technical barriers and enable greater solar uptake**

A coordinated pathway for safe, fair and technically efficient solar integration in Aotearoa New Zealand

## SCOPE

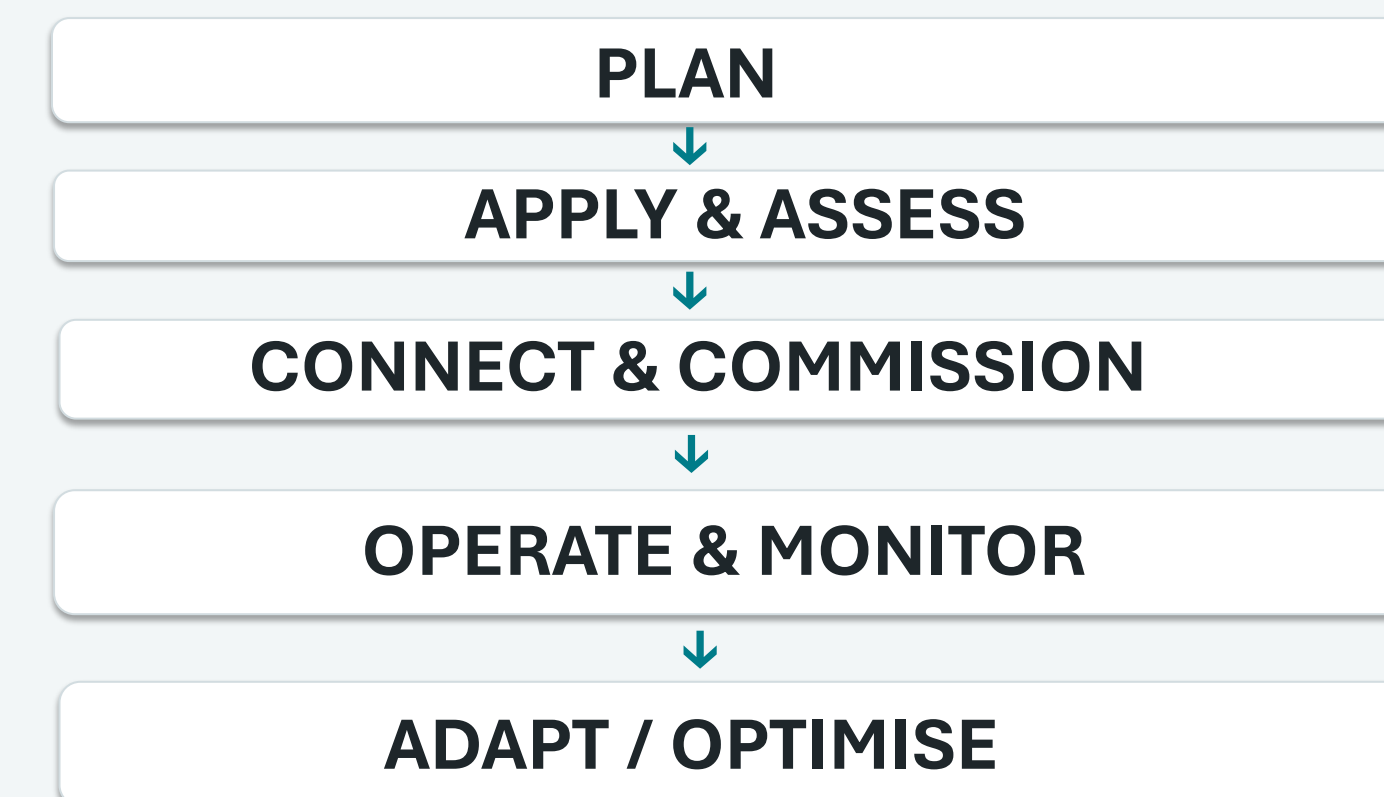
# Have we got the scope right — or have we missed something

### TECHNOLOGY / SYSTEM

- Solar PV
- Batteries / energy storage
- Inverters & controls
- Metering & network visibility
- Flexible loads
- Plug-in / EV interface
- Relevant off-grid interfaces

Primary focus: LV / residential, commercial and small-to-medium customers

### CONNECTION & OPERATION JOURNEY



Connection pathways:  $\leq 10$  kW  $\rightarrow$   $>10$ – $<300$  kW  $\rightarrow$  larger DG interface

**What should be IN? • What should be OUT? • What is MISSING?**

## PROBLEM STATEMENT

**Customer uptake and expectations are growing. But we lack a consistent approach to the way we connect, manage and enable solar**

### **01 CONSISTENCY**

Different approaches across customers, installers, EDBs, retailers, metering, standards and regulation.

### **02 NETWORK CAPABILITY**

Visibility, voltage, network constraints and export limits can restrict greater solar uptake.

### **03 CHOICES & TRADE-OFFS**

When should we use export limits, flexibility, storage or network reinforcement?

**Does this capture the core problem the Solar Roadmap needs to solve? What is missing?**

## OBJECTIVES

# If we get this right, what should the Solar Roadmap achieve?

### SAFE & RELIABLE

Network stability,  
power quality,  
worker and public  
safety

### VISIBLE & INFORMED

Better network  
visibility, data and  
understanding of  
capability

### CONSISTENT & SIMPLE

Clear, proportionate  
connection  
pathways, including  
ELAM/BELAM

### ENABLE MORE SOLAR

Safe use and export  
through self-  
consumption,  
storage, flexibility  
and appropriate  
network investment

### FAIR & CUSTOMER- CENTRED

Align technical  
requirements,  
commercial signals,  
customer choice and  
equitable access

**Are these the right outcomes? What would you add, remove or change?**

FROM ALIGNMENT → BREAKOUT

# Now we want to hear from you.

VISION ✓

SCOPE ✓

PROBLEM ✓

OBJECTIVES ✓

SLIDO

**Do not edit**  
How to change  
the design



**In ONE WORD, what is the biggest challenge to enabling greater solar uptake in New Zealand?**



The Slido app must be installed on every computer you're presenting from

**slido**



Electricity Engineers'  
Association

**Thank you to all the presenters  
and attendees for joining us today.**

**Enjoy today.**

# Alignment on planning and coordination

**Gareth Williams**

**COO SEANZ**

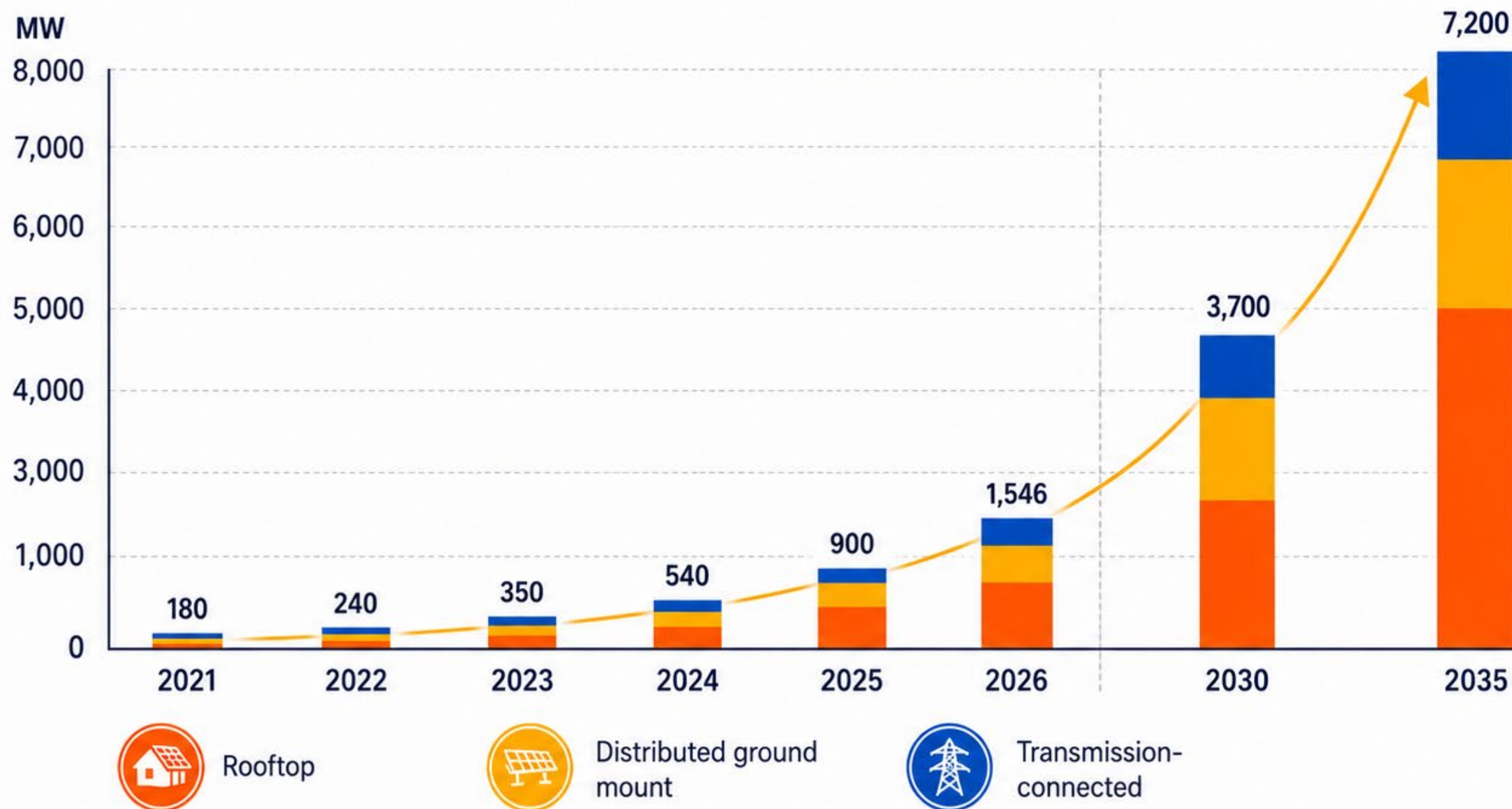


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# NEW ZEALAND SOLAR UPTAKE

HISTORICAL 2021–2026 | FORECAST 2026–2035



Source: Electricity Market Information (EMI)

## 2035 OUTLOOK

 **7.2 GW**  
Total solar capacity  
by 2035

 **8,830**  
GWh/year  
Estimated generation

 **13%** of 70 TWh  
National electricity  
demand

2026–2035 growth  
**↑ 4.7×**

Note: 2026–2035 values are forecasts



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# **Background Session 1**

## **Customer perspective on the challenge and opportunity**

**Installer/Customer Perspective on the Challenge & Opportunity**

Mark Eagles, Manager Quality and Standards, SEANZ

**Consumer behaviour and expectations**

Gareth Gretton, Lead Advisor, EECA

# Installer/Customer Perspective on the Challenge & Opportunity

**Mark Eagles**

**SEANZ  
Manager Quality and  
Standards**

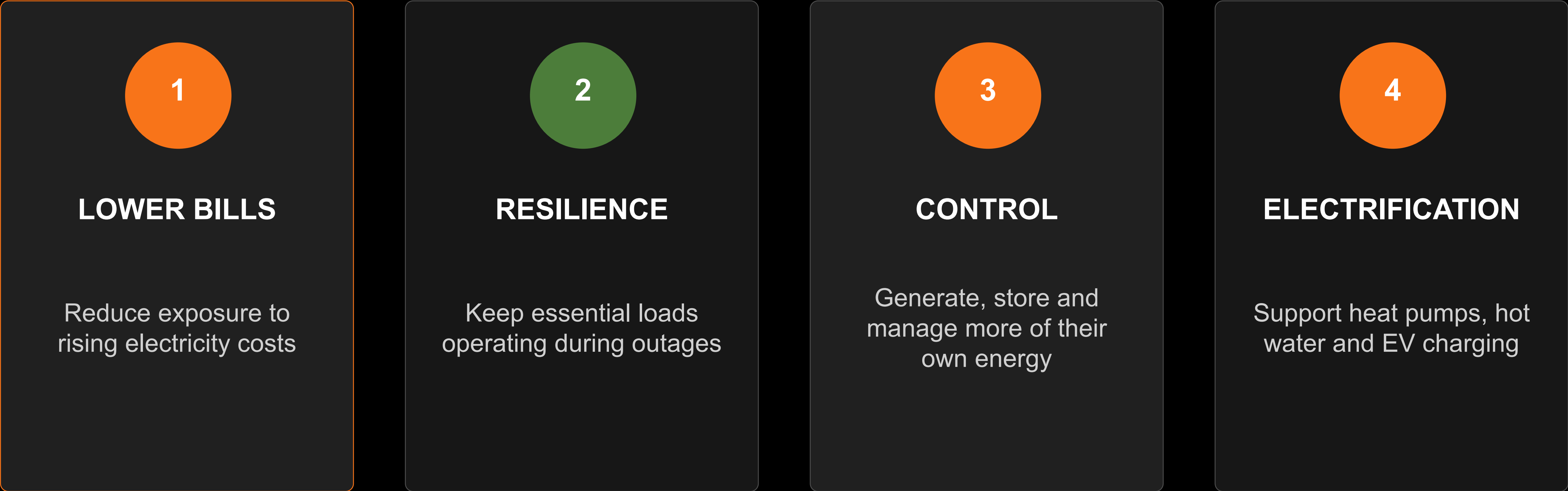
EEA/SEANZ Solar Workshop



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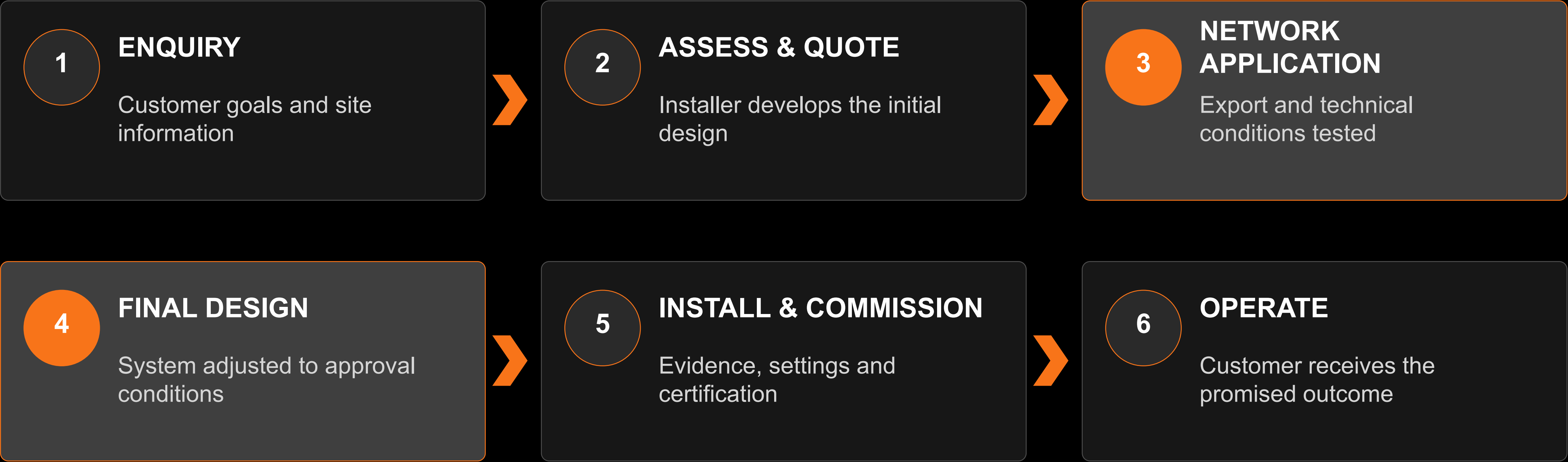
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# Customers do not buy solar. They buy outcomes.



Batteries are tools. The customer proposition is the outcome.

# Uncertainty enters before the panels reach the roof.



Where friction  
appears

Export capacity unknown when quoting • approval timing uncertain • conditions can trigger redesign • customer expectations must be reset

# Competent installers can manage requirements. Uncertainty creates the cost.

## 01 DIFFERENT PROCESSES

Forms, portals and application pathways vary between networks.

## 02 DIFFERENT SETTINGS

Export limits, inverter settings and control expectations can differ.

## 03 DIFFERENT EVIDENCE

Drawings, certificates, test results and commissioning records are not consistent.

## 04 DIFFERENT INTERPRETATIONS

Comparable installations can receive different technical treatment.

Installers need predictable inputs early enough to give customers a reliable design, price and timeframe.

# Installers are designing flexible energy resources, not simply solar systems.



**MANY CUSTOMER ASSETS  
ONE COORDINATED FLEXIBLE  
IRCE**

|                         |                                                     |
|-------------------------|-----------------------------------------------------|
| EXPORT<br>MANAGEMENT    | Respond to local network constraints                |
| PEAK REDUCTION          | Reduce demand at constrained times                  |
| LOAD SHIFTING           | Move energy use to lower-demand periods             |
| RESILIENCE              | Support essential customer loads                    |
| VIRTUAL POWER<br>PLANTS | Aggregate many resources through an aggregator      |
| FLEXIBILITY<br>SERVICES | Create value for customers, networks and the system |



# Three priorities for a national Solar Roadmap

1

## CONSISTENCY

A common baseline for applications, evidence, technical settings and connection pathways. Re-use information across networks.

2

## TRANSPARENCY

Clear requirements, export expectations, status and indicative timeframes before customers commit.

3

## FLEXIBILITY

Clear pathways for batteries, smart inverters, controllable demand, aggregators, VPP participation and flexibility services.

National consistency does not require identical networks. Genuine local differences should be visible, justified and known early.



# Many small resources. One coordinated flexible resource.

SAFE

FAIR

EFFICIENT

CUSTOMER-CENTRED

## THE ROADMAP QUESTION

How do we enable customer-owned energy resources to provide coordinated flexibility while maintaining a safe, fair and efficient electricity system?

Standardise what can be standardised. Publish genuine local differences. Avoid redesign after commitment.



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22 September 2026

# Consumer behaviour and expectations

EEA/SEANZ workshop

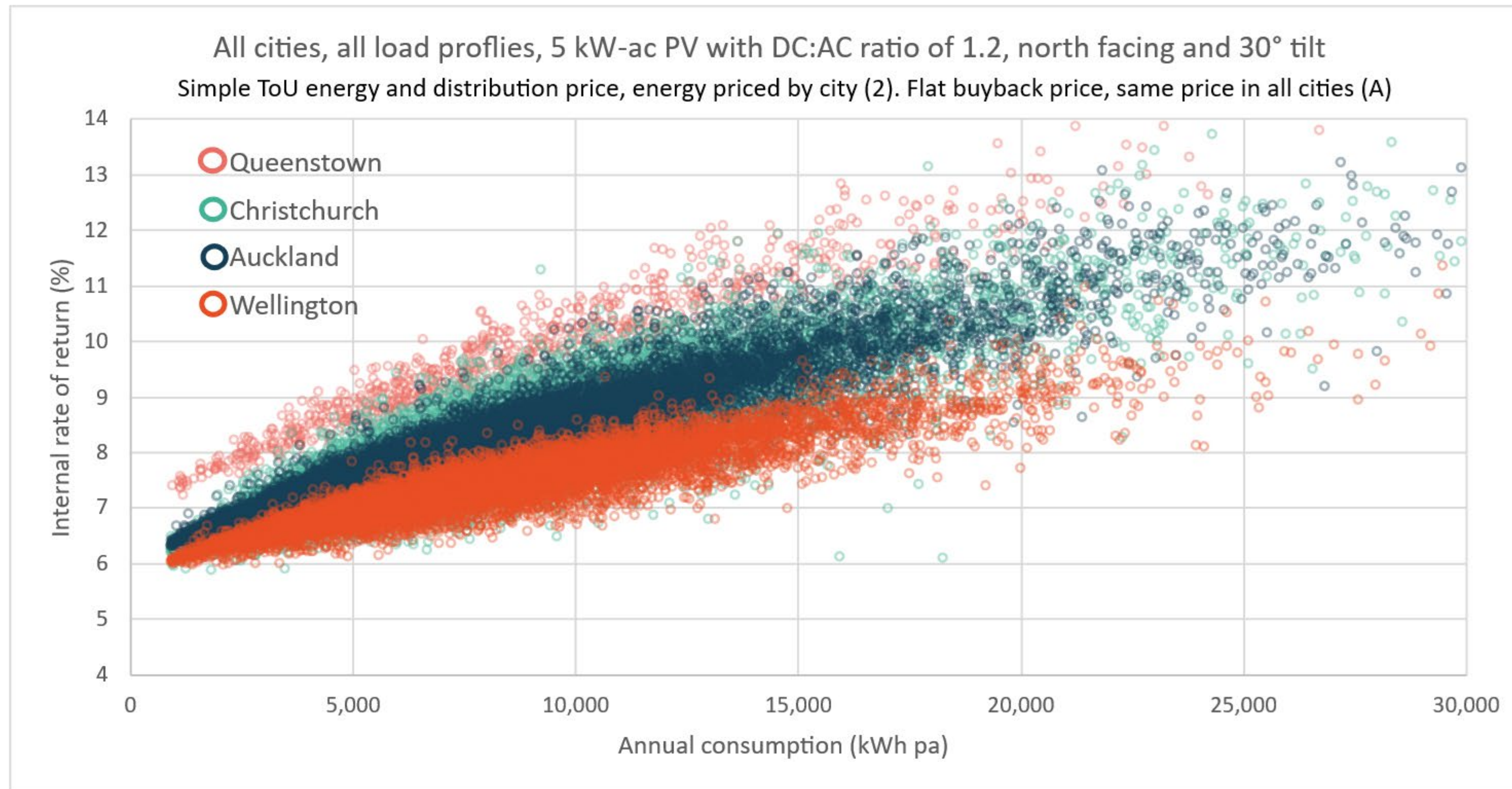
**EECA** ENERGY EFFICIENCY &  
CONSERVATION AUTHORITY  
TE TARI TIAKI PŪNGAO



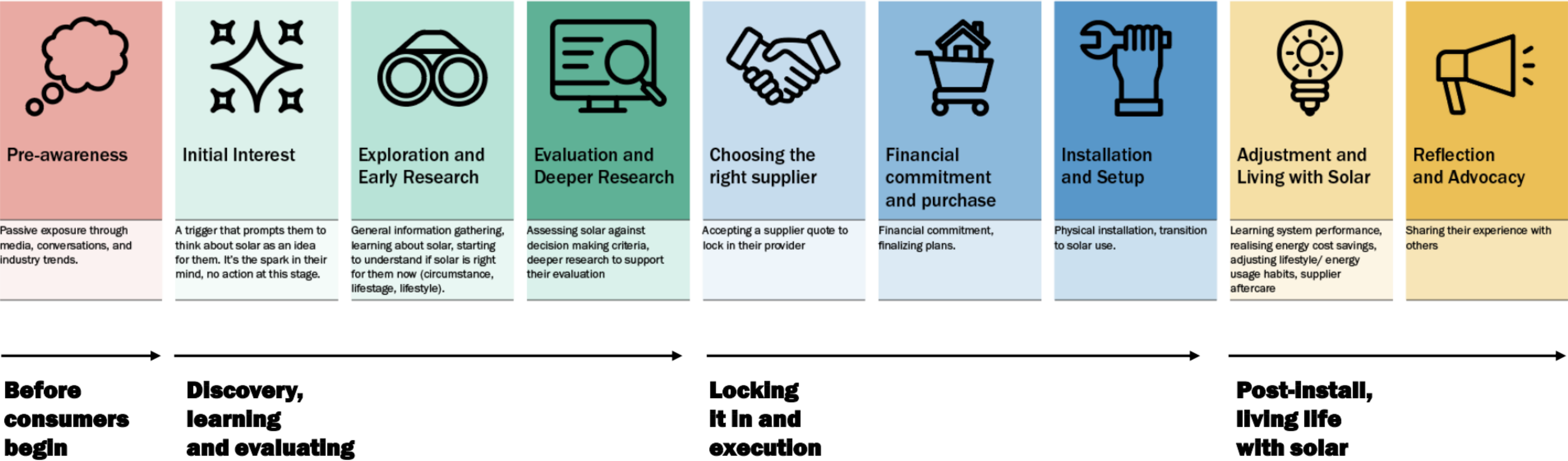
# EECA research

- Understanding the value
- Consumer journey
- Focus groups
- ‘Switch on solar’ evaluation
- Consumer Energy Monitor

# Understanding the value



# Consumer journey



# Focus groups

**1**

**High latent interest, low activation.**

Consumers like the idea of solar but treat it as a “someday” task.

Consumers rarely encounter solar messaging or see systems in their neighbourhoods, so solar doesn’t come to mind.

Perceived admin burden and complexity create inertia that prevents action.

**2**

**Outdated mental models.**

Consumers often formed impressions based on research they did years ago (long payback, poor buy-back rates, reliability concerns).

Since then, they have never received clear signals that the market or tech has improved.

**3**

**Payback and long term risk / reliability are decisive.**

When assessing costs and savings, most people are trying to assess ‘how long until this system pays for itself?’.

Shorter payback periods make the investment feel less risky, with less time for something to go wrong for the market to change.

Concerns about equipment failure / obsolescence exacerbate this.

**4**

**Peer endorsement is powerful.**

The most powerful source of evidence and confidence comes from speaking with a friend or neighbour who has had a system installed.

They give confidence about the actual return that can be achieved ‘in a house like mine’.

They can provide a real users perspective on the process and what to expect.

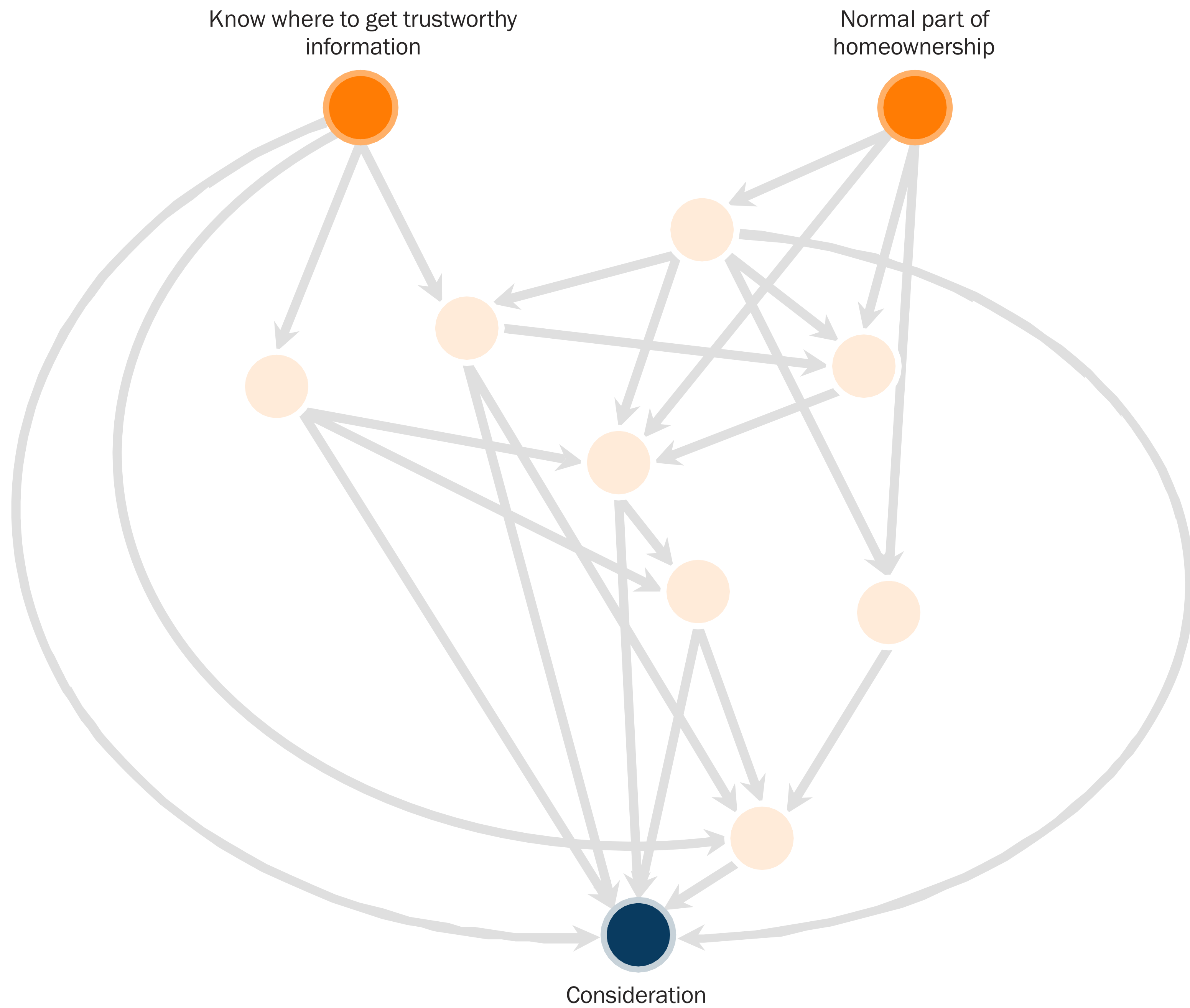
**5**

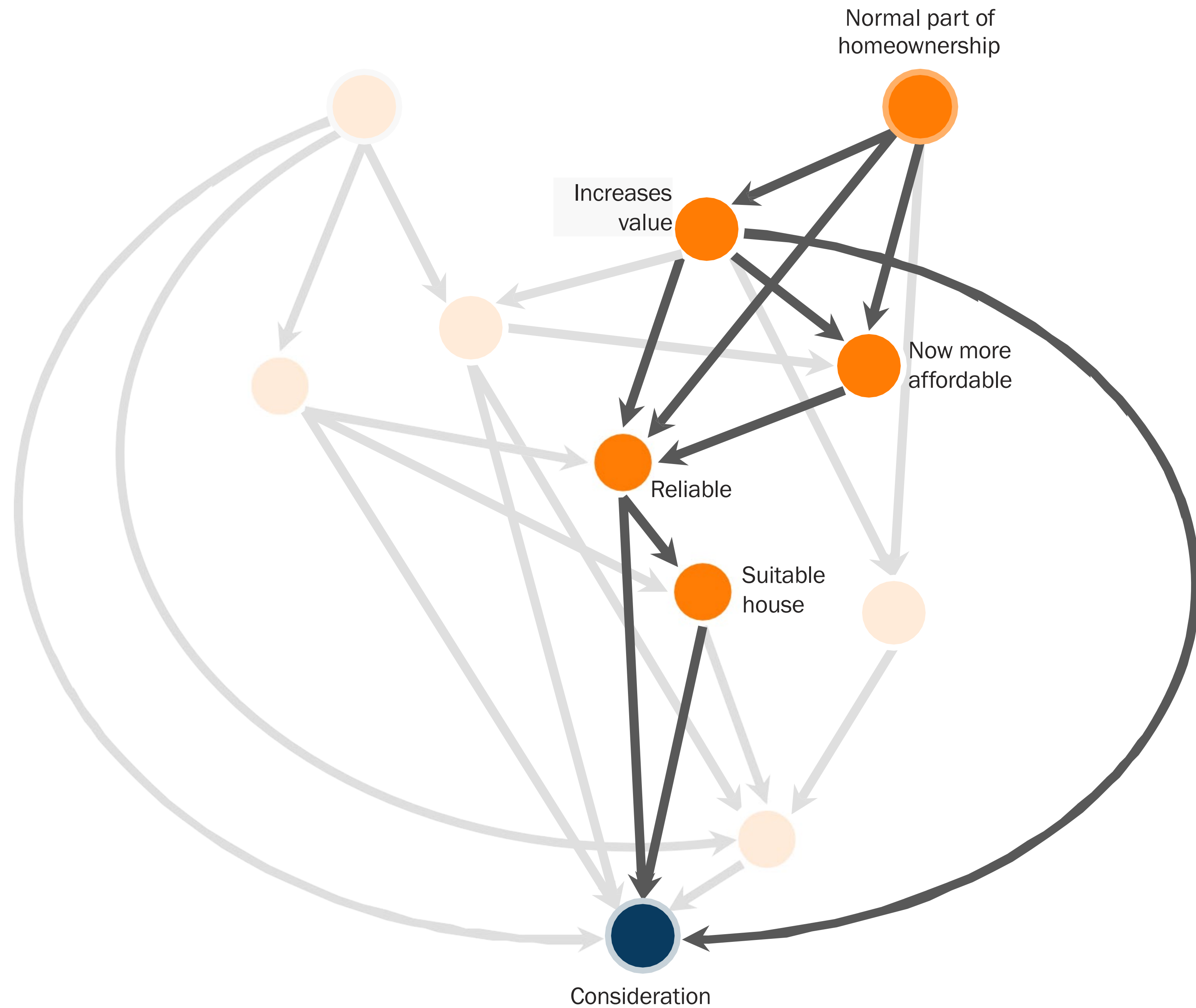
**Consumers would like to see signals that now is a good time.**

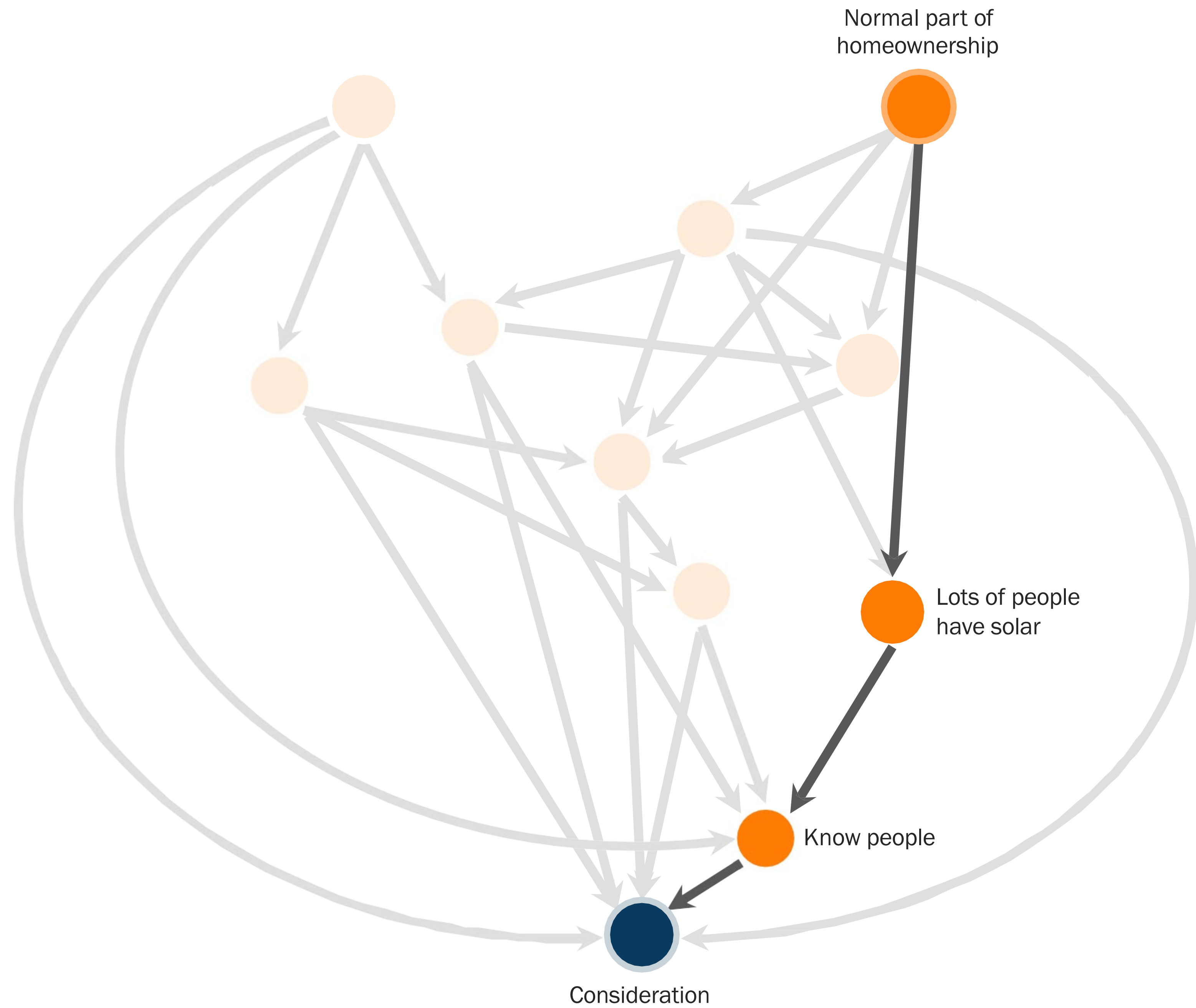
Consumers feel that solar is still in its early adopter phase. They would like to see signs that the technology and market has matured and is ready for broader adoption.

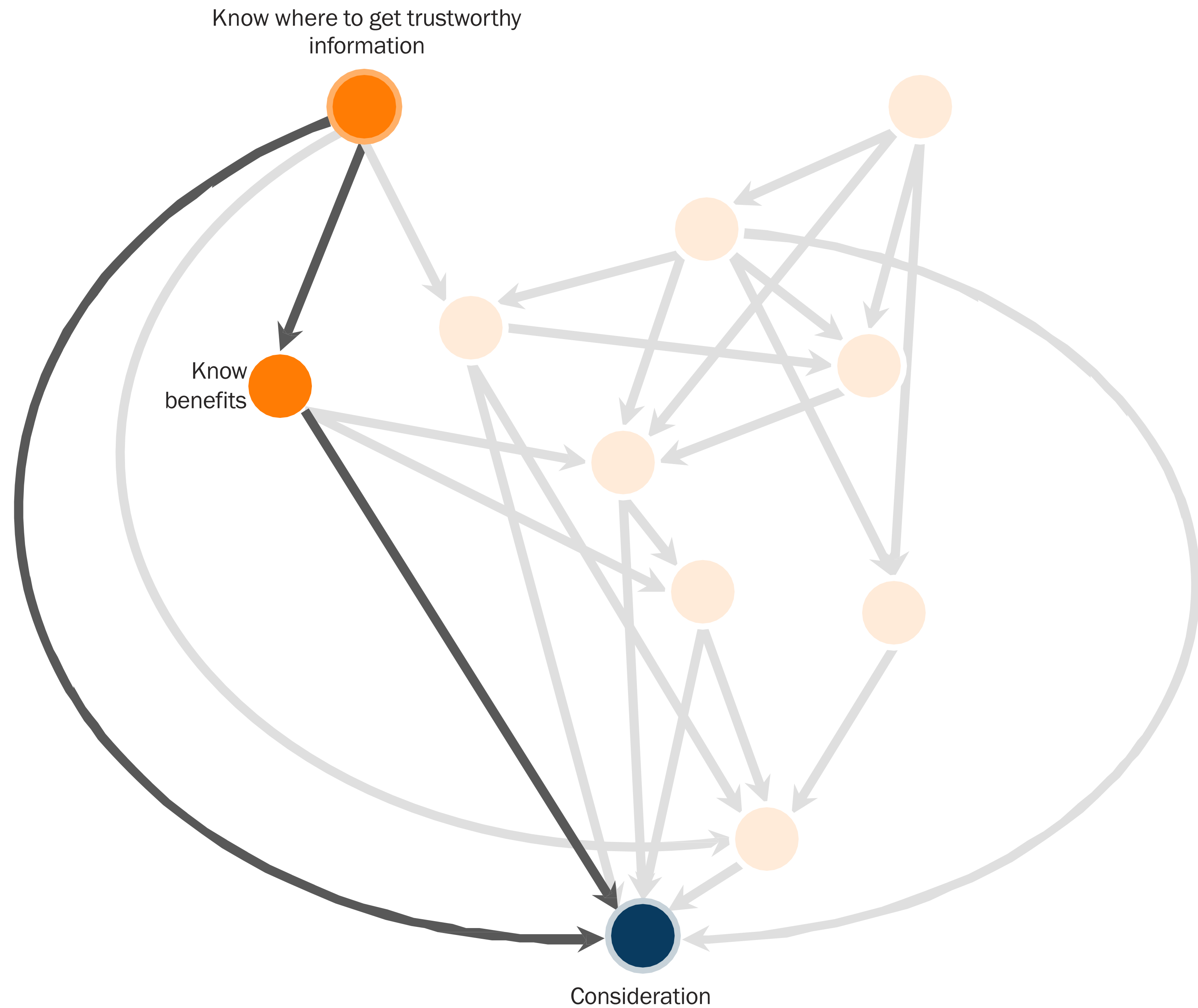
There is a belief that the government should play a role in this with communications, support or incentives.

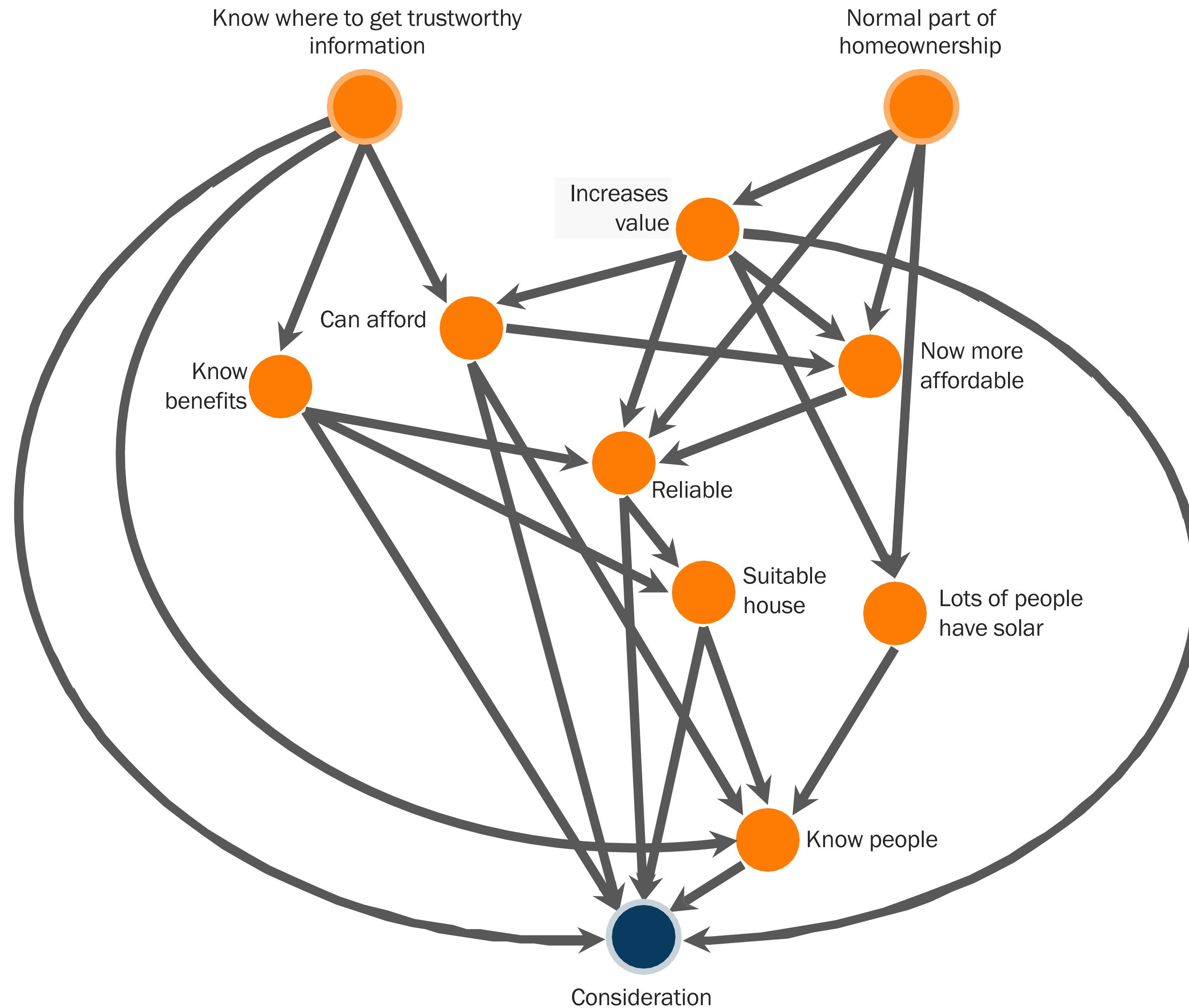
# ‘Switch on solar’ evaluation









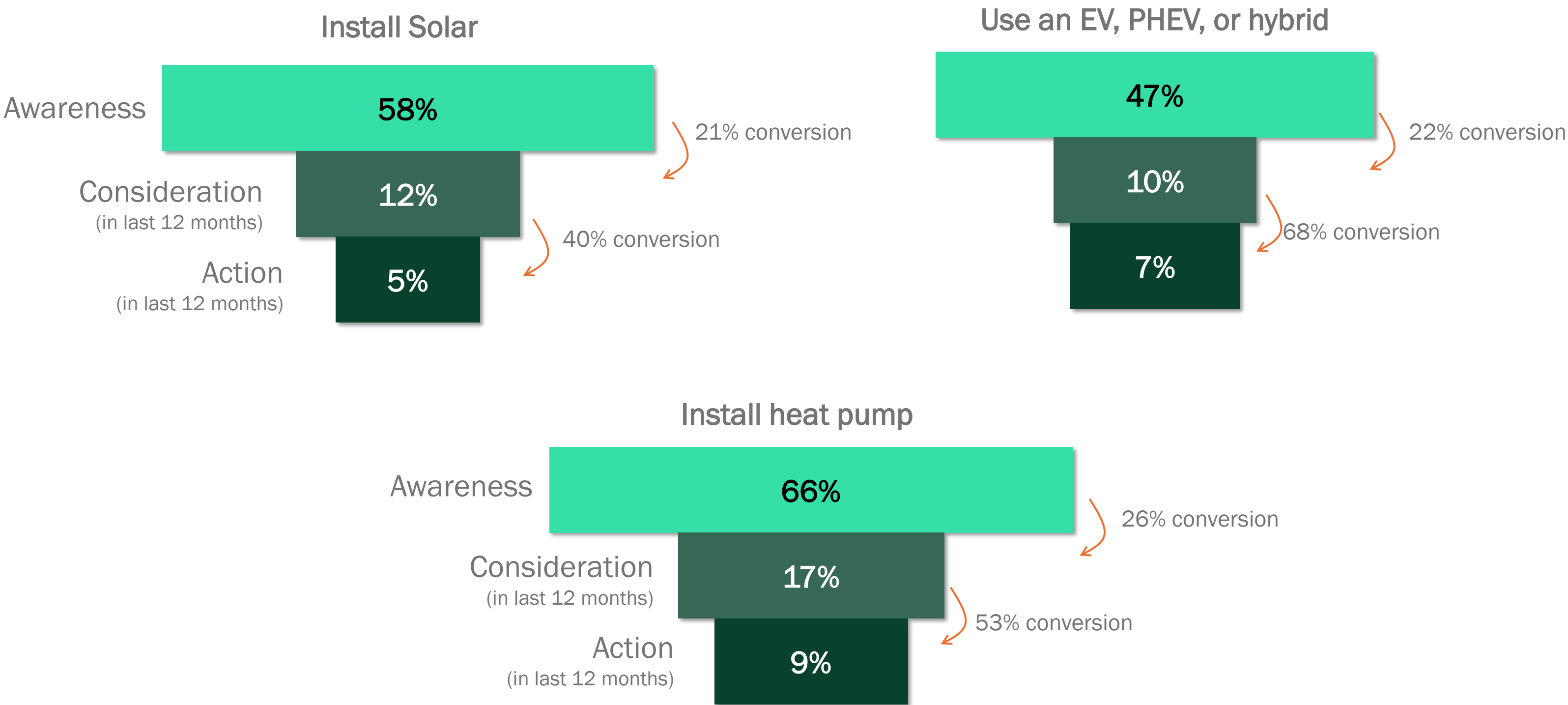


# Consumer Energy Monitor

For many major household energy investments, the largest drop often occurs between awareness and consideration. Many households know about these opportunities, but far fewer seriously investigate them.

For most of the mainstream technologies, consideration is the main bottleneck. Once these are seriously considered, conversation to action is typically quite high.

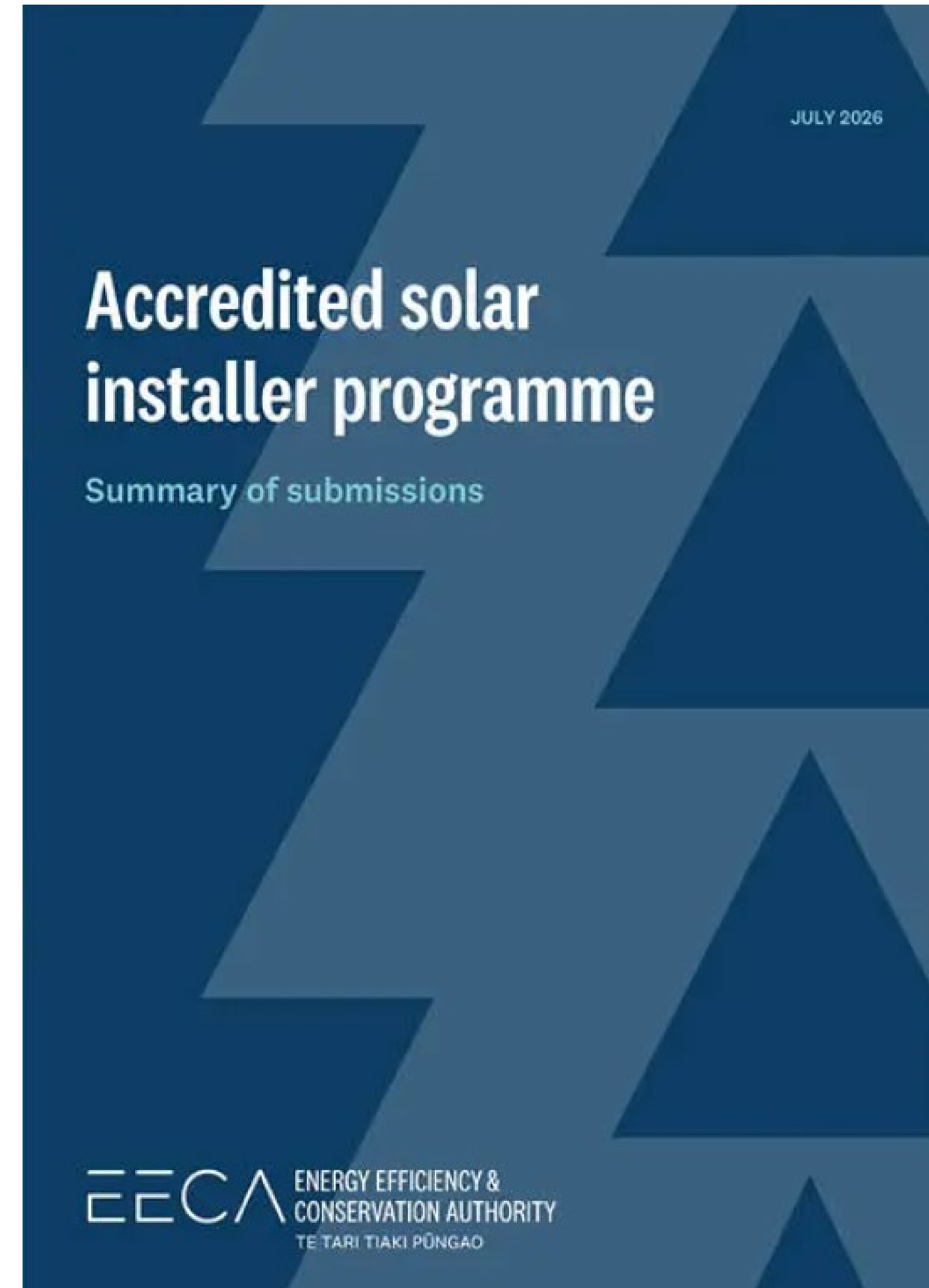
## Awareness-to-action conversion funnels



Source: ACTION\_DONE\_INVEST, ACTION\_CONSIDER\_INVEST & ACTION\_AWARE\_INVEST  
Base: Solar and heat pump – All homeowners (n=1,764), EV, PHEV or hybrid – All New Zealanders (n=3,009)  
Note: A table displaying conversation results for all investment actions is provided on Page 32



# Building confidence for consumers



An aerial photograph showing a residential neighborhood with many houses and lush green trees. In the foreground, a corrugated metal roof is covered with several large, dark blue solar panels. The image is framed by dark blue geometric shapes on the left and right sides.

# Ngā mihi

[eeeca.govt.nz](http://eeeca.govt.nz)

**EECA** ENERGY EFFICIENCY &  
CONSERVATION AUTHORITY  
TE TARI TIAKI PŪNGAO

## **Background Session 2**

# **Regulatory and market change**

**Regulatory change: enabling more solar and DER**

Dr Stuart Johnston, Principal Analyst , EA

**Current and Future Trends**

Gareth Williams, Chief Operating Officer, SEANZ

# Regulatory change: enabling more solar and DER

Electricity Authority – current and upcoming network connections work

**Dr Stuart Johnston | Electricity Authority**

Solar Workshop  
EEA2026 Conference • Auckland • 22 September 2026

# Our direction

-  **Easier connections**    Make distributed generation easier and more consistent to connect
-  **Use capacity better**    Enable greater use of existing network capacity
-  **Better visibility**    Improve transparency of network capacity and constraints
-  **Enable flexibility**    Remove barriers to solar, batteries and flexible DER

**From fixed connection rules → toward a more flexible, transparent and efficient connection framework**

# What has already changed

A stronger foundation for connecting solar and distributed generation

## Export limits

- Default 10 kW export limit for Part 1A connections
- Greater consistency across networks
- Reduces unnecessary constraints on small-scale DG
- Explicit Code provision for flexible and dynamic export limits

## ELAM / BELAM

- Common engineering approach to determining appropriate export limits
- ELAM – simpler / smaller DG connections
- BELAM – larger or more complex connections
- More transparent and consistent network assessment

## What this enables

- Better use of available hosting capacity
- A clearer basis for connection decisions
- A platform for moving beyond static limits where flexibility can safely unlock capacity

**The change is not simply a bigger export number — it is a more consistent engineering basis for deciding what the network can accommodate.**

# Improving the connection journey

Targeting the practical barriers faced by distributed generation applicants

## Small-scale DG process & application — Stage 2C

- Part 1 / Part 2 application thresholds
- Limits and thresholds applying by phase versus ICP
- Application processing timeframes
- Export metering process improvements

## Competition for physical works — Stage 2D

- Currently in scoping
- Potential to improve choice and efficiency in connection works
- Likely to be particularly relevant to larger DG installations and load connections

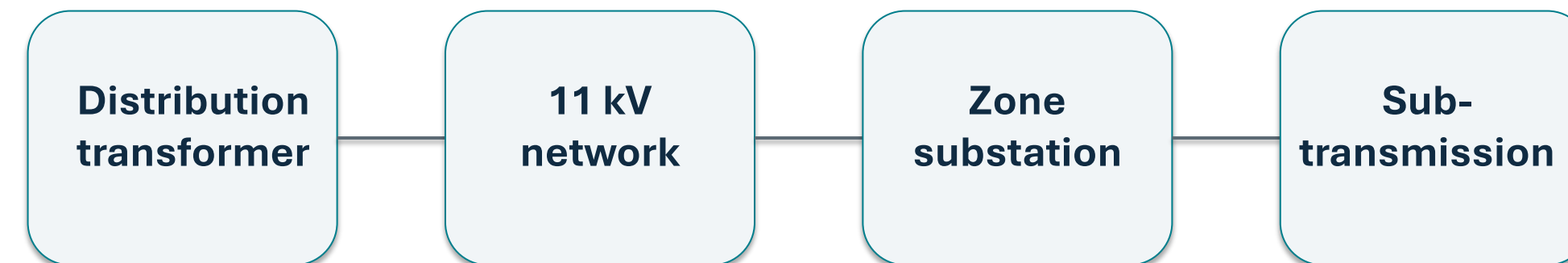
**Simpler processes + clearer rules + faster connections**

# Making network capacity visible

Helping applicants understand the network before they invest

## Network visibility work

**Initial focus: 11 kV and above**



- Network maps showing capacity and congestion
- Underlying data in a standardised, downloadable form

### Why this matters for solar

- See where capacity exists before applying
- Understand likely connection constraints
- Anticipate potential network upgrade requirements
- Compare upgrade cost with partial self-supply
- Assess storage, flexibility or demand response alternatives

**From “submit an application and find out” → “understand the network before making the investment decision”**

# Supporting different approaches to export limits

Creating a regulatory framework that enables networks to use the right approach for their circumstances

## Static export limit

- Fixed export limit
- Simple and appropriate in many circumstances
- Likely to remain part of the toolkit



## Flexible export limits

- Export arrangements can vary for defined circumstances
- Can unlock additional hosting capacity
- May suit some networks and connections



## Dynamic export limits

- Export limit responds to changing network conditions
- Can enable more responsive use of available capacity
- Some networks may move directly to dynamic limits

**These are not necessarily sequential steps — different approaches may coexist depending on network and connection circumstances.**

## Authority work

- Issues & Options paper on the regulatory approach to support EDB implementation of flexible and dynamic export limits
- Target release: by June 2027

## Current consultation

- Exploring how the Code should respond to plug-in generation
- Smart inverters, flexible/dynamic export limits and additional DG penetration

**Goal: enable more DER to connect, at lower cost, while using network capacity more efficiently and maintaining security and reliability.**



**THANK YOU**

# Current and Future Trends

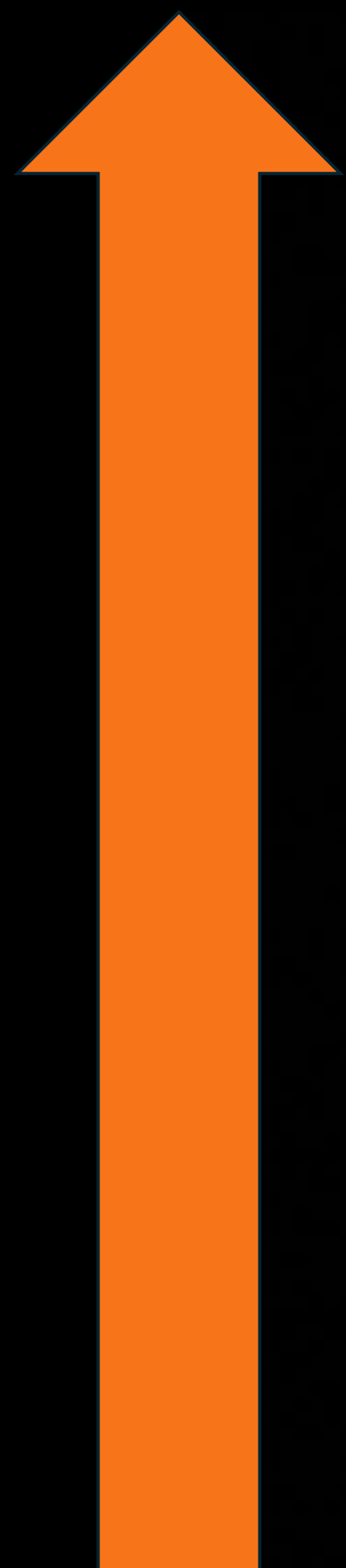
**Gareth Williams**

**COO SEANZ**



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**50% !!!**



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### TODAY'S SCHEDULE

- ✓ 6 x Residential Installs
- ✓ 2 x Battery Installs
- ✓ 1 x Commercial Site
- ✓ 3 x Service Visits

ALL ON TRACK

### INSTALLATION DASHBOARD

**JOBS COMPLETED**  
12  
Today

**ON SCHEDULE**  
100%

**CUSTOMER FEEDBACK**  
4.9  
★★★★★  
(128 reviews)

**UPCOMING JOBS**  
Tomorrow: 7  
This Week: 18

**SYSTEMS INSTALLED**  
Bar chart showing systems installed over the week (M, T, W, T, F). Values are approximately: M: 10, T: 15, W: 20, T: 25, F: 30.

### OUR PROCESS

- Plan
- Install
- Test
- Handover
- Happy Customer

### WHAT OUR CUSTOMERS SAY

“Excellent service from start to finish. Great team!”  
★★★★★  
– Sarah, Hamilton

Professional, on time and the system is perfect.  
★★★★★  
– Mike, Tauranga



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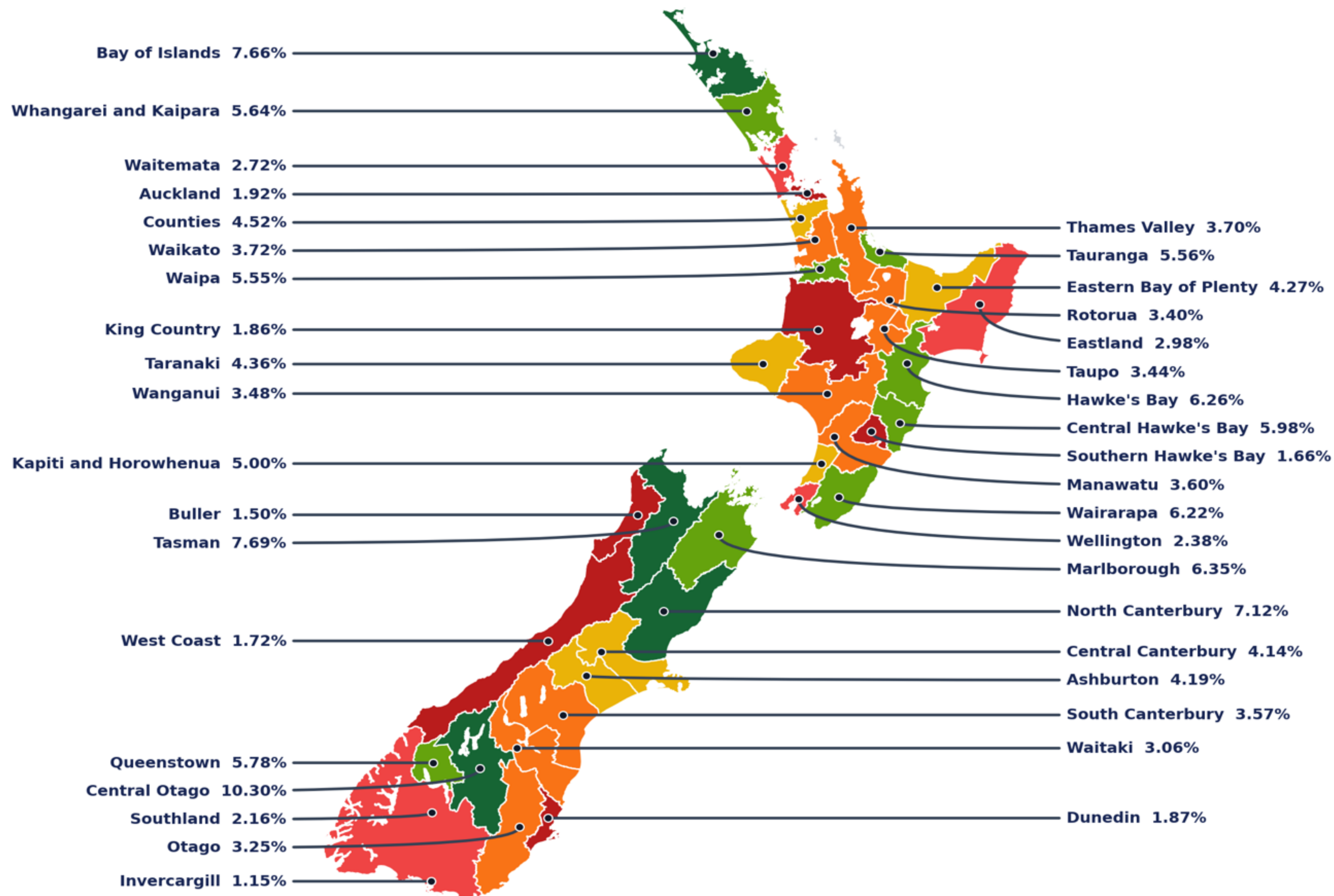
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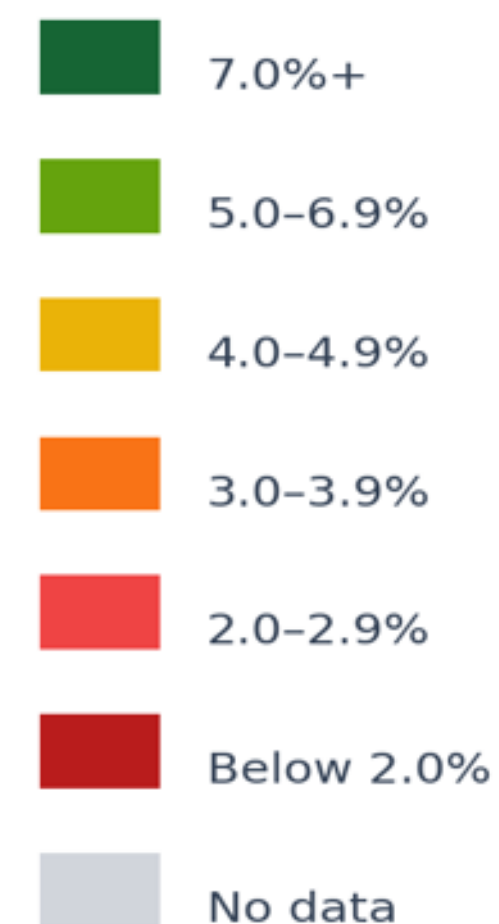
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### SOLAR UPTAKE



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## NEW ZEALAND

# 3.75%

OF SUITABLE ROOFTOPS  
HAVE SOLAR INSTALLED



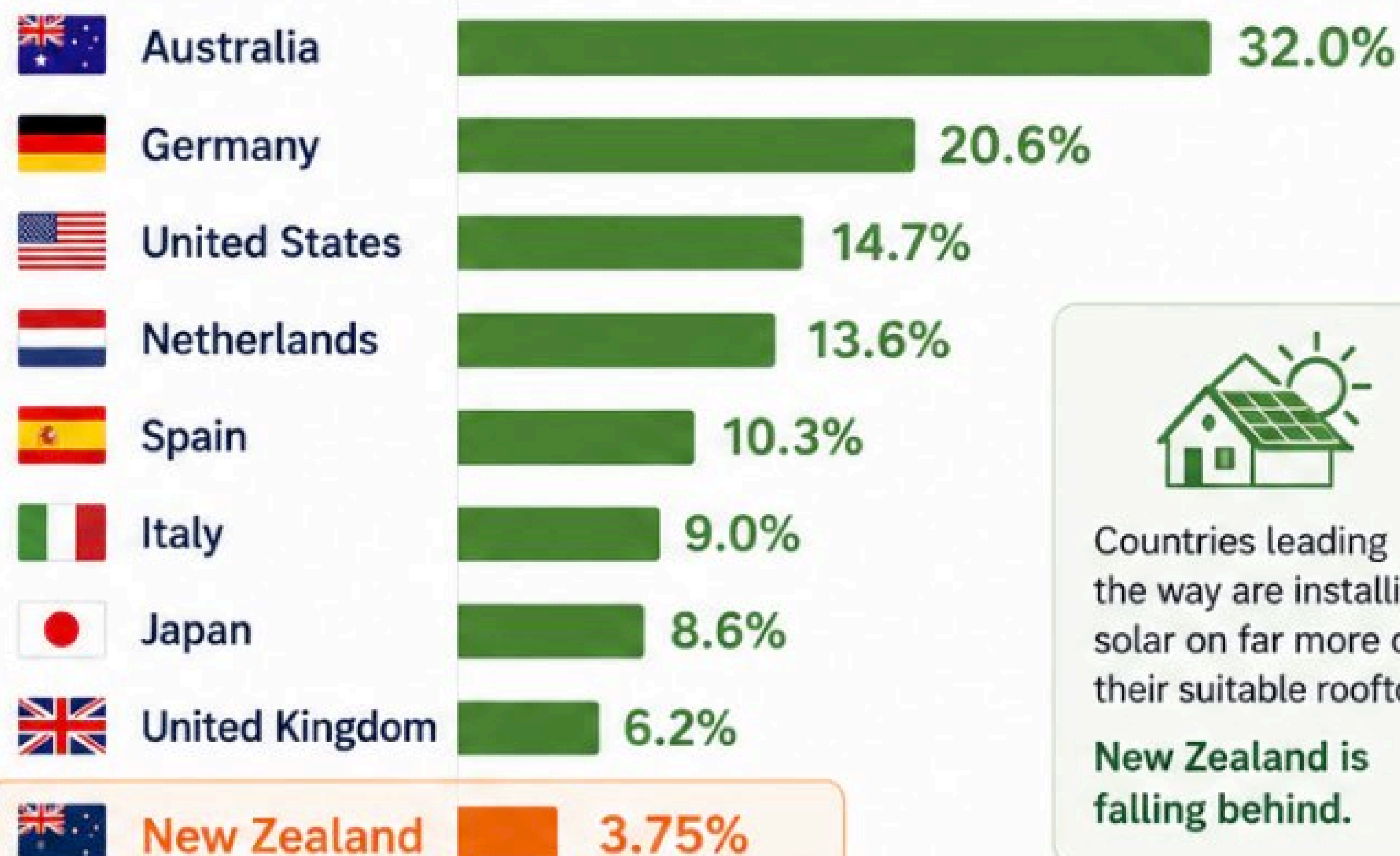
Only about **1 in 27**  
suitable rooftops  
in New Zealand  
have solar.

We have the sunshine.  
We're just not using it.

VS

## HOW NEW ZEALAND COMPARES

% of suitable rooftops with solar installed (2024)



Countries leading  
the way are installing  
solar on far more of  
their suitable rooftops.

**New Zealand is  
falling behind.**

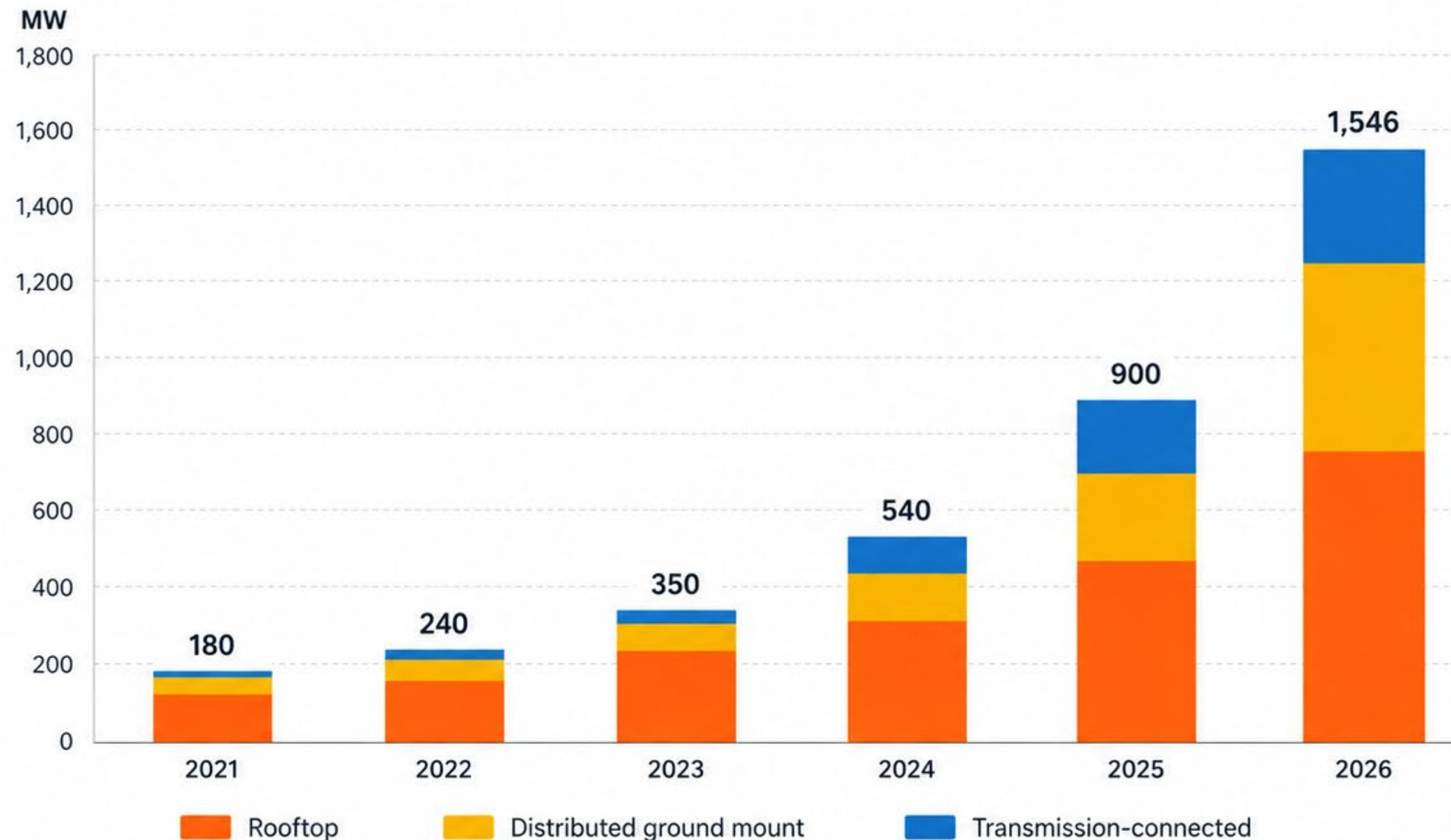


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# NEW ZEALAND SOLAR UPTAKE

JULY 2021 TO JULY 2026



Source: Electricity Market Information (EMI)

JULY 2026

**1,546 MW**

Total solar capacity



**1,280 MW**

Distribution-connected  
(EMI actual)



**266 MW**

Grid-scale / transmission-  
connected



**3%**

Of NZ's electricity  
generation



**7.6x**

Growth since  
July 2021

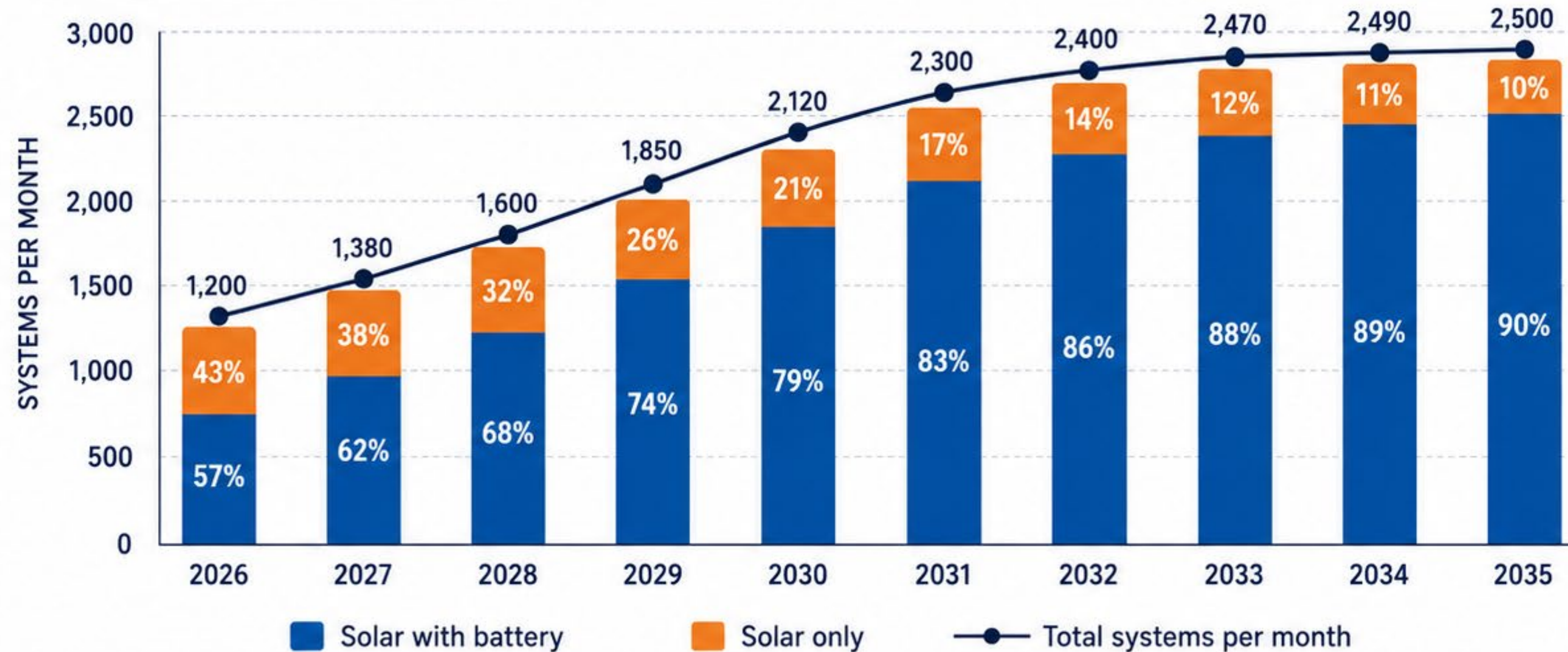


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# NEW ZEALAND RESIDENTIAL BATTERY UPTAKE FORECAST TO 2035

AVERAGE INSTALLATIONS PER MONTH



| SOLAR WITH BATTERY (%) | 57% | 62% | 68% | 74% | 79% | 83% | 86% | 88% | 89% | 90% |
|------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

## 2026 STARTING POSITION



**~1,200**  
systems/month

**57%**  
with battery

**43%**  
solar only

## 2035 FORECAST



**~2,500**  
systems/month

**90%**  
with battery

**10%**  
solar only



Sustained S-curve growth in battery uptake driven by falling costs, greater consumer awareness, energy independence and the increasing value of stored solar energy.

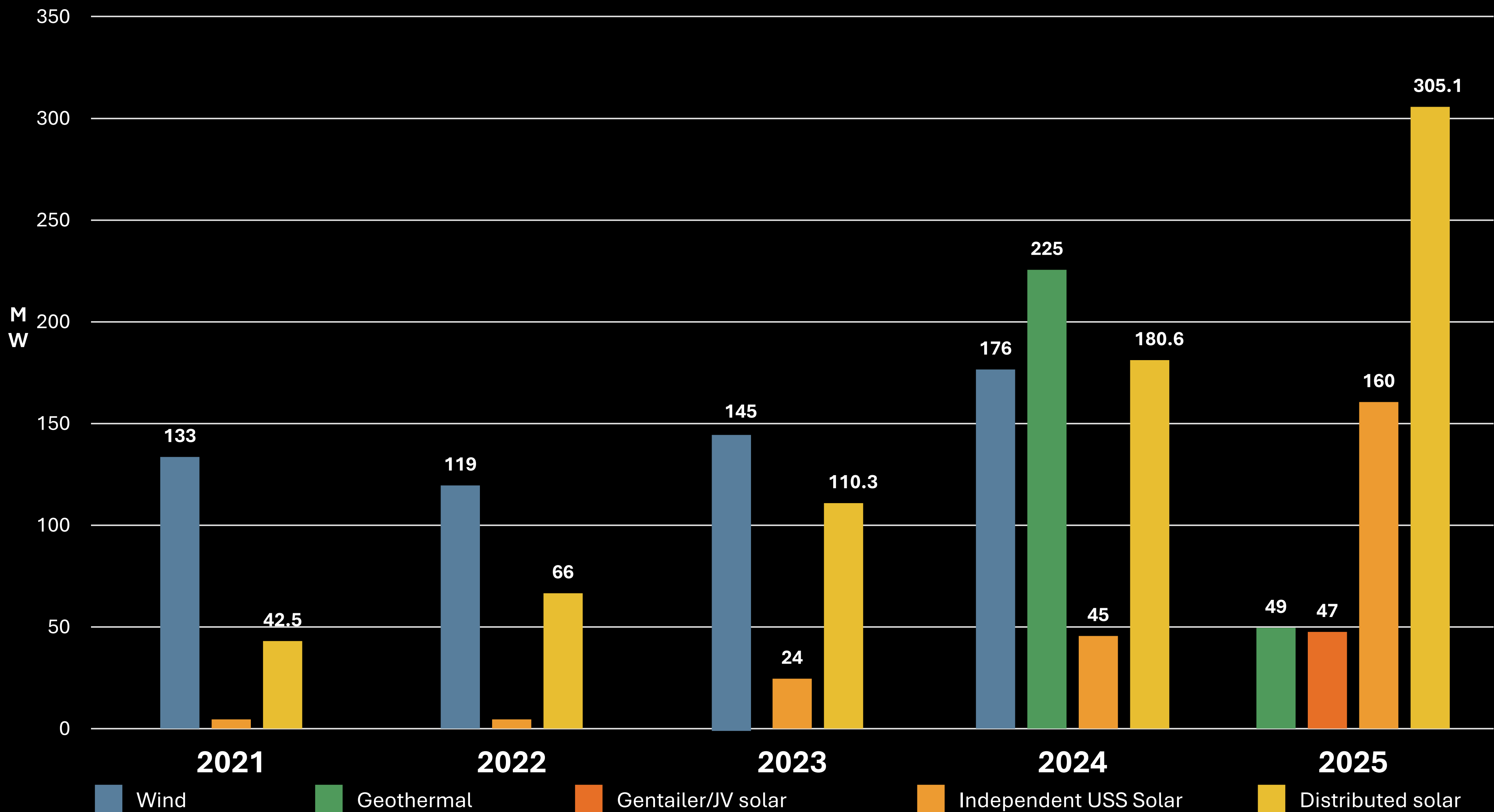
Source: SEANZ analysis of industry data and market trends



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# NEW GENERATION CAPACITY ADDED IN NEW ZEALAND



## 5-YEAR TOTAL

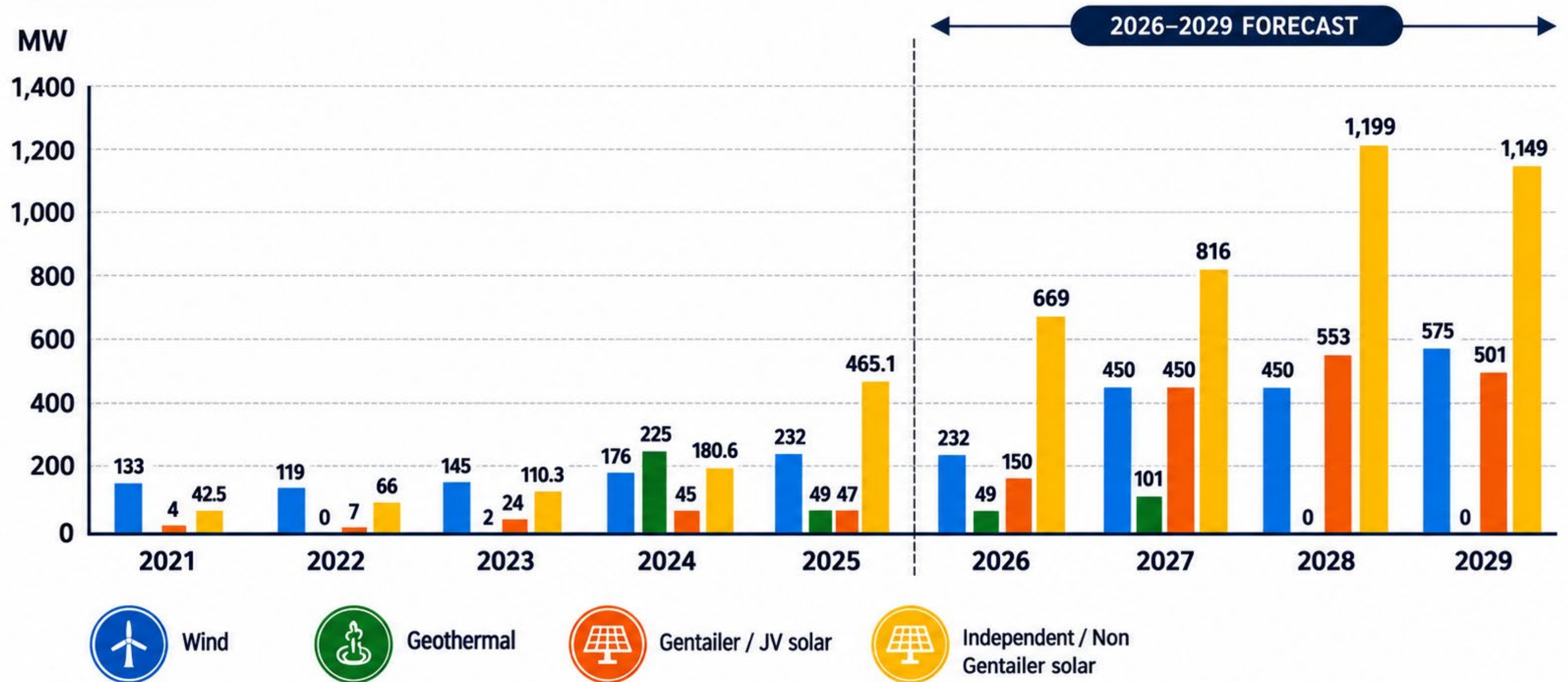
~1,836 MW added

|             |                       |       |
|-------------|-----------------------|-------|
| <div></div> | Distributed solar     | 38.4% |
|             | 704.5 MW              |       |
| <div></div> | Wind                  | 31.2% |
|             | 573 MW                |       |
| <div></div> | Geothermal            | 14.9% |
|             | 274 MW                |       |
| <div></div> | Independent USS solar | 12.9% |
|             | 237 MW                |       |
| <div></div> | Gentailer/JV solar    | 2.6%  |
|             | 47 MW                 |       |

ALL SOLAR ≈  
54%

# NEW GENERATION CAPACITY

HISTORICAL 2021-2025 | FORECAST 2026-2029



Source: Electricity Market Information (EMI)



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- “Excellent service from start to finish. Great team!”  
★★★★★  
– Sarah, Hamilton
- Professional, on time and the system is perfect.  
★★★★★  
– Mike, Tauranga

QUALITY WORK.  
SMARTER TOGETHER.



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## **Background Session 3**

# **Stocktake of work underway**

### **How Solar links to EEA workstreams**

Dennis Wang, Program Coordinator & Insight Analyst, EEA

### **EECA Solar Workstreams**

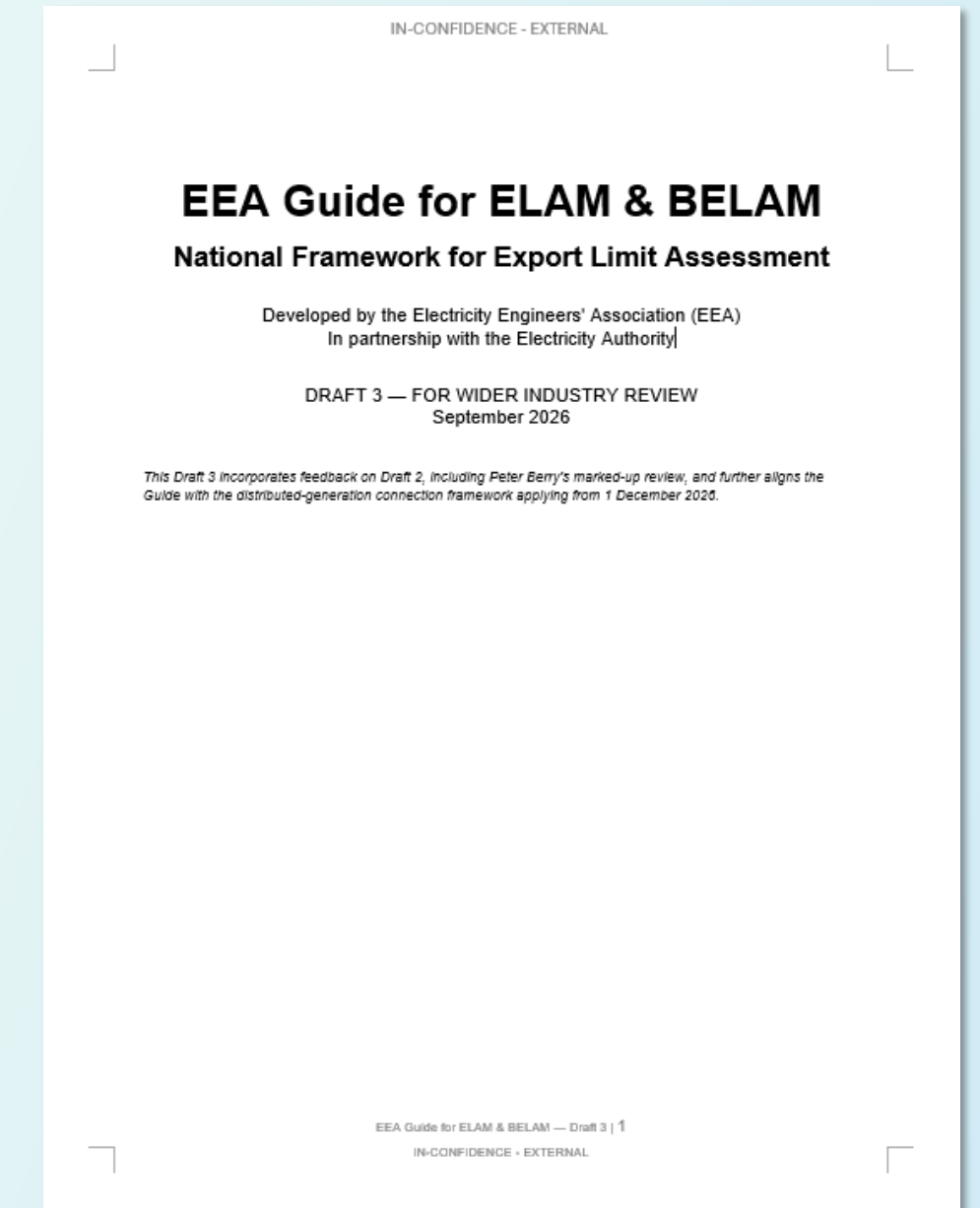
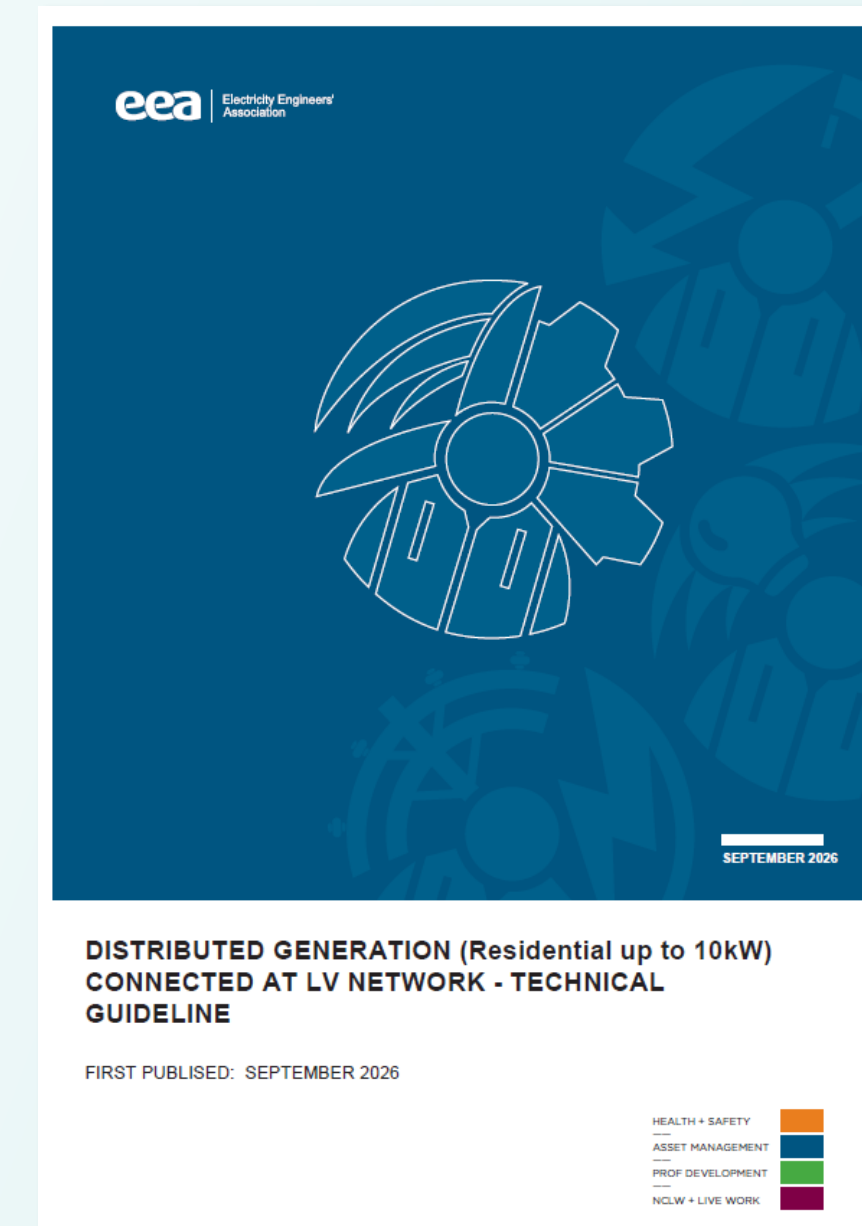
Stacey Fellows, Manager Solar Delivery, EECA

# EEA: How Solar links to EEA workstreams

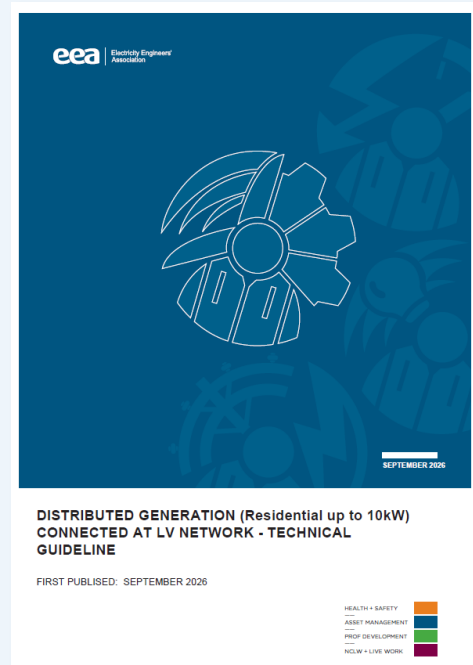
(DG Connections, ELAM / BELAM)

**Dr Dennis Wang**

Project Coordinator and Insights Analyst  
Electricity Engineers' Association



# Where these two programs came from

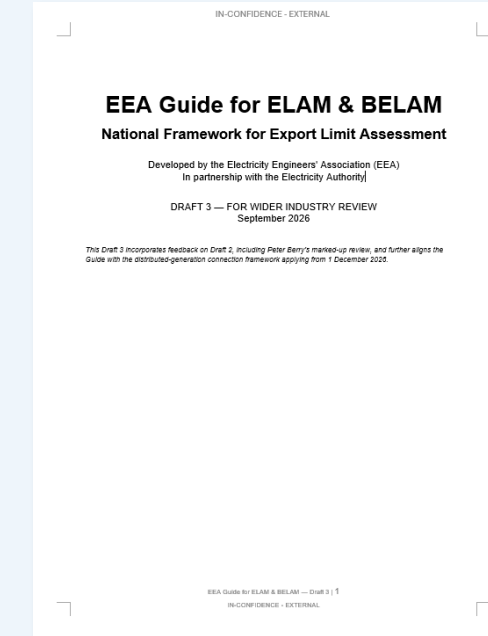


## DG Connections

EEA × EA × ENA

Streamlining Connections Programme

- Tiered national DER / DG connection technical guidelines (LV → MV → HV)
- Greater consistency across EDB connection processes
- Aligned with the EA's Code reform



## ELAM / BELAM

EEA × EA

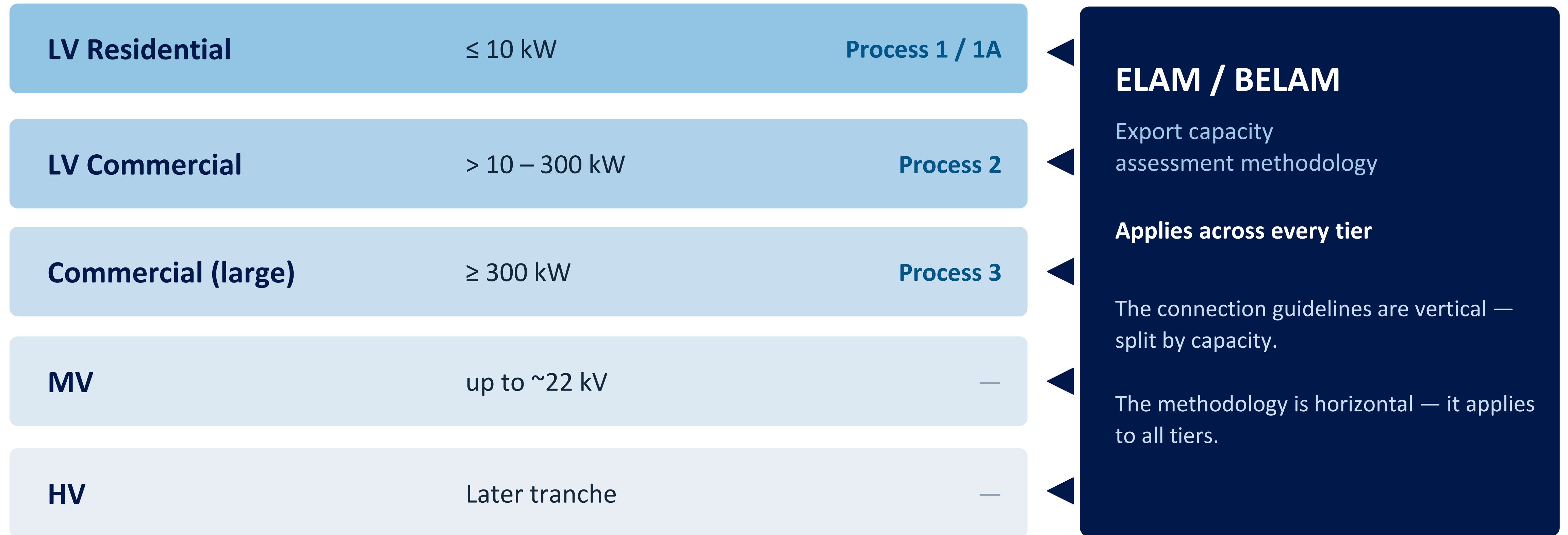
Supporting Code Part 6 implementation

- National engineering framework for export limit assessment
- Core methodology due before 11 November 2026

## Technology neutral in scope — a solar question in practice

Covers all export-capable DG, batteries included — but today the volume and the constraint are rooftop solar

# Where the two workstreams meet



Tier boundaries align with the new Schedule 6.1, in force 1 December 2026

# Progress

Residential ( $\leq 10$  kW) — from draft to publication



Not a regulatory instrument — industry-agreed minimum expectations. EDBs are expected to align as the minimum default basis, with any deviations technically justified, documented and made publicly available.

# What the guides look like

|                                                                                                                                           |                                                                                                                                                                   |                                                                                                                                                  |
|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>PART 1</p> <p><b>Process and roles</b></p> <p>Scope · Roles and responsibilities<br/>Regulatory context · Application and approval</p> | <p>PART 2</p> <p><b>Technical requirements</b></p> <p>Inverter settings · Protection · Export limits<br/>Power quality · Interoperability ·<br/>Commissioning</p> | <p>APPENDICES</p> <p><b>Practical tools</b></p> <p>Installer quick guide · Connection flowchart<br/>Solar PV commissioning guide · Templates</p> |
|-------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|

## Two guides now in shape, sharing one skeleton

|                    |               |                                                                                                                         |
|--------------------|---------------|-------------------------------------------------------------------------------------------------------------------------|
| <b>Residential</b> | ≤ 10 kW       | Fully standardised                                                                                                      |
| <b>Commercial</b>  | > 10 – 300 kW | Same skeleton, plus: network study on request · remote curtailment and interoperability · fuller commissioning evidence |

Signposted by role from the first page: installers / EDBs / manufacturers / customers



# Progress



## Two dates that aren't moving

**11 Nov 2026**

ELAM becomes mandatory

**1 Dec 2026**

New Schedule 6.1 in force

What is standardised is the principles, decision points and minimum outputs — not the calculation engine, software platform or network model.

# What the Guide covers

## CH 1 – 2

### Scope and principles

What is in and out of scope; how national consistency and EDB engineering discretion divide; technology neutrality

## CH 3 – 4

### Which path applies

ELAM is the standardised, repeatable method; BELAM is application-specific. Identify the Code process first, then the method and depth

## CH 5

### How it is assessed

One national sequence: define the connection → network state and scenarios → minimum coincident demand → voltage and thermal → protection and power quality screening → binding constraint

## CH 6

### How the outcome is set

Static / scheduled / condition-based flexible / dynamic; flexible export as an alternative to reinforcement; when reassessment applies

## CH 7

### What the applicant is told

How much, which constraint, on what assumptions, whether it can be reassessed, who to ask — plus the EDB's publication duties

## CH 8

### Assurance and evolution

Methodology version control, validation of automated methods, industry benchmarking and future revisions

**Appendices A – G: ELAM methodology template · Simplified BELAM · Full BELAM · Applicant outcome template · Worked examples · Assessor checklist · Glossary**

# Thank you

Every stage of these two guides has been built on your input and feedback.

From the forum workshops and public consultation to the templates and real network examples — the EEA cannot do this work alone.

**The work isn't finished, and we will keep needing your support. Please get in touch any time.**

**Dr Dennis Wang**

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22 September 2026

# EECA solar workstreams

EEA/SEANZ workshop

**EECA** ENERGY EFFICIENCY &  
CONSERVATION AUTHORITY  
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# EECA has a range of solar activity underway



- Community resilience energy fund
- Industry led accreditation
- Social proof of solar in action
- Updated solar and battery calculator
- Consumer information hubs
- Market engagement
- Gas transition support
- V2X trials
- Flex trials
- Standards support
- Approved product list
- Solar on farms
- Research and insights programme
- Solar on schools

# The impact of Schools, Farms and CREF

~730 sites - estimated capacity: solar PV ~ 20 MW + batteries 11 MWh



# Community Energy Resilience Fund



# Solar and battery demonstration farms

## Solar on farms programme

Confirmed as at 1 April 2026

**4008** <sup>(kilowatt peak)</sup> **kWp**  
Total solar capacity

## Overview of demonstration farms

**37**

Battery  
systems

**32**

Solar  
arrays

**14**

New Zealand  
regions

**10**

Farm  
types



## Farm type

- Dairy
- Horticulture
- Sheep & beef
- Mixed
- Arable
- Other livestock
- Viticulture
- Plant nursery
- Poultry
- Pig

# Farmers move through a journey when thinking about solar.

## AWARENESS

Solar could be an option.

## EARLY INTEREST

Is solar right for *my* farm?

## EARLY RESEARCH

How would this work on my farm?

## DEEPER EVALUATION

Does this stack up financially?

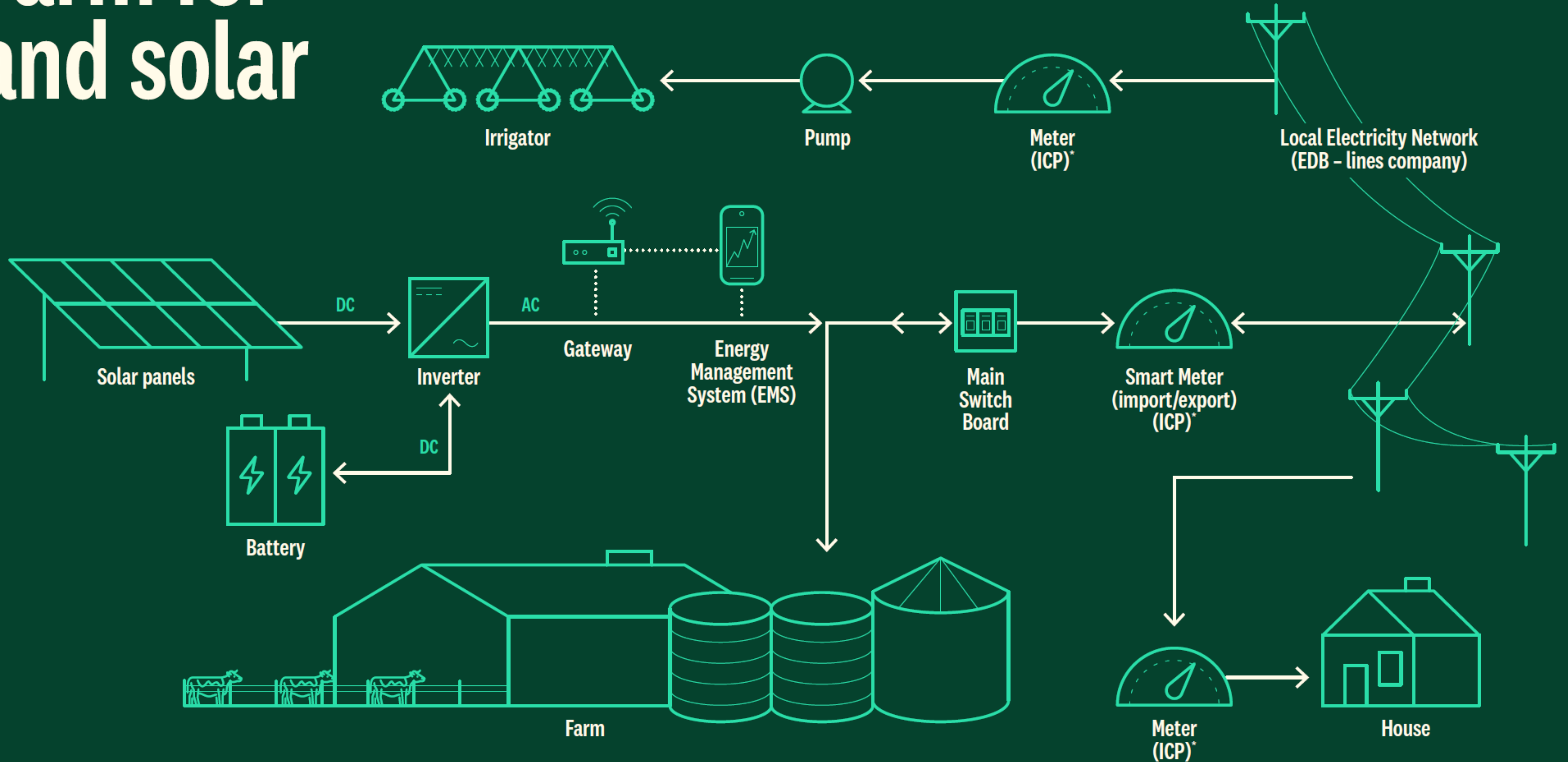
## DECISION

Is this the right investment?

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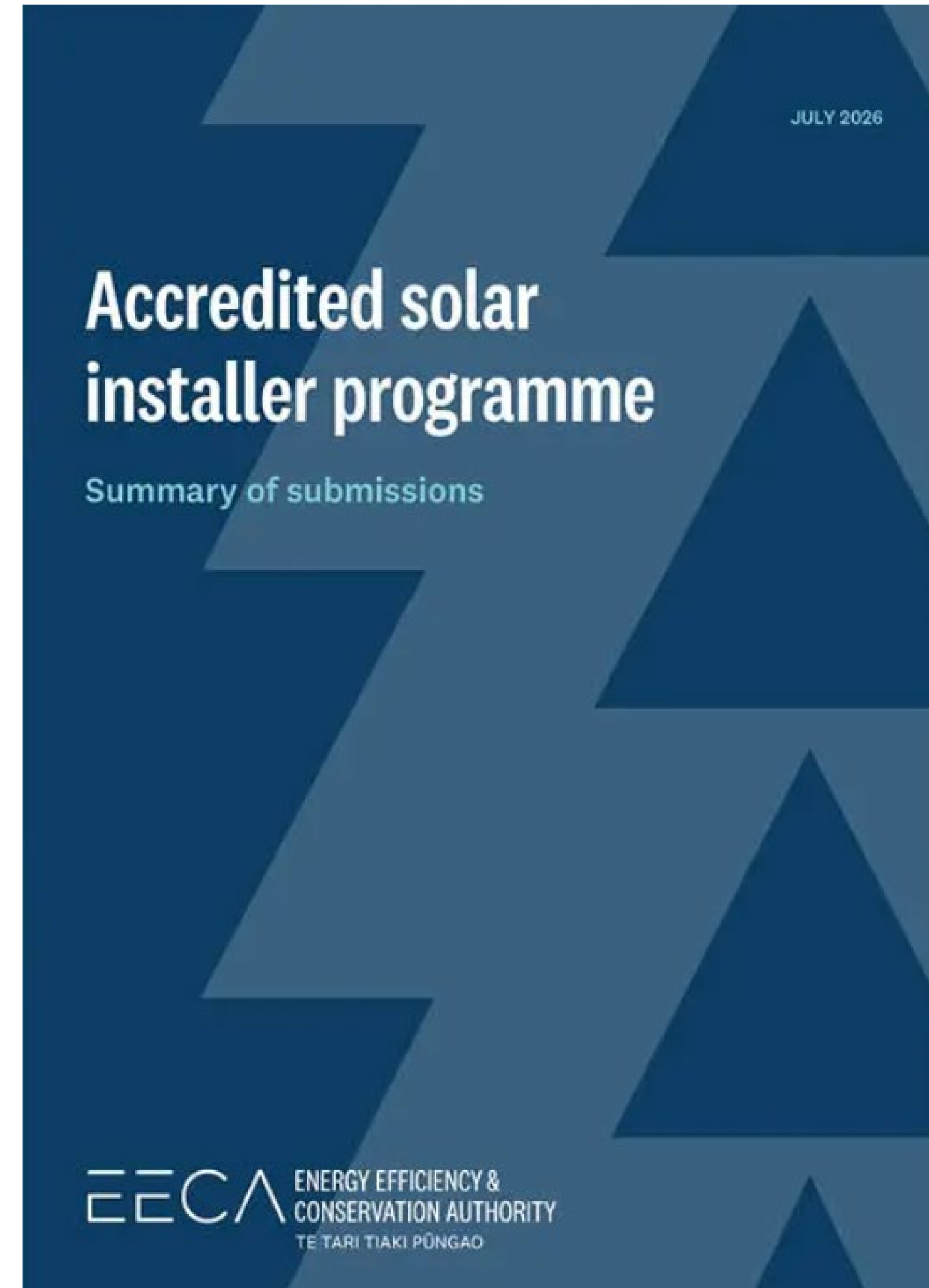
Farmer's information needs evolve as they move through a journey with specific phases – from first becoming aware of solar, to exploring whether it's relevant to their farm, through to deeper evaluation, and finally choosing whether and how to invest. At each stage, the questions farmers ask (and the information they need) change, meaning different types of data and content play different roles along the way.

# Farm ICP and solar



\*ICP = installation control point

# Building confidence for consumers



# Approved solar products

Earlier this year, EECA launched the **approved solar products** programme. We have assessed and published over 100 solar PV panels, inverters, and batteries which have been demonstrated as being **durable, efficient** and able to operate as part of a **smart system** - see EECA's technical criteria.

Applications remain open, and we welcome all NZ suppliers & distributors of solar products to apply.

This list may be used by:

- **Consumers** – both residential & commercial customers looking to buy
- **Banks** – offering Green Loans
- **Industry** – installers may want to encourage their suppliers to stock approved products

# Accredited solar installers



# Accredited solar installers

We are rolling out an **industry-led** installer accreditation programme, to:

- promote best practices, and support a network of **skilled designers and installers**,
- enhance the **safety, efficiency, and reliability** of installations,
- increase **customer confidence** and **support a wider adoption of solar**.

To be accredited, installers will need to demonstrate the following attributes:

- **Business/operational attributes and competence,**
- **Design and quoting quality,**
- **Installation quality and after-sales support.**

Our intent is for **industry-partners** to accredit installers (not EECA).

# Pathway for Plug-in solar

A recent report by the MfR identified a number of opportunities to make small/medium solar installations in NZ simpler and more accessible – one of these was to develop a safe and viable pathway to allow the use of plug-in solar (balcony) in New Zealand.

**MBIE** is working with **EECA**, **Standards NZ**, **WorkSafe**, and the **Electricity Authority** on:

1. A **Standard** - so that suppliers can demonstrate their product meets key criteria.
2. **Changes to legal frameworks** – e.g. product registrations, sales limited to one system per household/ICP, and other regulatory tools.
3. **Information and education** - EECA would have a key role in providing consumer education and guidance for people considering buying both ‘fixed’ and ‘plug-in’ solar systems.



# Addressing safety concerns for Plug-in solar

One approach might be to introduce requirements for systems in a standard e.g.

**Live pins on plugs, and anti-islanding** - the system's grid-following micro-inverter must only deliver power via the plug when it sees a power signal from the mains supply, or it will cut power to the pins in <200ms if it loses this mains signal (i.e. if the plug is removed from the socket, or power has been isolated at the mains supply).

**Electromagnetic compatibility** – the system's grid-following micro-inverter must only feed power into the household/grid at the same voltage ( $230V \pm 10\%$ ) and frequency ( $50\text{ Hz} \pm 2\text{ Hz}$ ) as the mains power.

**Minimise fire risks from overloading household circuits** – the maximum output of systems must be no more than 800 W.

**Earth protection** – [*NZ-specific requirement*] systems must have suitable earth-leakage protection (e.g. a manufacturer-fitted Type-B RCD within the system).

**This largely copies the intent of the EU & UK standards, but is not a straight copy-paste.**

**EECA has the commitment, mandate and programme to help drive more quality solar and storage into, and onto, NZ homes, communities and businesses.**

**But that must be working alongside and supporting the industry.**

An aerial photograph of a residential neighborhood with many houses and lush green trees. In the foreground, a corrugated metal roof is covered with several large, dark blue solar panels. The image is framed by dark blue geometric shapes on the left and right sides.

# Ngā mihi

[eeeca.govt.nz](http://eeeca.govt.nz)

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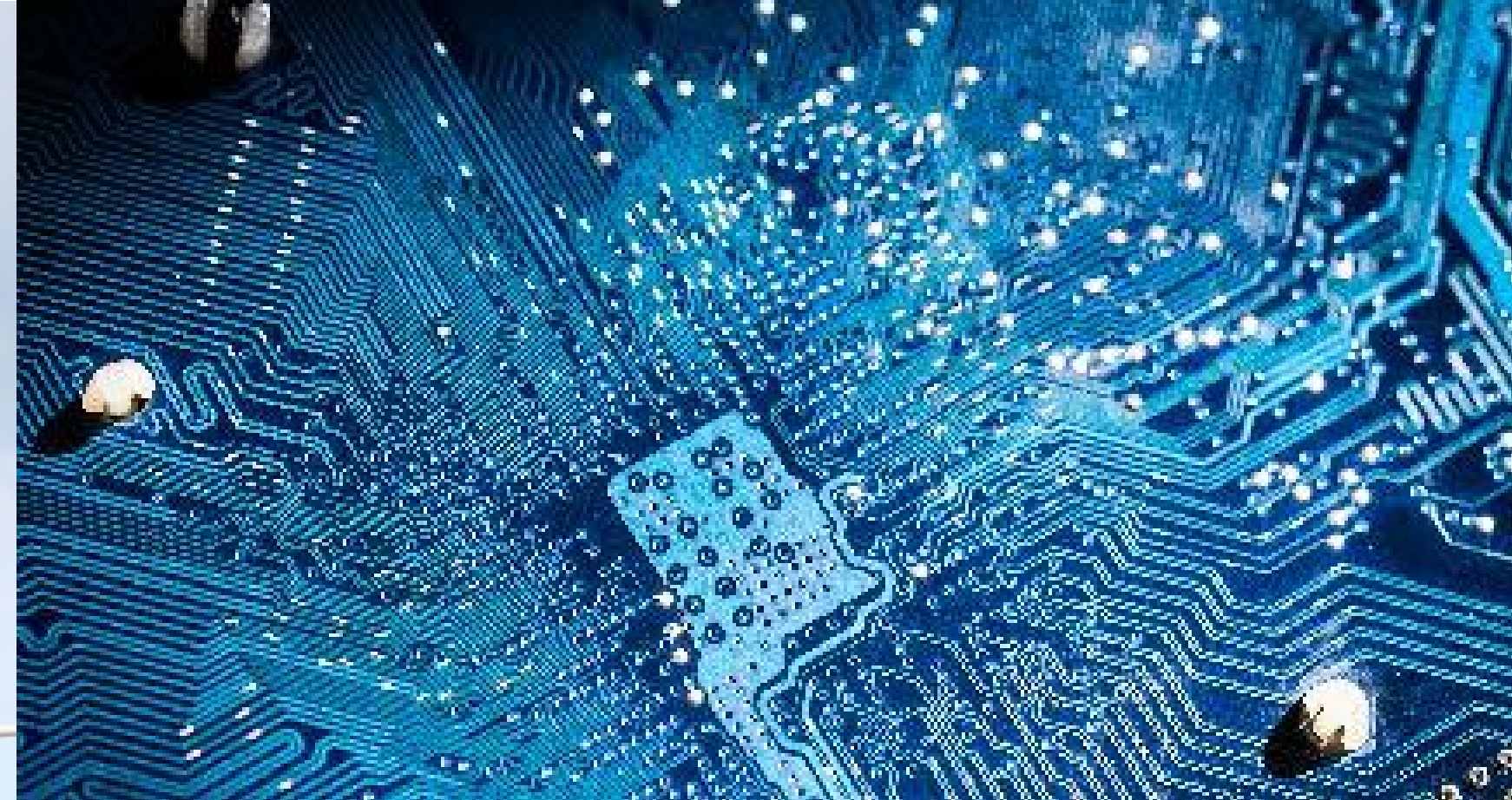
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# **Workshop Framing presentation**

# **Expert perspective on**

# **emerging issues**

Allan Miller, Director, Allan Miller Consulting Ltd

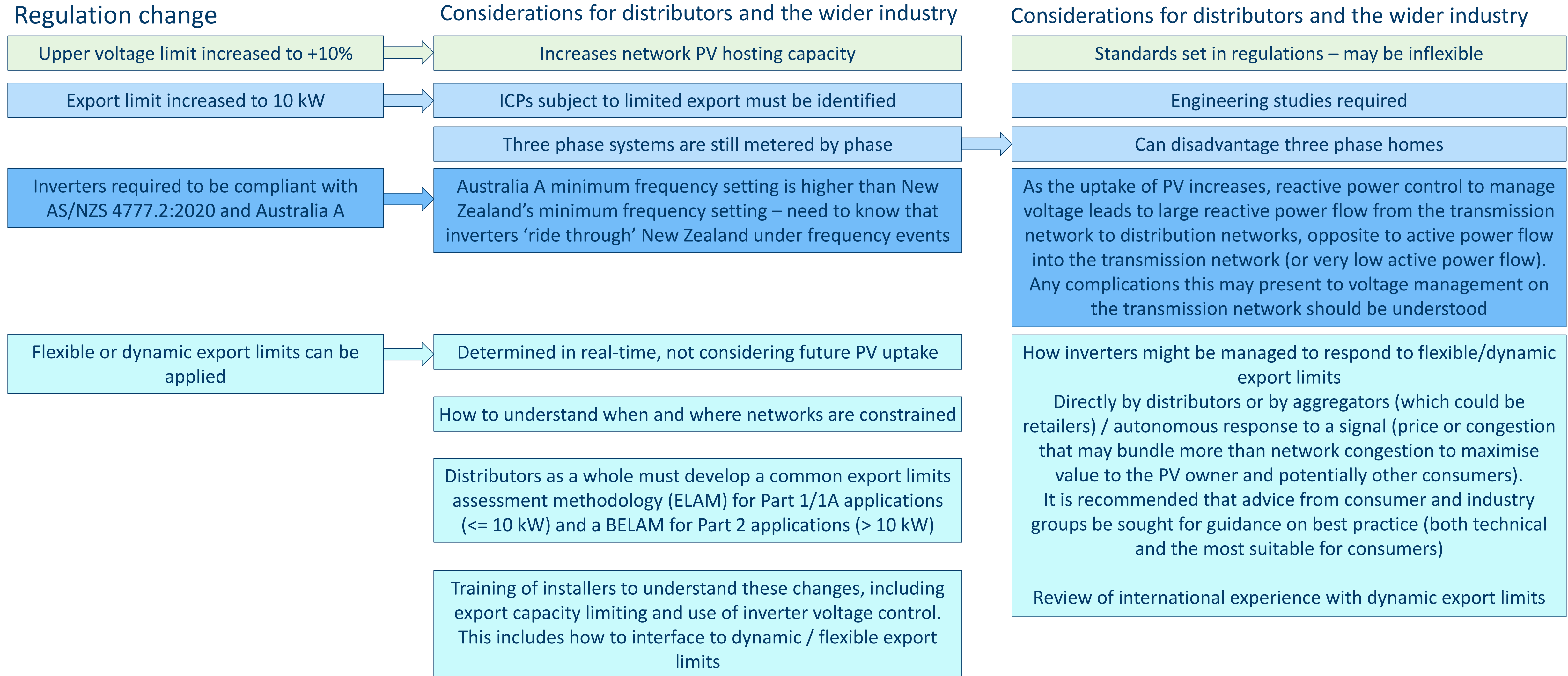


## Issues to consider in developing a PV roadmap

Allan Miller

22 September 2026

# 1. Broad framework



# 1. Broad framework...

## Market change

PV uptake is accelerating  
Inverter capacity is increasing  
PV array capacity is higher than inverter capacity  
BESS uptake with solar is accelerating



## Considerations for distributors, the wider industry, and consumers

Despite network PV hosting capacity increasing, the combination of these will mean constraints emerge sooner than expected

Capability to understand impact of PV exports on networks now and in the future, and whether network reconfiguration or reinforcement is more efficient than curtailment / restricting exports

While developing an ELAM is important, avoiding curtailment by finding ways to support consumer self-consumption is important, particularly using energy storage. This increases the value of solar PV to the owners and potentially other consumers in the same network area

Balcony solar is now available internationally and is seen by many as an economical means of allowing many households, including renters, to participate in solar PV, including gaining some of solar PV's benefits

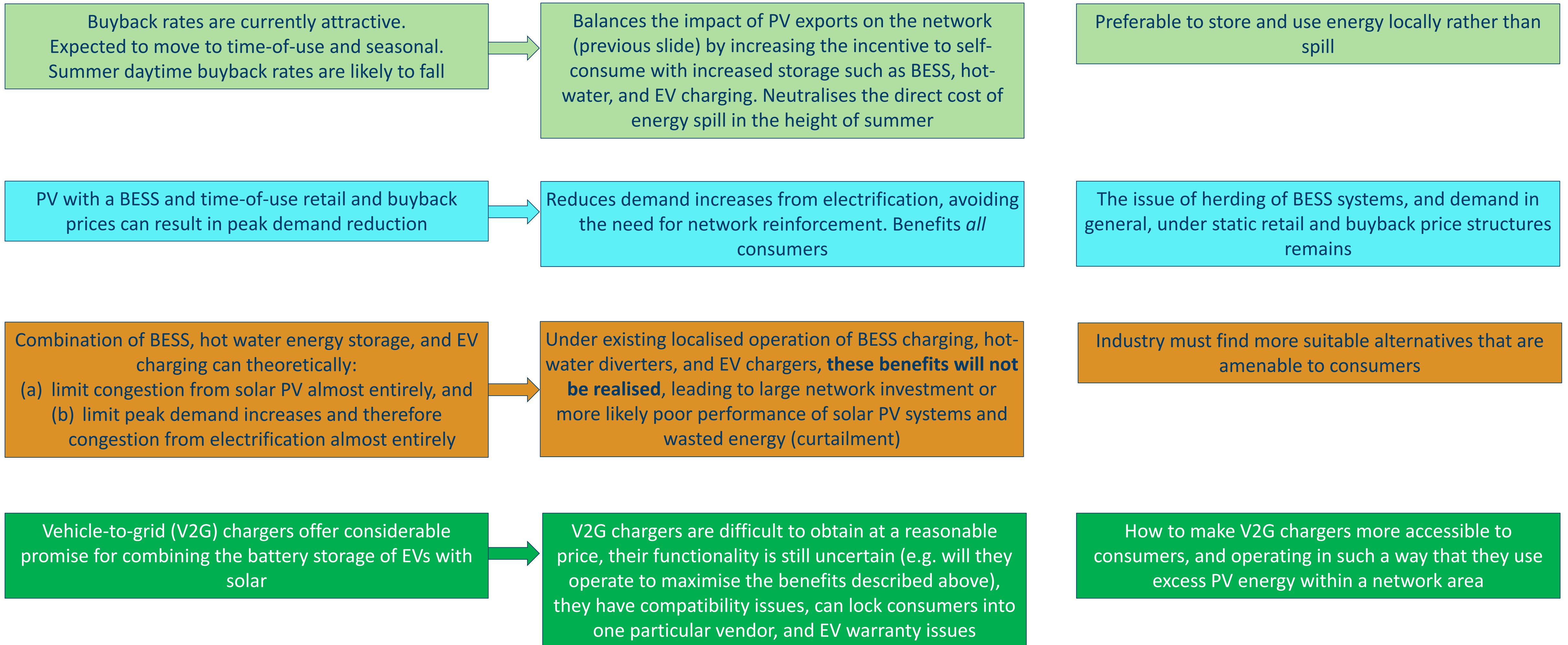


Balcony solar presents challenges relating to electrical safety, certification, safe installation and operation, insurance, metering, and distributor visibility of it

# 1. Broad framework...

## Market change

## Considerations for distributors, the wider industry, and consumers





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# **Key issue and opportunity identification**

**2.55 – 3.35pm | Workshop Session One**

# Breakout session 1: Identifying the challenges and opportunities ahead

## Technical barriers / issues

What's stopping progress? One issue per sticky note.

## Opportunities

What could help address it? One opportunity per sticky note.

# Afternoon tea

3.35 – 3.45pm

# **Implementation priorities, roles and responsibilities**

**3.45 – 4.15pm | Workshop Session Two**

# Breakout session 2

## Implementation priorities

### Instructions

#### Step 1 – Review

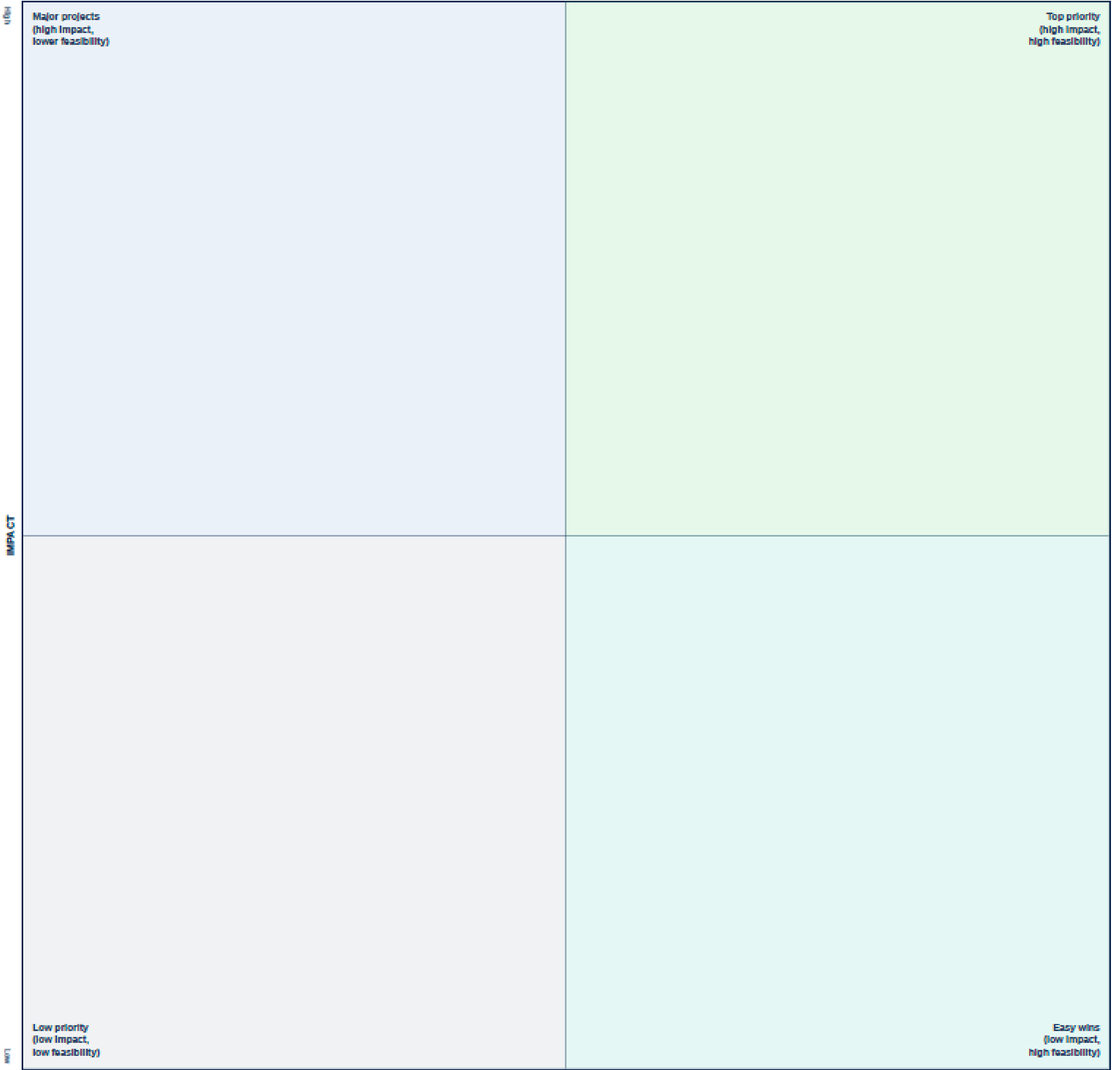
Refer back to the **barriers, issues and opportunities** identified by your table during Session 1.

#### Step 2 – Position

Transfer the both sticky notes onto the quadrant, considering each item based on its **impact on enabling greater solar uptake** and **feasibility of implementation**.

#### Step 3 – Prioritise collectively

As a whole group, review the quadrants from **all tables** and place your voting dots on the **barriers or opportunities you believe should be the highest priorities for the Solar Roadmap**.



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**In ONE WORD, what is the biggest challenge to enabling greater solar uptake in New Zealand?**



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**How could we make future Solar Roadmap workshops and industry discussions more valuable for you?**

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# **Group Playback and Closing Comments**

# Thank you