

Community energy sharing

Ara
Ake

Future
Energy
Development

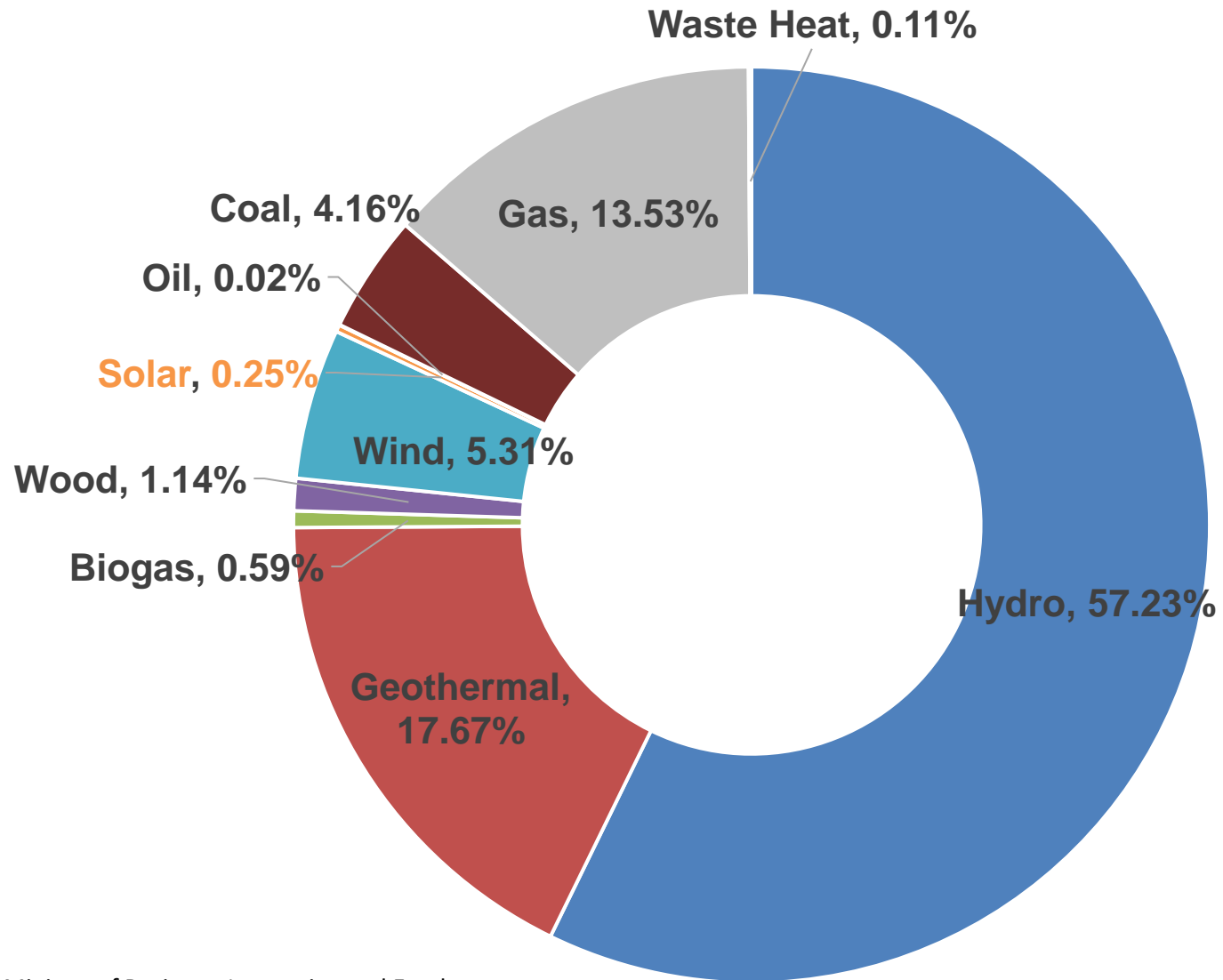
> Who are we?

Ara Ake is an independent, national organisation tasked with accelerating the demonstration, commercialisation, and deployment of energy innovation to support Aotearoa New Zealand's transition to a more sustainable, resilient, and equitable energy future.

Ara Ake takes a 'whole of energy systems' approach, building New Zealand's capability and global connectivity to achieve economic, social, cultural, and environmental impact.

Ara Ake was set up in 2020 by the Government and is headquartered in New Plymouth.

Aotearoa annual electricity generation 2013-23

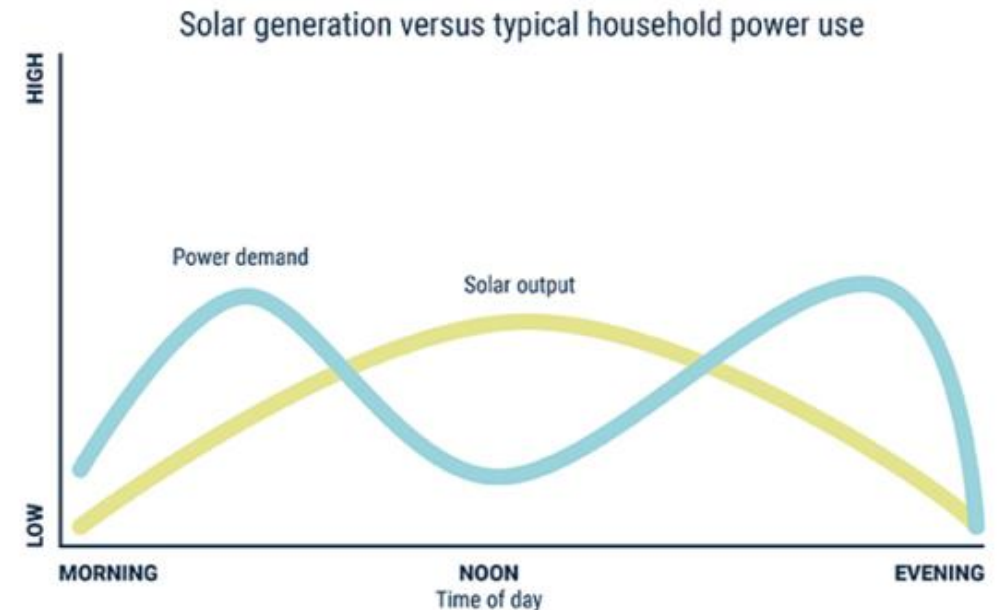


Source: Ministry of Business, Innovation and Employment



Why is solar uptake low? Why don't we have subsidies?

- Grid-scale solar makes up just 1% of our electricity generation (Kaitiaki 32MW first grid-connected solar to sell wholesale in December 2023)
- Only 2% of households have rooftop solar installed
- High upfront cost of installation is not accessible to many Kiwis (up to \$10,000 just for solar and \$20,000-\$30,000 with batteries); subsidisation still wouldn't make solar accessible to low-income Kiwis
- Long pay-back period, some impact on household bills, maybe less than expectations
- New Zealand's high level of existing renewables in the electricity system
- Solar does not typically generate during peak periods / when demand is highest; as much as two-thirds is exported to the grid



Source: Electricity Authority



Why is solar buy-back less than my retail rate for electricity?

An average household power bill contributes to the following costs



32%
GENERATION

Producing the electricity you use.

27%
DISTRIBUTION

Building and maintaining the power lines that transport electricity from the grid to your home.

13%
RETAIL

Your power company's operating costs.

10.5%
TRANSMISSION

Building and maintaining the national grid.

13%
GST

The GST-inclusive amount of tax we all pay.

3.5%
METERING

Reading and maintaining your electricity meter.

0.5%
MARKET GOVERNANCE


















Energy efficiency programmes and the organisations that regulate the electricity industry.

0.5%
MARKET SERVICES

Organisations who operate the electricity market.

Source: Electricity Authority

Household / small-scale solar buy-back rates

Retailer		Buy-back rate
 Meridian.	Meridian	17¢/kWh with a 5-year contract. All other plans offer 12¢/kWh.
 octopus energy	Octopus Energy	13¢/kWh on a fixed term option. 12.5¢/kWh on a flexible option.
 ELECTRIC KIWI	Electric Kiwi	12.5¢/kWh on Electric Kiwi's 'MoveMaster' plan, and 8¢/kWh on their other plans.
 ecotricity	Ecotricity	12 - 16¢/kWh (standard user/low user) - rates are conditional on having a 6kWh+ home battery installed with a system by an Ecotricity Solar partner. Without a battery the rate is 11¢/kWh. Check T&Cs.
 genesis	Genesis	12¢/kWh – Genesis offers solar buy back on all of their residential fixed and flexible term plans.
 POWERSHOP	Powershop	13¢/kWh - available on most plans.
 frank energy	Frank Energy	11¢/kWh - no fixed term contract is required. System must be less than 50kW.
 Comtricity	Comtricity	14 - 15¢/kWh - some regional variation may apply.
 Toast	Toast Electric	10¢/kWh - available to Wellington and Electra areas on low and standard user plans.
 Mercury	Mercury	8.5¢/kWh
 contact	Contact	8¢/kWh - Contact offer solar buy-back on most of their residential plans.
 nova	Nova	7.4¢/kWh - Nova offer solar buy back on most of their residential plans.
 megatel	Megatel	7¢/kWh - Solar buy-back only offered on a case-by-case basis.
 FLICK	Flick	Buy-back rate varies according to the wholesale electricity price.
 pulse energy	Pulse Energy	Varies depending on location.
 GLOBUG	Globug	None - Globug does not offer solar buy-back.
 Tensor	Tensor	None - Tensor does not offer solar buy-back.



➤ Community energy funding

- In August 2020, the Government established a \$28 million fund to trial renewable energy technologies on Māori and public housing. Funding has been allocated and the majority of installations are expected to be complete by the end of 2024.
- In May 2022, the Government announced \$16 million over 4 years to support small-scale community renewable energy projects. The following year, the fund was boosted by a further \$30 million over 4 years.
- This new [Community Renewable Energy Fund](#) builds on the successful [Māori and Public Housing Renewable Energy Fund](#) and aims to support renewable energy projects that help communities to access secure, renewable and more affordable energy.
- For any enquires or to be updated about this fund, please email: communityenergy@mbie.govt.nz

➤ Kāinga Ora solar programme



- More than 200,000 Kiwis live in Kāinga Ora homes
- Kāinga Ora owns or manages over 70,000 properties
- In 2020, KO was provided funding to roll out solar PV on new or retrofitted homes in 11 regions, aiming for 750 homes by end 2024.
- Selected homes needed to be suitable for panels.



Kāinga Ora – Ara Ake partnership

- › Customers who live in properties without solar must purchase electricity at market retail rates
- › Customers with solar PV installations experience a reduction in electricity bills
- › Ara Ake and Kāinga Ora partnered to find a way to share the benefits of solar more widely
- › Kāinga Ora customers are to retain the right to choose their electricity retailer



200,000+
People live in Kāinga Ora homes

We own or manage over
70,000
properties

Our construction programme accounts for
7%
of NZ new residential builds



Kāinga Ora
Homes and Communities

➤ Multiple trading relationships

The option to contract with more than one supplier for electricity services at your home or business, particularly in the context of greater uptake of distributed/consumer energy resources (DER/CER), such as rooftop solar panels or electric vehicle chargers.

MTR may benefit consumers from the unbundling of electricity services and the creation of new ones.

Ara Ake is running several pilots with partners and communities to test the benefits of MTR, including Kāinga Ora, Climate Connect Aotearoa (Auckland Council) and Counties Energy.



Electricity Industry Participation Code 2010 (the 'Code')

- Current electricity market arrangements: one-to-one relationship between a consumer and a retailer (trader)
- The Electricity Code anticipates that only one trader will be responsible for each installation control point (ICP):

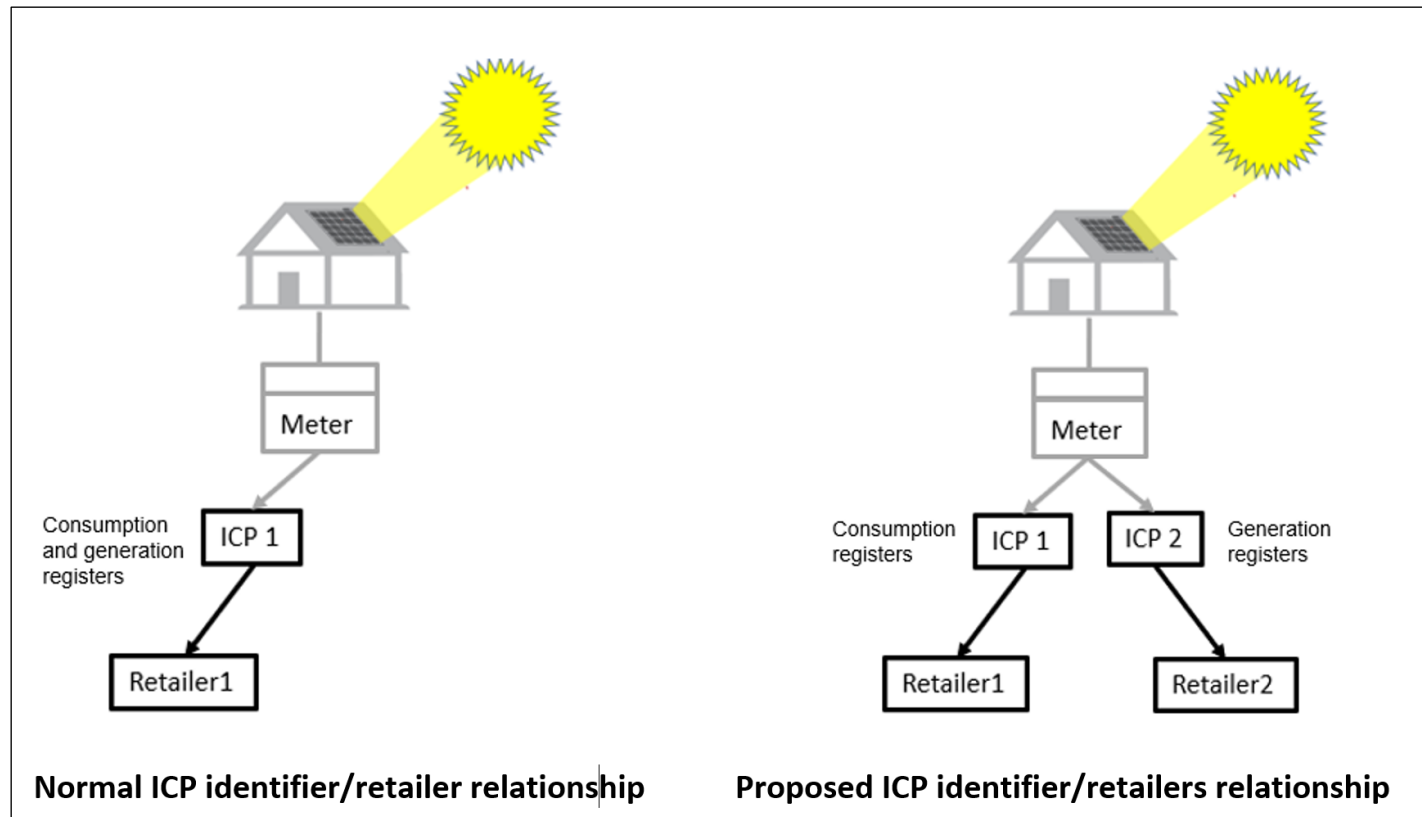
For each ICP for which a trader is registered as responsible (in the registry), the trader must ensure a metering installation at that ICP. This implies only one electricity trader per ICP [Part 10.24]

➤ MTR use cases

1. Enabling community energy sharing / donating where multiple retailers are involved
2. Enabling new business models like aggregators to access behind-the-meter flexibility resources
3. Allowing entities that are not retailers to provide electricity services without having to take responsibility for the whole ICP



Kāinga Ora pilot technical solution (Wellington pilot)



< Exemptions and dispensations

Exemptions to enable a multiple trading trial

Exemptions to enable a multiple trading trial

A multiple trading relationship means the consumer has the option to have separate contracts with different retailers.

ON THIS PAGE —

↓ Multiple trading trial

↓ Informing long-term solutions

↓ Clarification of responsibility for retailer obligations

Multiple trading trial

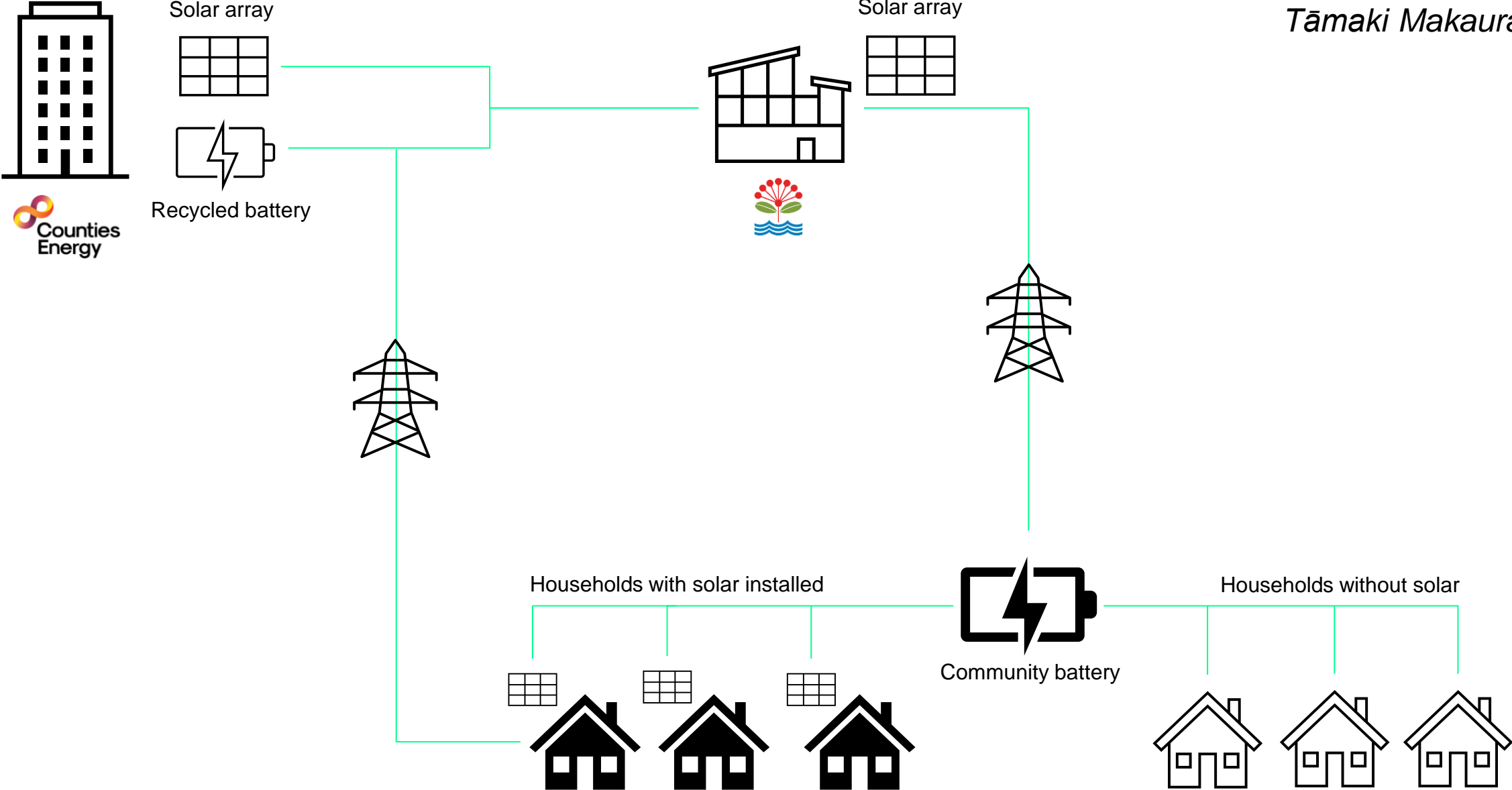
The Electricity Authority approved two exemptions in July 2023 and a technical and non-controversial Code amendment to enable an energy sharing trial led by Kāinga Ora and Ara Ake.

In the trial Kāinga Ora will implement solar energy sharing on selected buildings to maximise their solar investment and show how energy sharing can potentially reduce energy hardship.

We see this trial as an opportunity to assess and learn more about this model of energy sharing using multiple trading relationships alongside industry. The lessons learned could be used to develop a more enduring energy solution for New Zealanders and promote competition further in the electricity market.



*Proposed pilot for
Tāmaki Makaurau*



➤ What is energy sharing?

- This can mean different things to different people
- Typically implies the transfer of value associated with buying/selling electricity between parties
- For example: can the solar exported from a commercial installation be credited to employees? Or could a marae provide energy credits to whānau?
- MTR not necessarily needed or suitable for all situations
- This could be achieved with a single retailer if amenable or 'behind-the-meter' (e.g. retirement homes)
- Financial options, such as providing a cheque to recipients each month/quarter
- If multiple retailers are involved and a peer-to-peer matching of energy export/use is desired, we will need regulatory change to achieve this at scale in New Zealand

Thank you

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