Community energy sharing
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

- Hydro: 57.23%
- Geothermal: 17.67%
- Biogas: 0.59%
- Wind: 5.31%
- Solar: 0.25%
- Wood: 1.14%
- Gas: 13.53%
- Coal: 4.16%
- Oil: 0.02%
- Waste Heat: 0.11%
- Oil: 0.02%

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 (Kaitaia 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% Meters**: 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

<table>
<thead>
<tr>
<th>Retailer</th>
<th>Buy-back rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meridian</td>
<td>17c/kWh with a 5-year contract. All other plans offer 12c/kWh.</td>
</tr>
<tr>
<td>Octopus Energy</td>
<td>13c/kWh on a fixed term option. 12.5c/kWh on a flexible option.</td>
</tr>
<tr>
<td>Electric Kiwi</td>
<td>12.5c/kWh on Electric Kiwi's 'MoveMaster' plan, and 8c/kWh on their other plans.</td>
</tr>
<tr>
<td>Ecotricity</td>
<td>12 - 16c/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 11c/kWh. Check T&amp;Cs.</td>
</tr>
<tr>
<td>Genesis</td>
<td>12c/kWh – Genesis offers solar buy-back on all of their residential fixed and flexible term plans.</td>
</tr>
<tr>
<td>Powershop</td>
<td>13c/kWh - available on most plans.</td>
</tr>
<tr>
<td>Frank Energy</td>
<td>11c/kWh - no fixed term contract is required. System must be less than 50kW.</td>
</tr>
<tr>
<td>Contricity</td>
<td>14 - 15c/kWh - some regional variation may apply.</td>
</tr>
<tr>
<td>Toast Electric</td>
<td>10c/kWh - available to Wellington and Electra areas on low and standard user plans.</td>
</tr>
<tr>
<td>Mercury</td>
<td>8.5c/kWh</td>
</tr>
<tr>
<td>Contact</td>
<td>8c/kWh - Contact offer solar buy-back on most of their residential plans.</td>
</tr>
<tr>
<td>Nova</td>
<td>7.4c/kWh - Nova offer solar buy back on most of their residential plans.</td>
</tr>
<tr>
<td>Megatel</td>
<td>7c/kWh - Solar buy-back only offered on a case-by-case basis.</td>
</tr>
<tr>
<td>Flick</td>
<td>Buy-back rate varies according to the wholesale electricity price.</td>
</tr>
<tr>
<td>Pulse Energy</td>
<td>Varies depending on location.</td>
</tr>
<tr>
<td>Globus</td>
<td>None - Globus does not offer solar buy-back.</td>
</tr>
<tr>
<td>Tensor</td>
<td>None - Tensor does not offer solar buy-back.</td>
</tr>
</tbody>
</table>

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.
› 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
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 to enable a multiple trading trial

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

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.
Households without solar

Households with solar installed

Community battery

Solar array

Recycled battery

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