

**Electrify
Everything!**



Kia Ora.





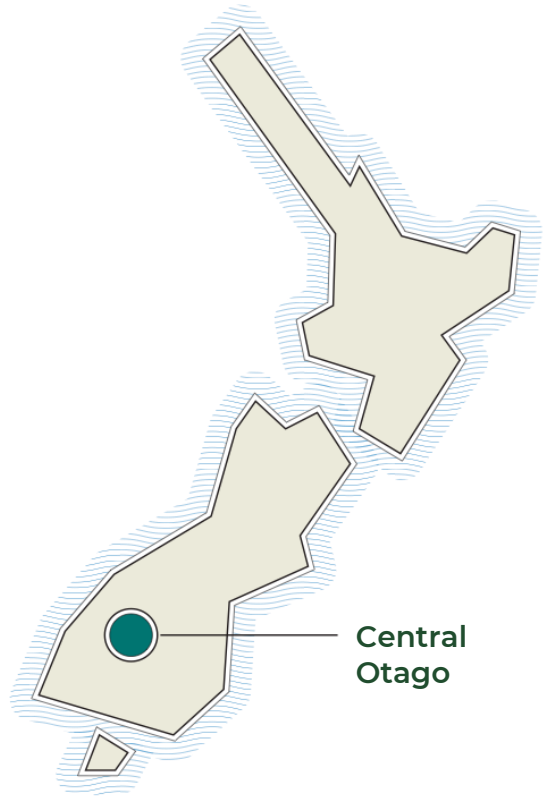
Kia Ora. ⚡ 🍒



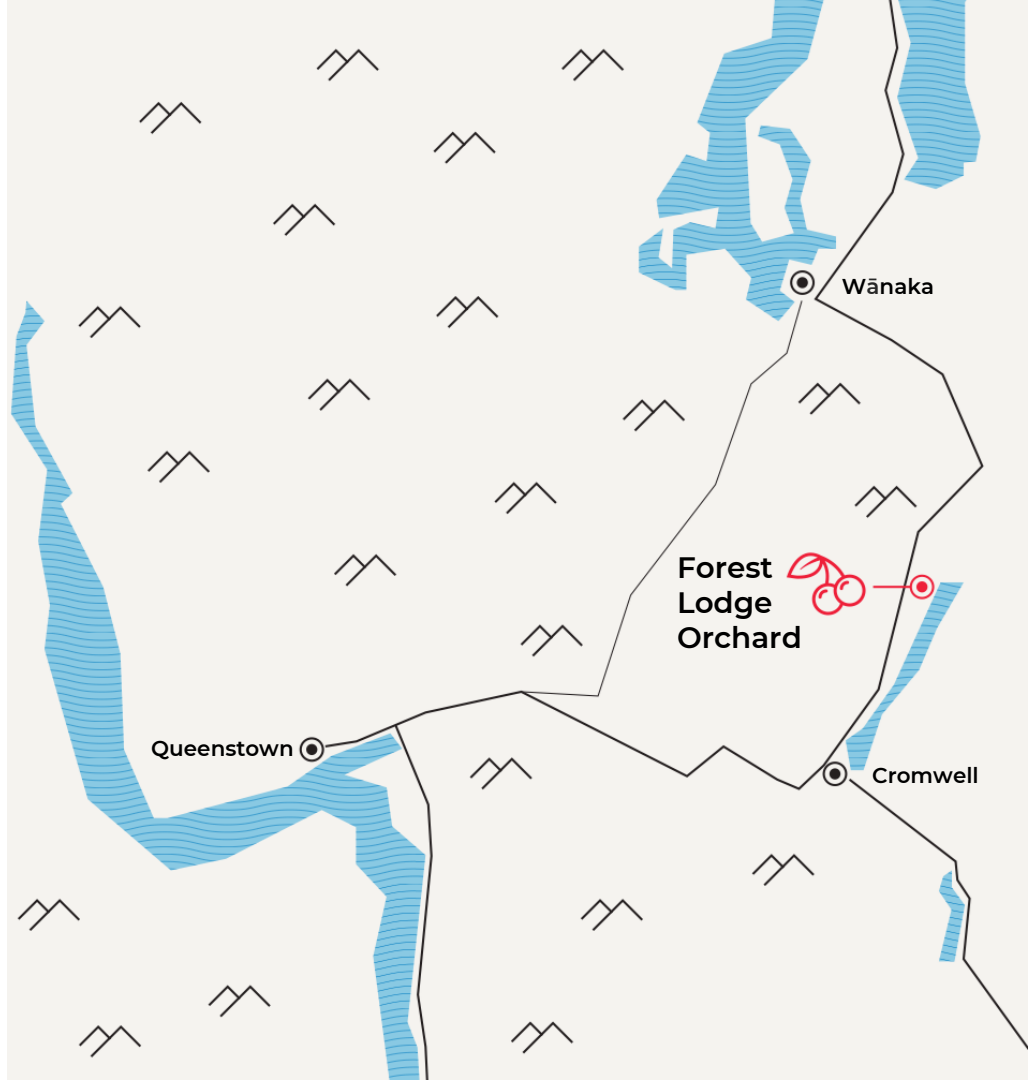




Mt Pisa



Central
Otago



Wānaka

Queenstown

Forest
Lodge
Orchard

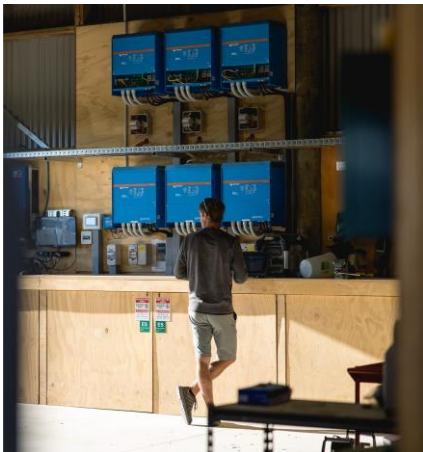
Cromwell



FOREST LODGE ORCHARD



21 Electric Machines



Bottom Up Climate Action

21 Machines. 50Ts of emissions.

Farm

- 2 Frost Fighting Fans
- 2 Irrigation Pumps
- Solar
- Batteries
- Golf Carts x 2
- Lawnmower
- Tractor
- Forklift
- Ute
- Car (x1)
- Power Tools

Household

- Hot Water Heat Pump
- Heat Pump
- Induction Cooktop
- Car (x1)
- Solar
- Batteries



Save \$40,000 per year

Diesel: \$53,000



100% Electric: \$20,000



Solar and Batteries: \$11,000



Make \$10,000 in profit

Diesel: \$53,000



100% Electric: \$20,000



Solar and Batteries: \$11,000



Export Earnings: -\$10,000



COMMUNITY ELECTRIFICATION

And this generated a lot of interest...



Approximately 10,000 visitors in 3 years









Everyone loves Electric Tractors



Huge public interest

Stuff.co.nz

[New Zealand's first electric tractor is here, but how does this line up with conventional farming?](#)

New Zealand's first electric tractor arrived from California this week to a cherry farm just outside of Cromwell, Central Otago.

1 month ago



NZ Herald

[Cromwell orchard launches New Zealand's first driver-optional, fully electric tractor](#)

The MK-V Monarch tractor - the country's first driver-optional, fully electric tractor - was launched in Cromwell on Saturday.

1 month ago



Crux News

[Cherry grower brings one of country's first electric tractors to Cromwell](#)

This week Cromwell cherry grower Mike Casey has been using his new tractor to power an espresso machine and a toasted sandwich maker for...

1 month ago



Newstalk ZB

[The first electric tractor has arrived in the country and is being trialled out](#)

How do you feel about electric tractors? The first one arrived in the country this week and Forest Lodge orchard owner Mike Casey has been...

1 month ago



Country Calendar

Appeared October 8th, 2023

 HYUNDAI
NEW ZEALAND
**COUNTRY
CALENDAR**



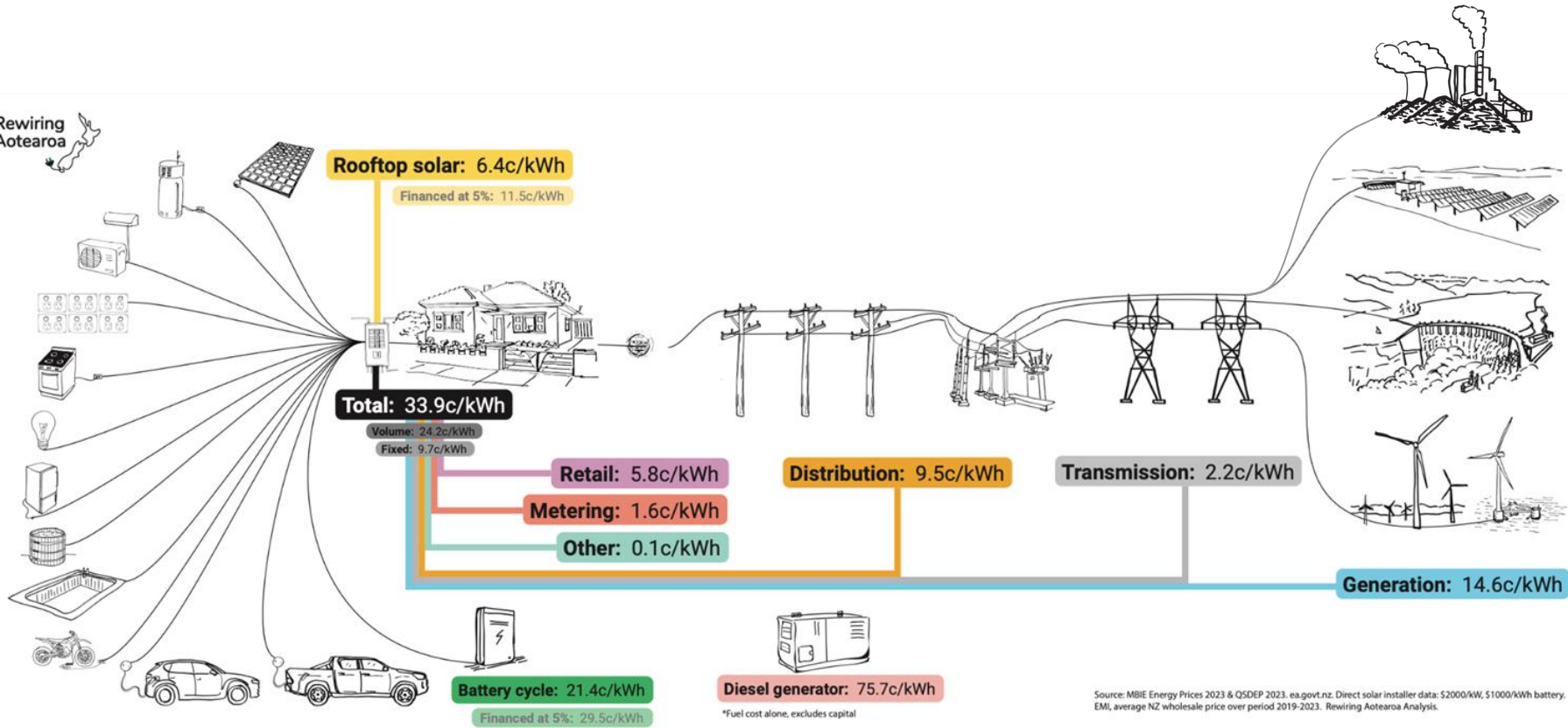
Rewiring
Aotearoa



The Cost of Electricity



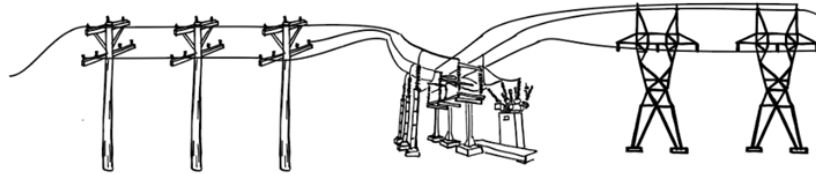
Rewiring Aotearoa



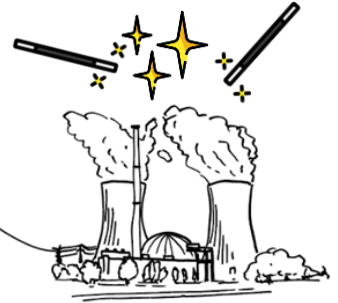
Source: MBIE Energy Prices 2023 & QSDP 2023. ea.govt.nz. Direct solar installer data: \$2000/kW, \$1000/kWh battery. EMI, average NZ wholesale price over period 2019-2023. Rewiring Aotearoa Analysis.

Rooftop solar: 6.4c/kWh

Financed at 5%: 11.5c/kWh

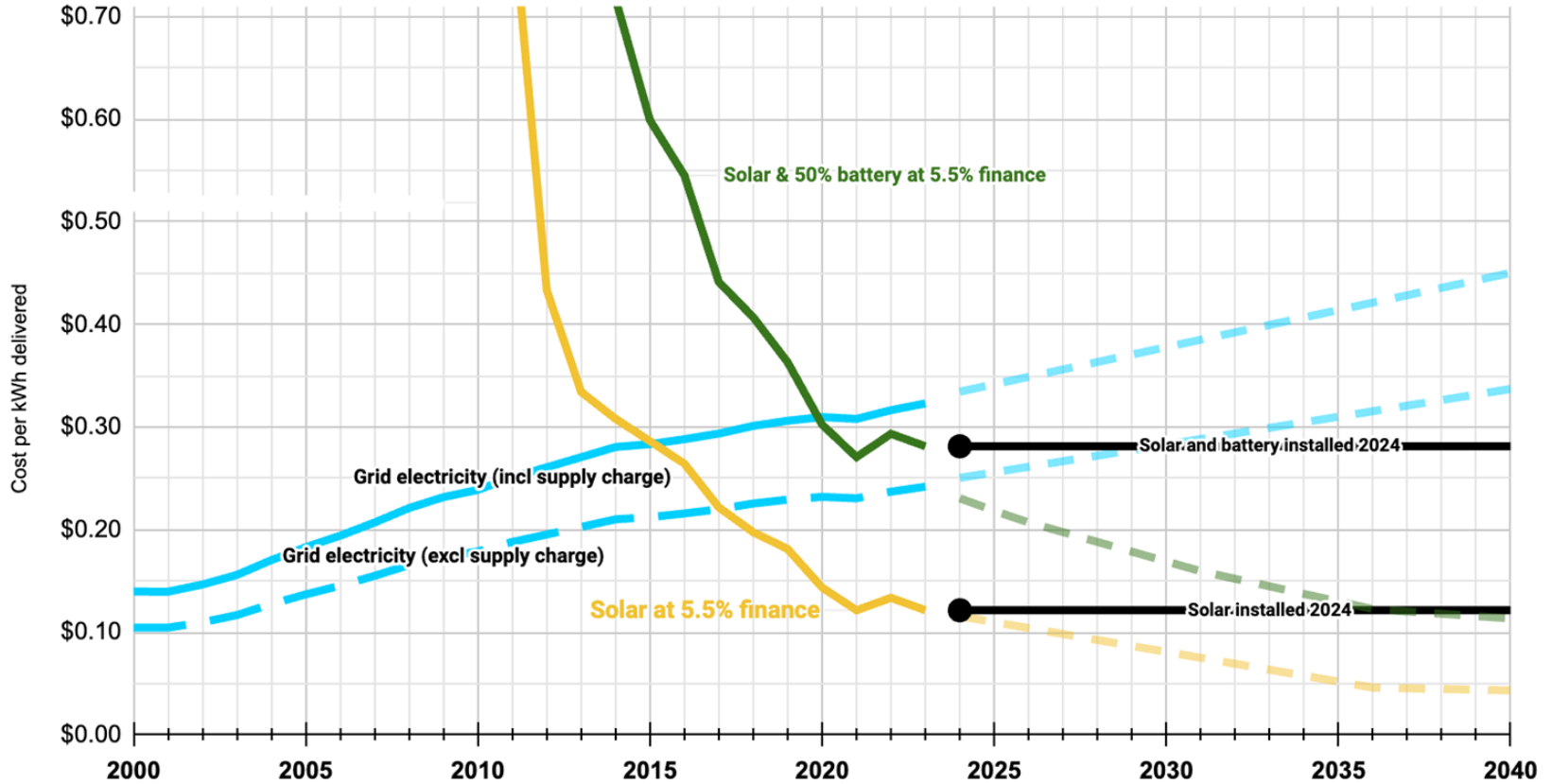


Delivery costs 19.2c/kWh

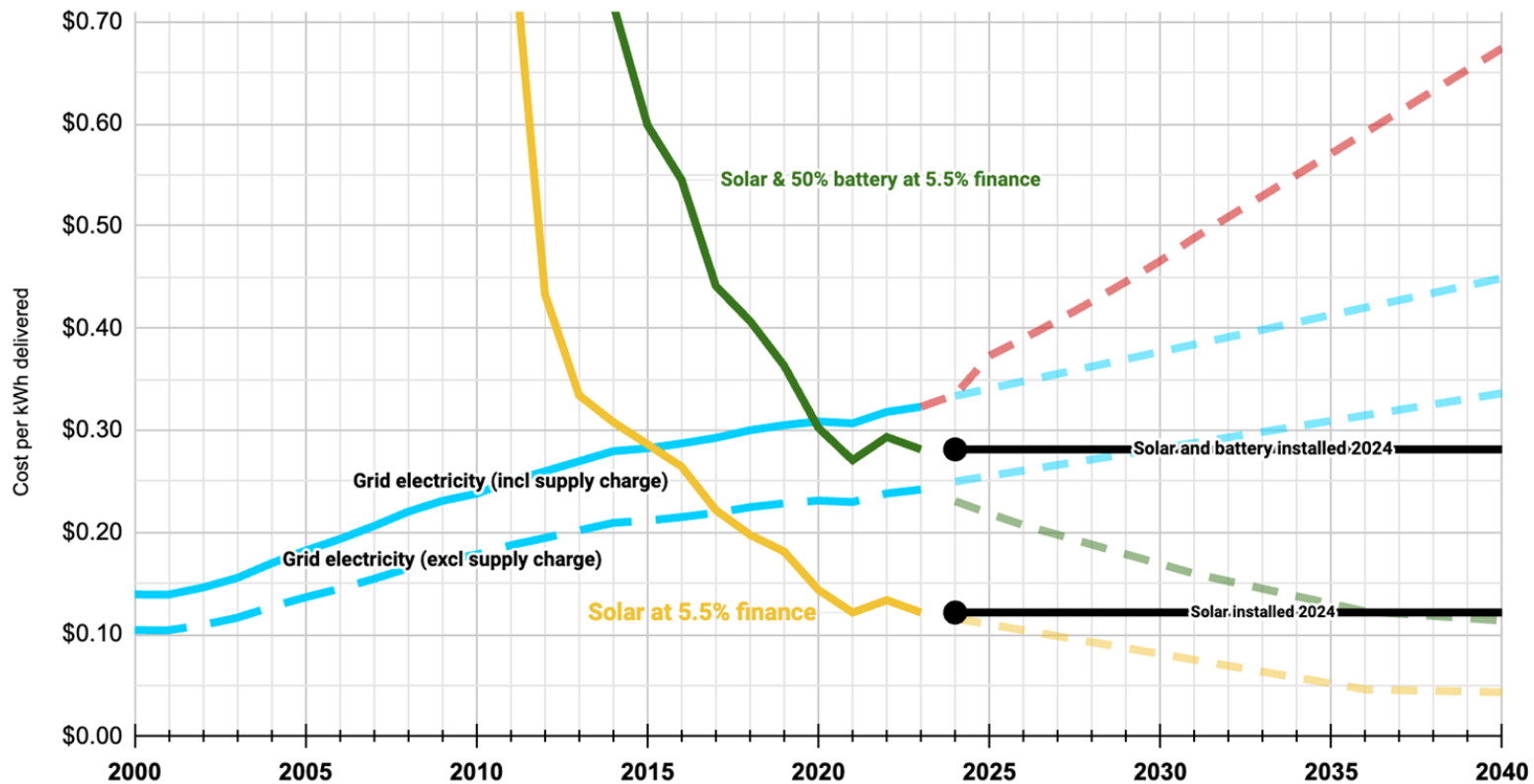


Generation 00.0c/kWh ??

New Zealand delivered electricity cost per kWh over two decades.



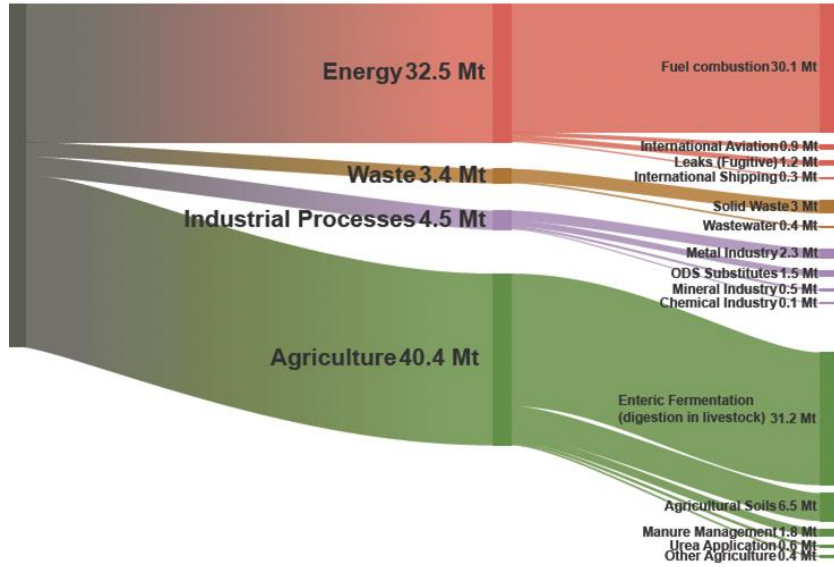
New Zealand delivered electricity cost per kWh over two decades.



NZ missions Narrative

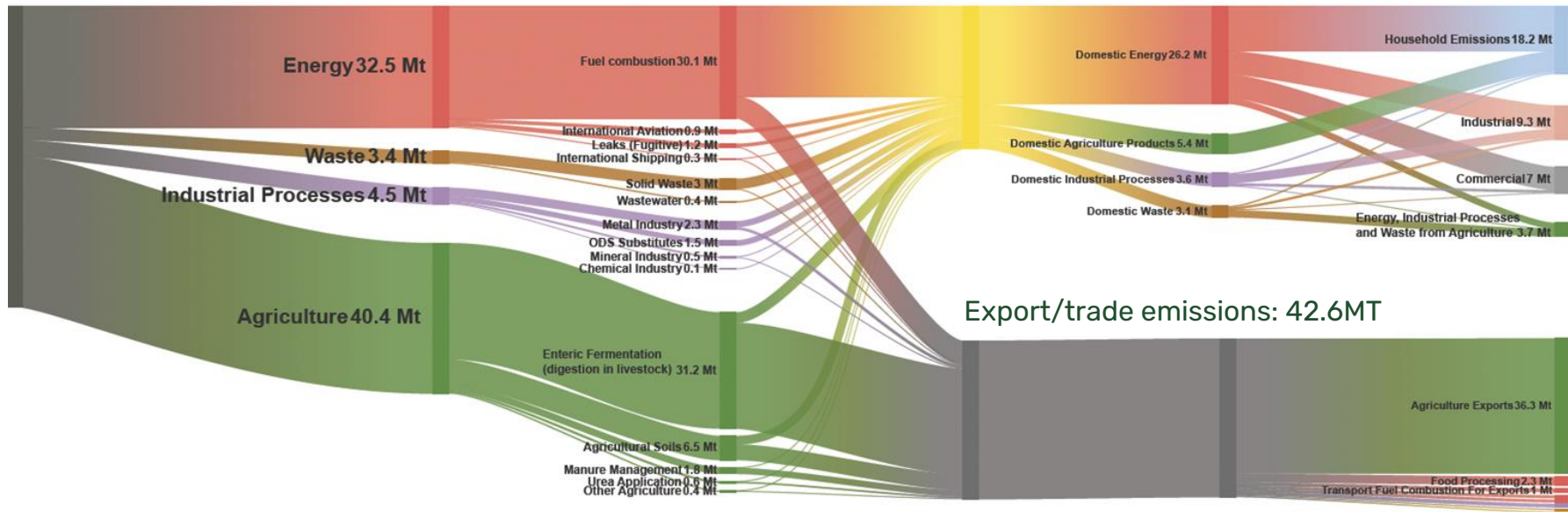


New Zealand Emissions 2021: 80.8Mt

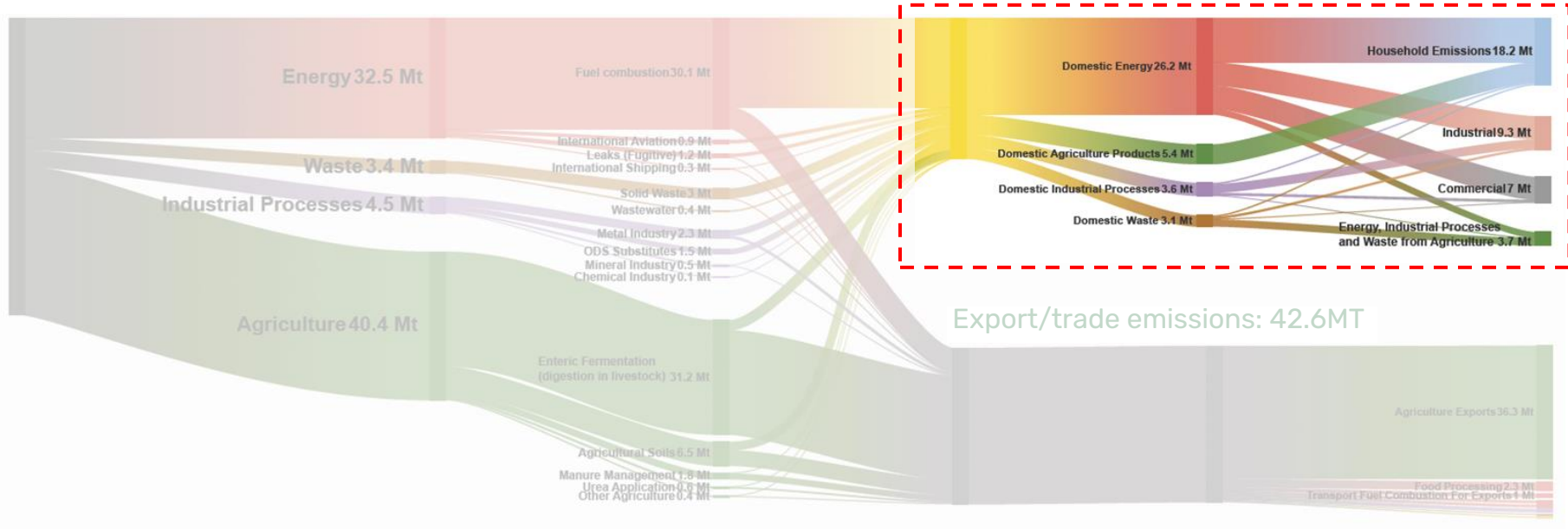


New Zealand Emissions 2021: 80.8Mt

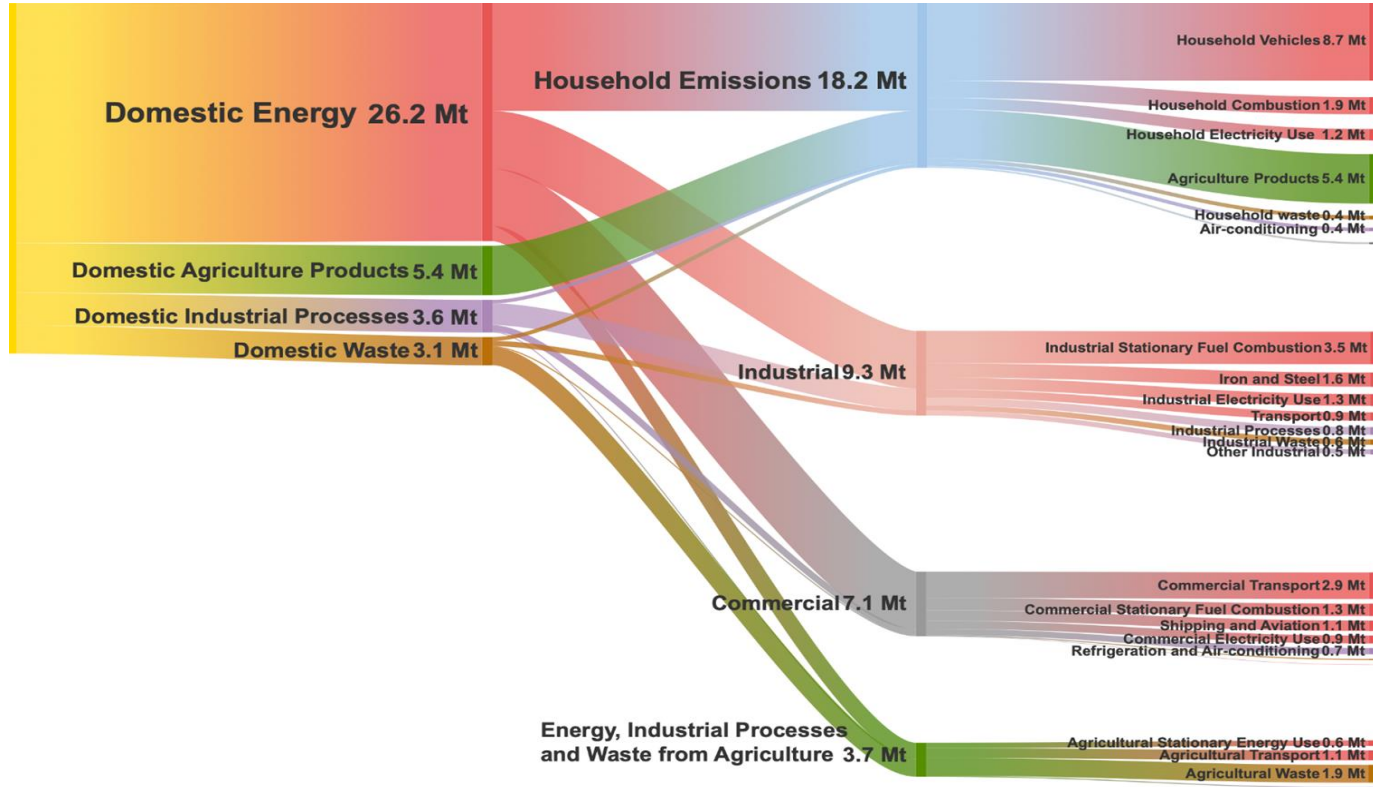
Domestic Use: 38.2MT



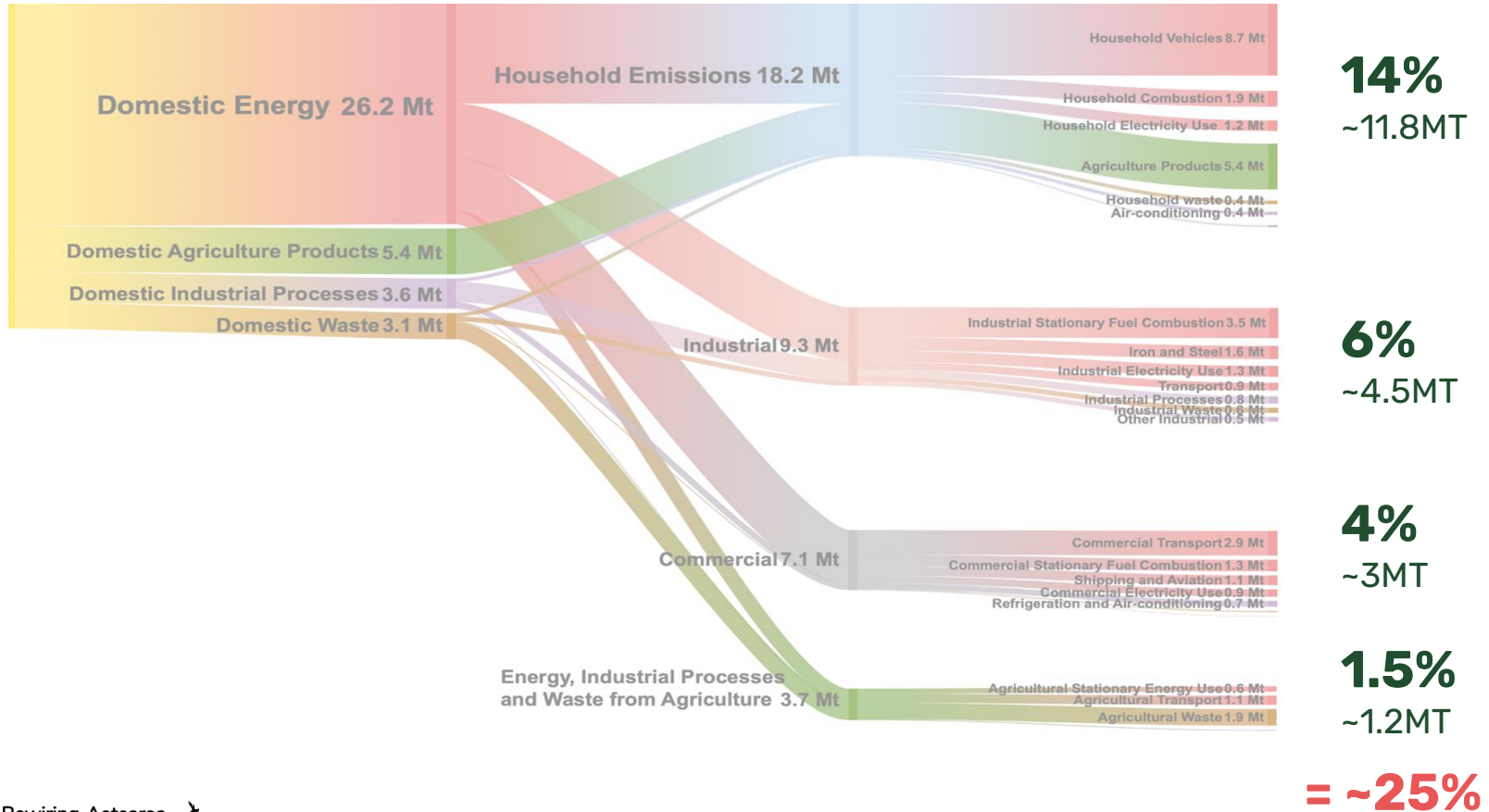
Domestic Use: 38.2MT



25% of our emissions are small machines

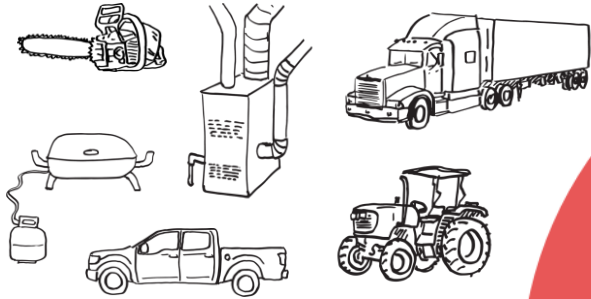


25% of our emissions are small machines

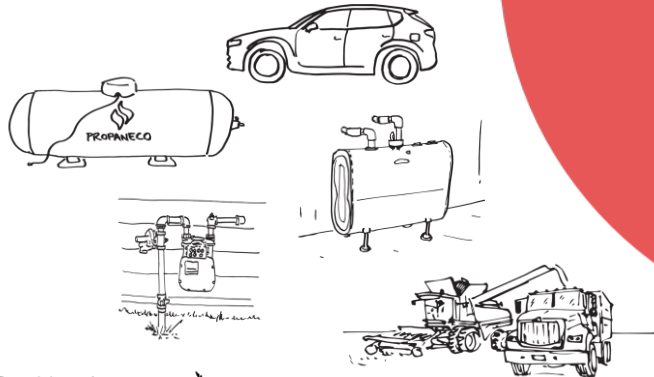


NZ's Energy System

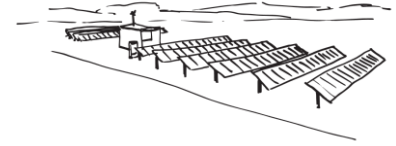
Average energy consumption in NZ over last 5 years.



Fossil Fuels - 73%



Other Renewables - 7%



Renewable Electricity - 16%



Non Renewable Electricity - 4%



\$40 million a day



Household Electrification Benefits



Electric Home



Cars



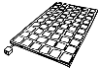
Space heaters



Stove tops



Water heaters



Solar



Batteries

Heat pump water heater
(or resistance with solar)

Heat pump (AC)
(reverse cycle aircon)

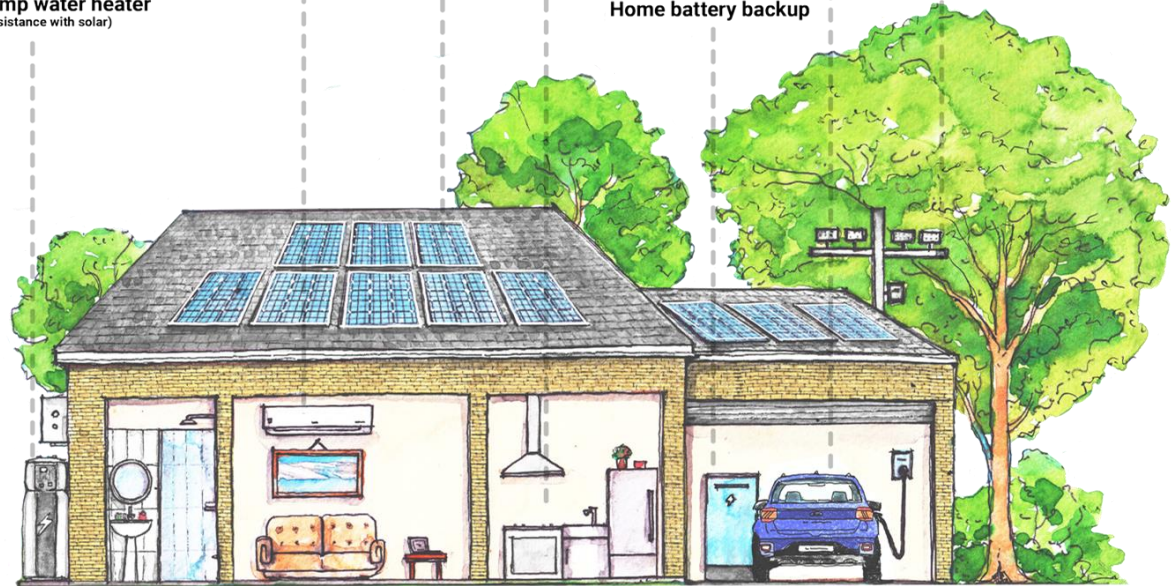
Rooftop solar

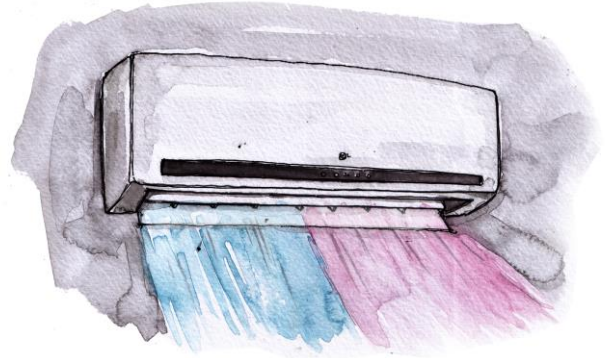
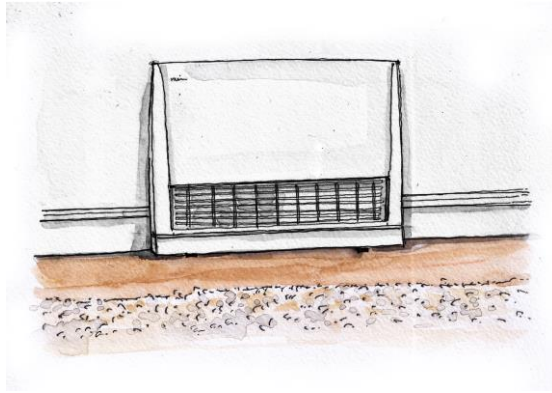
Electric cooking

Home battery backup

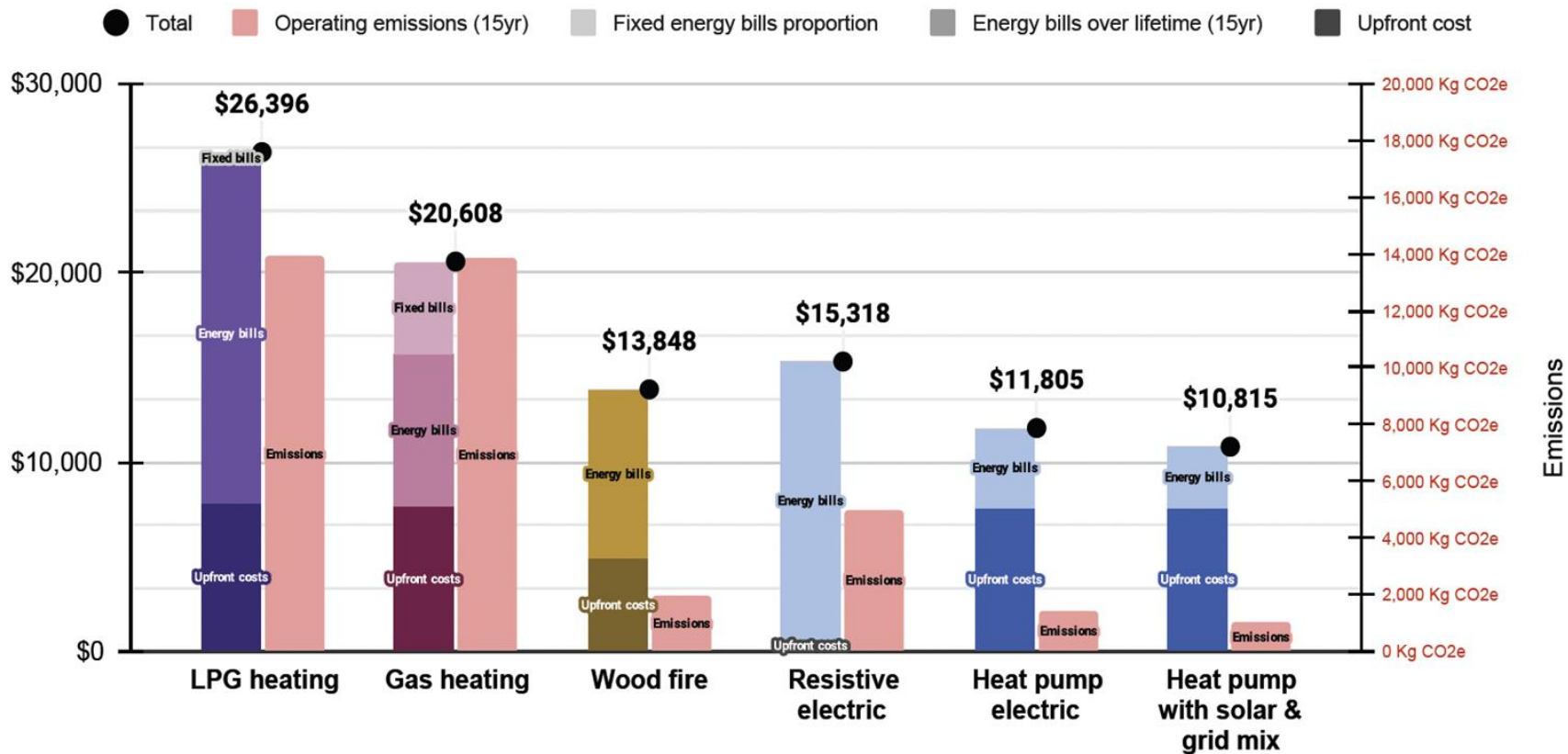
Electric vehicles

Connected to grid



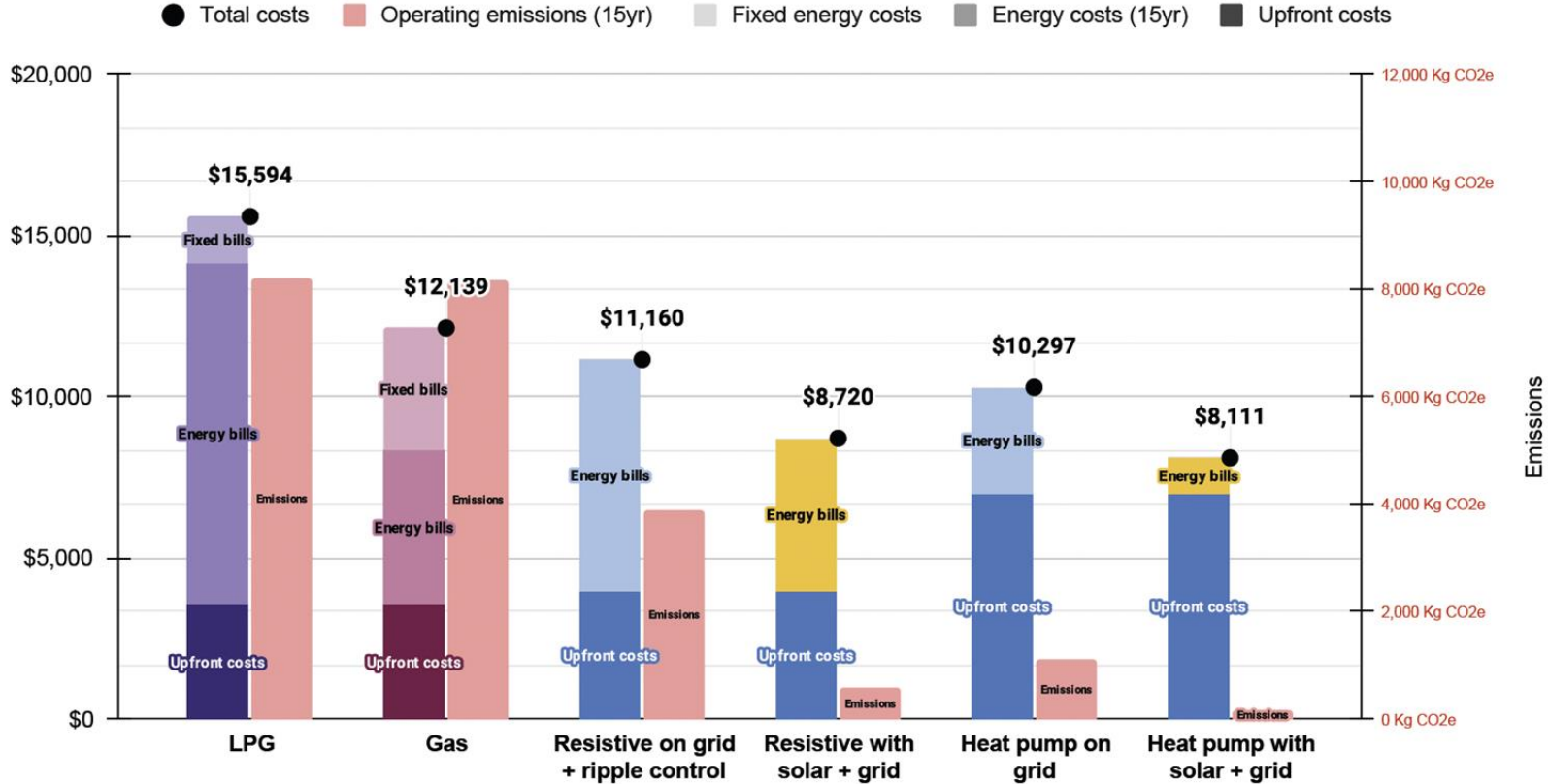


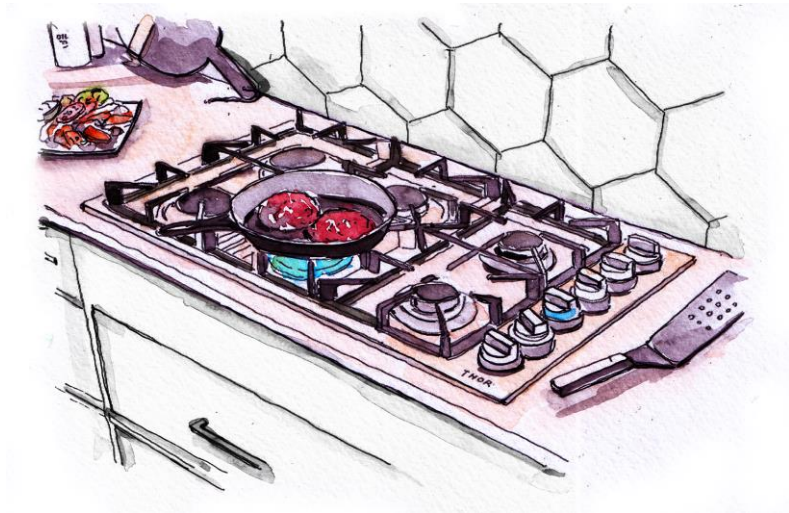
Space heating comparison in New Zealand homes. Costs & emissions.



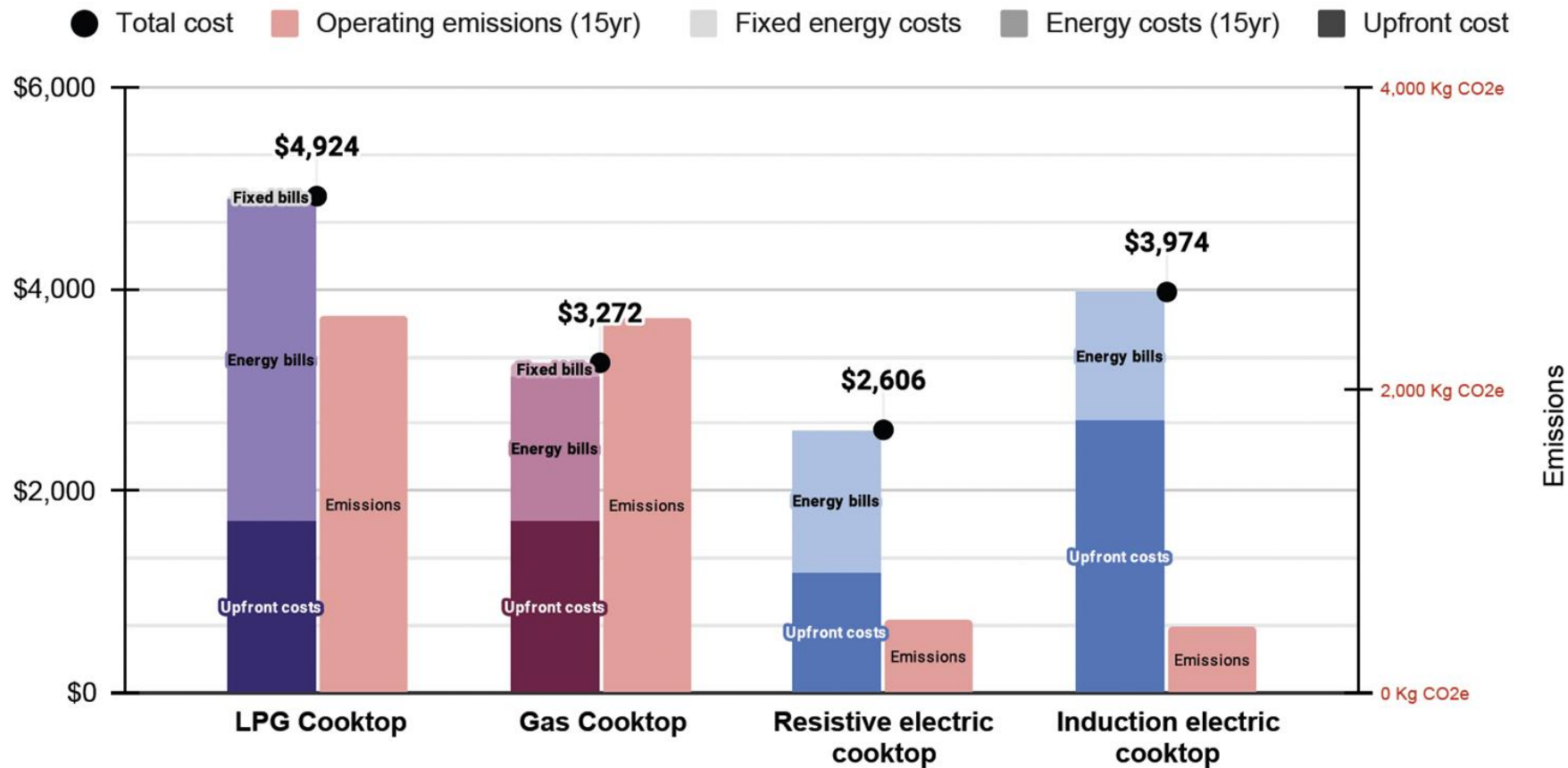


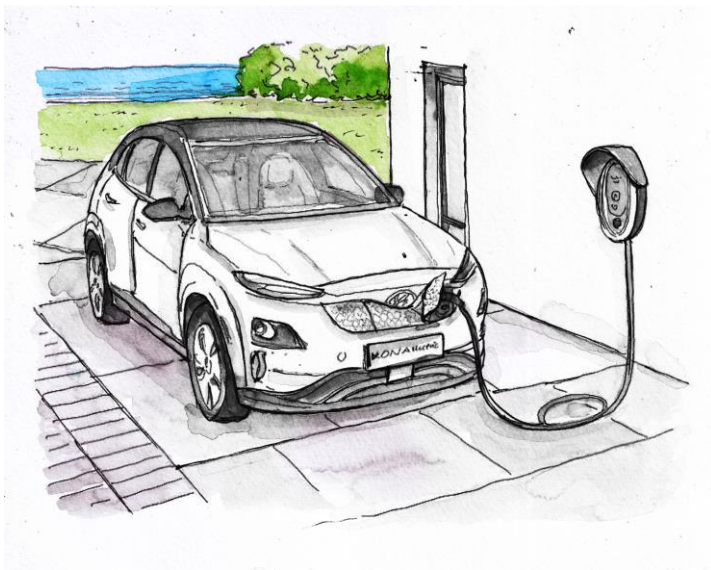
Water heating comparison in New Zealand homes. Costs & emissions.



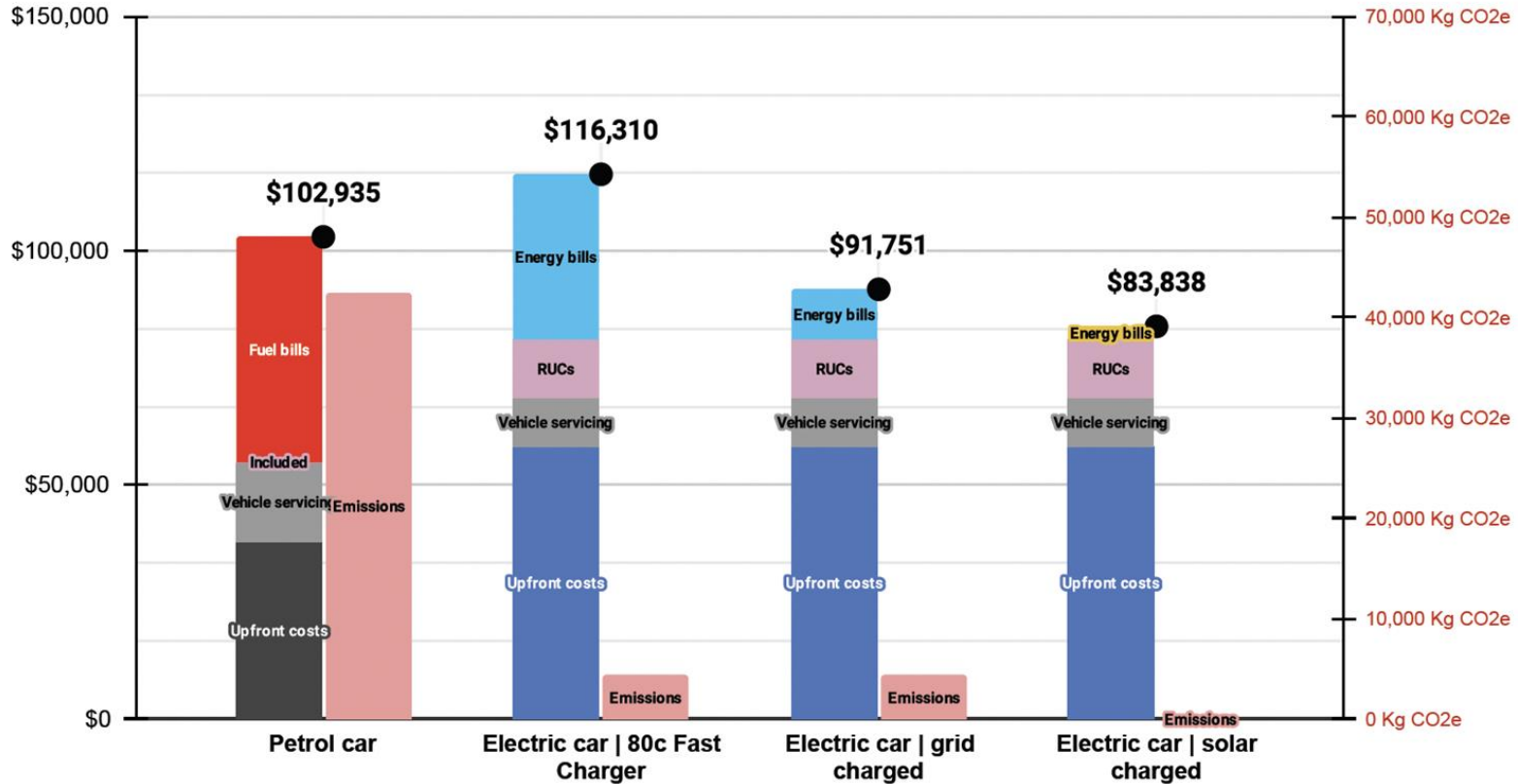


Cooktop comparison in New Zealand homes. Costs & emissions.

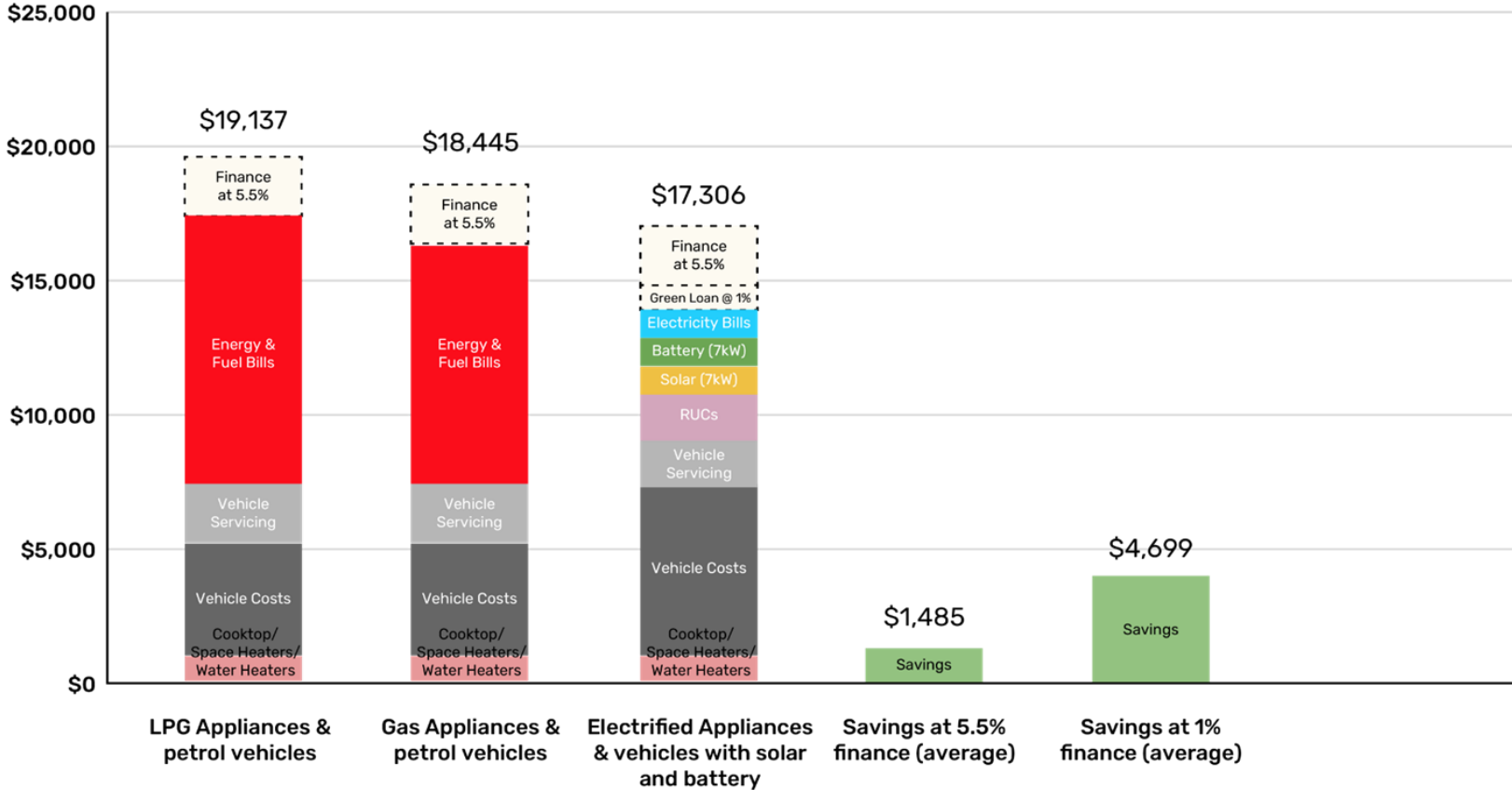




Vehicle comparison in New Zealand homes. Costs & emissions per vehicle.

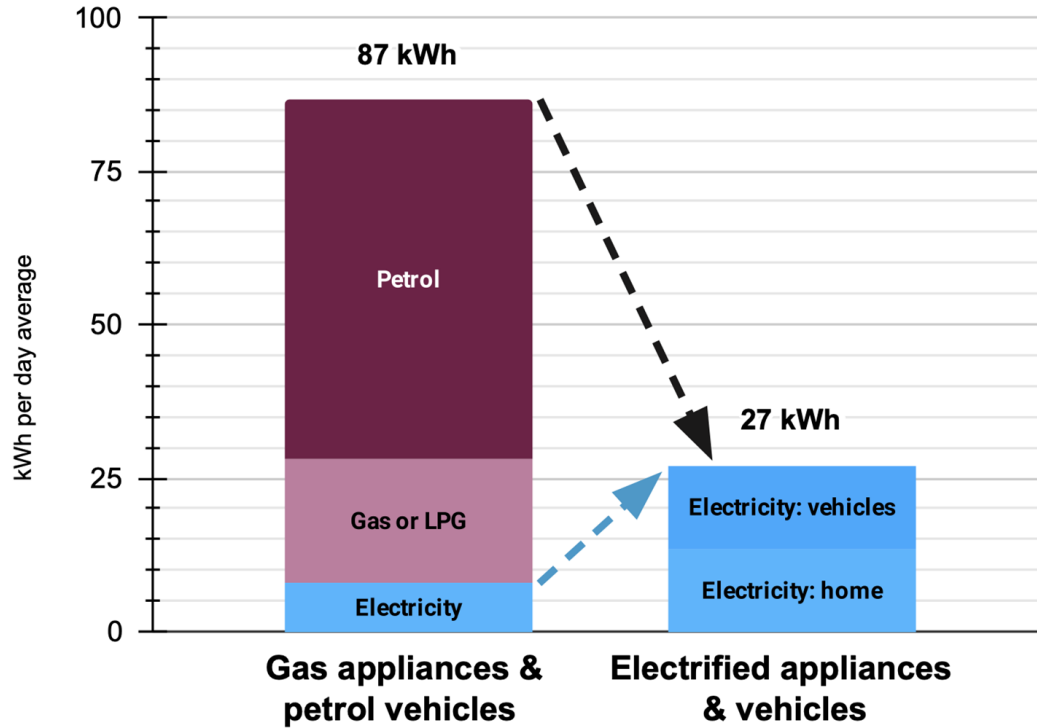


New Zealand | Gas/LPG and petrol home vs electrified home, annualised.

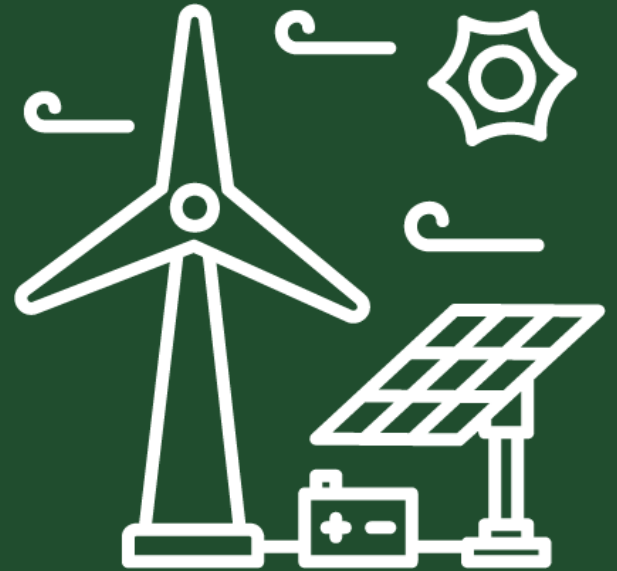


Average energy use per day in New Zealand homes.

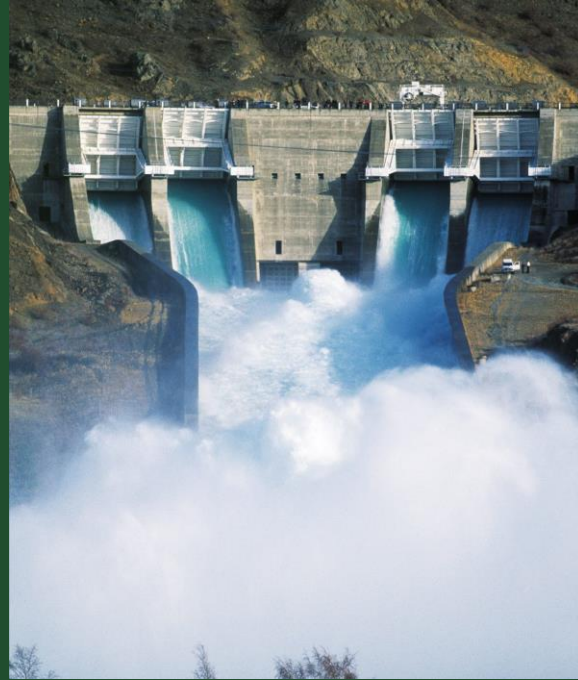
Sources: Residential Baseline Study 2021. EECA Energy End Use Database. EPA MPG. Rewiring Aotearoa Analysis.



Finally we have the resources!



We need a 200-300% renewable grid













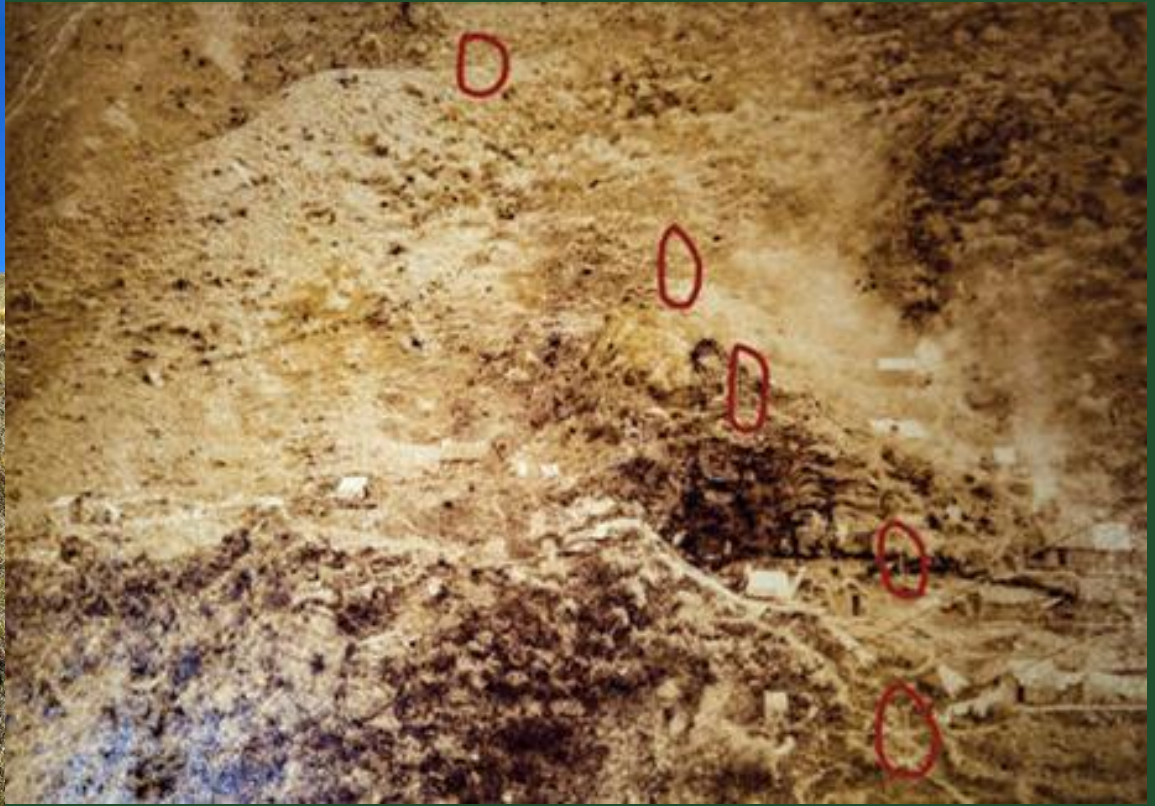
First electric house



Second electric public street lights in the world



Second ever transmission line in the world



World's first wet-steam geothermal electricity



Source: <https://teara.govt.nz/> Opening Wairākei power station

World's first fully electric cherry orchard



World firsts on the way...

Electric Dairy Farms

The role of Dairy farms as future power stations

Rewiring
Aotearoa 



Electric Wine

The role of Vineyards as future power stations

Rewiring
Aotearoa 



Electric Kiwifruit

The role of Kiwifruit orchards as future power stations

Rewiring
Aotearoa 



Electrify Everything

Nga mihi nui

