



Net Zero Expo

The Benefits of Electrification

The Benefits of Electrification

Moderator: Ian Moxon



Selena Griffith



Terry Niemeier
DCCEEW



Jacqui Grove
Northern Beaches
Council



Bryn Hernandez
Ausgrid



Graham Hunt
Renew



Electrification: Question 1

- What is electrification?
- Why get off gas?

> Selena Griffith

> Terry @ DCCEEW



ELECTRIFY MACKELLAR

decarbonising our community through electrification



Electrification : Question 2

- Council's electrification journey

> Jacqui @ Northern Beaches Council



Strategy, targets and action



Protect. Create. Live
Northern Beaches Environment
and Climate Change Strategy 2040





Corporate Aspirations

Net zero emissions by 2030

Corporate Commitments



A 60% reduction in carbon emissions by 2040*



Net zero emissions by 2045



Diverting 85% of waste from landfill by 2040



90% recycling of construction waste by 2040



All suitable sites being powered by renewable electricity by 2030*



Climate Change

Action Plan



Council's actions so far



Climate Change
Action Plan



Council is committed to reducing its carbon emissions. In January 2021 Council reduced its annual emission by ~80% by switching all its electricity to 100% renewable energy



Installed over 900kW of solar, including the Manly Andrew Boy Charlton Aquatic Centre which has 265kW



Replaced residential street lights to reduce our energy consumption, save money and reduce light spill to the night sky by ~90%. Upgraded lighting in some of our buildings, sports grounds and car parks



Reduced energy usage at Manly Town Hall, Library and Museum with more efficient air conditioning systems



Implemented the new domestic waste collection service which diverts more recycling from landfill than ever before



We have battery electric, plug-in and hybrid vehicles in Council's fleet, with numbers growing as more vehicles come up for replacement



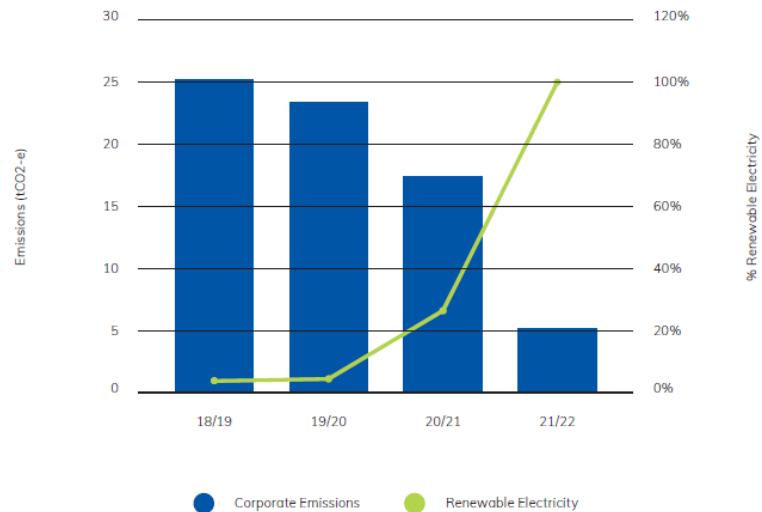
We are implementing our Northern Beaches Transport Strategy: Move 2038 making it easier for our community to use sustainable transport. the use of commuter car parks and the B'Line bus continues to grow. We also support car share facilities, provision of electric charging points, bike networks and recently an e-taxi trial



northern
beaches
council

Towards our targets

Tracking our progress



Next steps

- Ongoing energy efficiency and renewable electricity
- Finalise and implement transition from gas plan

Electrification : Question 3

- What practical steps could homes & businesses take toward their own electrification path?

> Selena Griffith



Our Electrification Journey

I’m best placed on the fridge :)

Plan out a pathway for your household to become all electric by 2025/30/35 or 2040. Remember the average lifetime of our machines is approximately 15-20yrs. Find out when you installed or bought machines and forecast forward to when they need to be replaced and replace them with an electric alternative.

	NA	ALREADY THERE	2024	2026	2028	2030	2032	2034	2036	2038	2040	2042
Switch to a renewable electricity supplier												
Ensure your superannuation and other investments don’t support non-renewables												
Replace gas water heater with electric												
Replace gas space heaters with electric												
Replace gas stove top with electric												
Replace gas oven with electric												
Install roof-top solar												
Install a battery												
Replace primary ICE vehicle with electric												
* Consider using your next mortgage refinance to fund some of this												
Replace secondary ICE vehicle with electric												

ELECTRIFY MACKELLAR

Our Electrification Journey

I’m best placed on the fridge :)

Plan out a pathway for your household to become all electric by 2025/30/35 or 2040. Remember the average lifetime of our machines is approximately 15-20yrs. Find out when you installed or bought machines and forecast forward to when they need to be replaced and replace them with an electric alternative.

	NA	ALREADY THERE	2024	2026	2028	2030	2032	2034	2036	2038	2040	2042
Switch to a renewable electricity supplier												
Ensure your superannuation and other investments don’t support non-renewables												
Replace gas water heater with electric												
Replace gas space heaters with electric												
Replace gas stove top with electric												
Replace gas oven with electric												
Advocate roof-top solar where possible												
Advocate a battery where possible												
Replace primary ICE vehicle with electric												
Consider using your next mortgage refinance to fund some of this												
Replace secondary ICE vehicle with electric												

ELECTRIFY MACKELLAR

Our Electrification Journey

I’m best placed on the fridge :)

Plan out a pathway for your household to become all electric by 2025/30/35 or 2040. Remember the average lifetime of our machines is approximately 15-20yrs. Find out when you installed or bought machines and forecast forward to when they need to be replaced and replace them with an electric alternative.

	NA	ALREADY THERE	2024	2026	2028	2030	2032	2034	2036	2038	2040	2042
Switch to a renewable electricity supplier												
Ensure your superannuation and other investments don’t support non-renewables												
Ask owner to electrify gas water heater												
Replace gas space heaters with electric												
Ask owner for electric stove top												
Ask owner for electric oven												
Ask owner to install roof-top solar												
Ask owner to install a battery												
Replace primary ICE vehicle with electric												
Replace secondary ICE vehicle with electric												

ELECTRIFY MACKELLAR

Our Electrification Journey

I'm best placed on the fridge :)

Plan out a pathway for your household to become all electric by 2025/30/35 or 2040. Remember the average lifetime of our machines is approximately 15-20yrs. Find out when you installed or bought machines and forecast forward to when they need to be replaced and replace them with an electric alternative.

	NA	ALREADY THERE	2024	2026	2028	2030	2032	2034	2036	2038	2040	2042
Encourage tenant to use renewable electricity supplier												
Replace gas water heater with electric												
Replace gas heaters with electric												
Replace gas stove top with electric												
Replace gas oven with electric												
Install roof-top solar												
Install a battery												

Our Electrification Journey

I’m best placed on the fridge :)

Plan out a pathway for your household to become all electric by 2025/30/35 or 2040. Remember the average lifetime of our machines is approximately 15-20yrs. Find out when you installed or bought machines and forecast forward to when they need to be replaced and replace them with an electric alternative.

	NA	ALREADY THERE	2024	2026	2028	2030	2032	2034	2036	2038	2040	2042
Switch to a renewable electricity supplier												
Ensure any investments don’t support non-renewables												
Replace water heater with electric												
Replace all heaters with electric												
Replace all appliances with electric												
Replace all plant and equipment with electric versions												
Install roof-top solar (as much as possible)												
Install a battery (as big as possible)												
Replace ICE vehicles with electric and charge from your roof and battery												
Create procurement practices to support electrifying everything												

ELECTRIFY MACKELLAR

Electrification : Question 4

- Why is Smart Building Design so important for new builds, retrofits & renovations?

> Graham @ Renew



renew.

Building envelope

The sweet spot is 7.5-8.5 stars

Homes in this range:

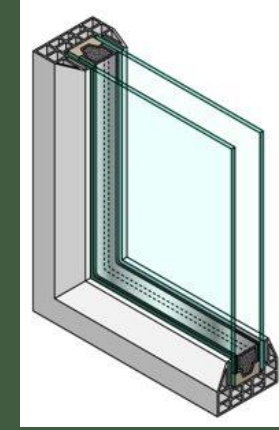
- Are well-insulated and well-sealed
- Enhance the benefit of efficient electric heating & cooling
- It is hard to achieve 7 stars in old homes, and yet there are still massive benefits from sealing & insulating
- Passive House/Enerphit is an option

YourHome website for heaps of info about making your home more comfortable and energy efficient:

<https://www.yourhome.gov.au/>

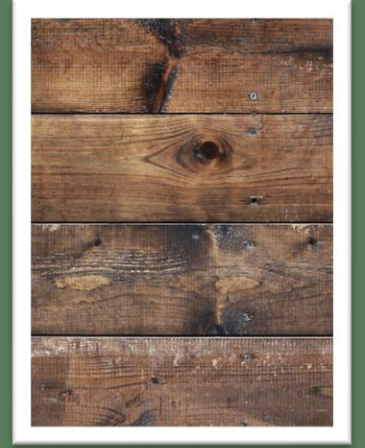
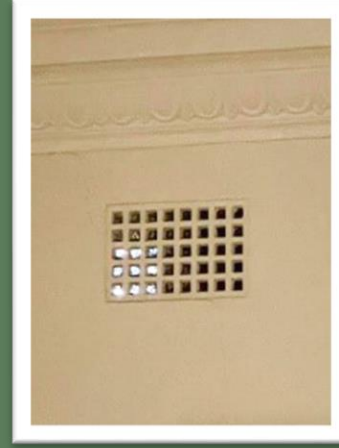
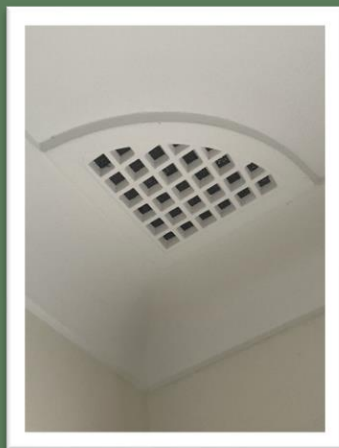
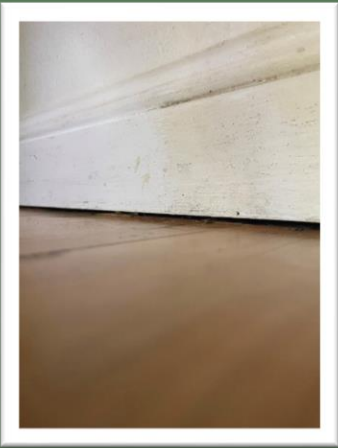
Renew's Getting Off Gas Toolkit -

<https://gettingoffgastoolkit.com/>



renew.

Gaps, Cracks & Gaping Holes

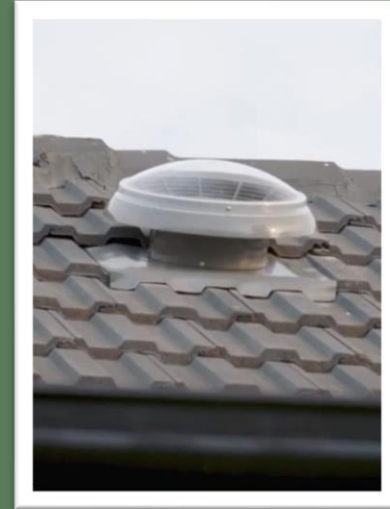
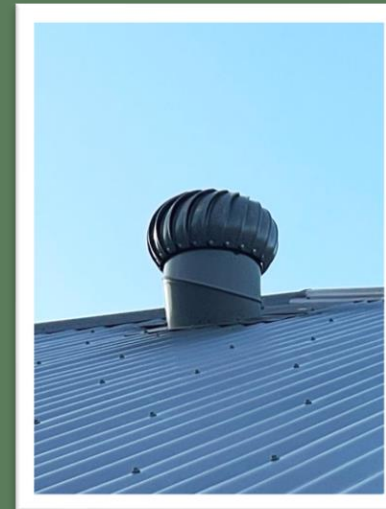


Under doors, Skirting boards, Ceiling vents

Around window frames, Wall vents, Floorboard gaps



Unsealed exhaust fans & bathroom heating lamps



Swap wind driven with Humidity & Temp controlled roof ventilators

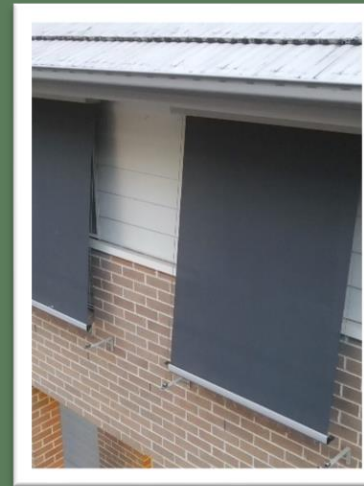
Winter

Glazing Retrofit Options

- Films
- Magnetite
- Refurbish
- Replace with double glazing

Coverings

- Heavy drapes with pelmet
- Honeycomb blinds
- Roman blinds
- Need to create a good seal
- Remember to close them at night



Summer

Shade West and East Facing windows

Some options are:

- Drop down blinds
- Deciduous plants
- Pergola
- Shade trees to east and west

<https://renew.org.au/renew-magazine/buyers-guides/high-performance-curtains/>

Electrification : Question 5

- How can people in Strata & Rental properties go all-electric?
 - > Graham @ Renew
 - > Terry @ DCCEEW



Strata Common Areas

Energy efficiency first: Big users are

- Centralised air-conditioning
- Mechanical ventilation
 - Bathroom / kitchen ventilation
 - Car Park ventilation
- Hot Water – gas to heat pump
- Lighting
- Lifts
- Water pumping
- Miscellaneous motors



Low hanging fruit:

- Tariff and power plan
- T8 fluorescent lights → LED + sensor
- Halogen downlights → LED
- CO sensors on car park ventilation
- VSDs on pumps & fans
- Power factor correction
- Get professional advice



Strata Solar

Challenges:

- Roof area and orientation
- Agreement within body corporate
- Payback in 2 – 10 years
- Batteries – viable with TOU tariff
- Various meter arrangements
 - Common property only
 - Tenancy direct to meter
 - Common + tenancy
 - Allume, Solshare
- Greenpower

<https://renew.org.au/renew-magazine/solar-batteries/solar-for-renters-and-apartment-dwellers/>



Renters

Best tips:

- Draughtproofing
- Electric appliances - replacement
- Considered use of heating and cooling equipment
 - Heat the person not the house
 - Windows and doors for ventilation
 - Night purging – sea breeze
- Blinds, curtains and shading screens
- Fridge in cool spot and check seals
- Efficient showerhead
- Insulate the hot water valves and pipes
- Approach your landlord



Reduce your bills

Stay cool in summer,
warm in winter

Solar for renters

Ways to work with
your landlord

RENTERS GUIDE TO SUSTAINABLE LIVING

Tips for a more comfortable and energy efficient home



Electrification : Question 6

- What support and rebates are available?

> Terry @ DCCEEW



Electrification : Question 7

- What does the future grid look like in an increasingly electric future?

> Bryn @ Ausgrid



Electrification of Homes & Businesses



Our Vision is for communities to have the power in a resilient, affordable, net-zero future

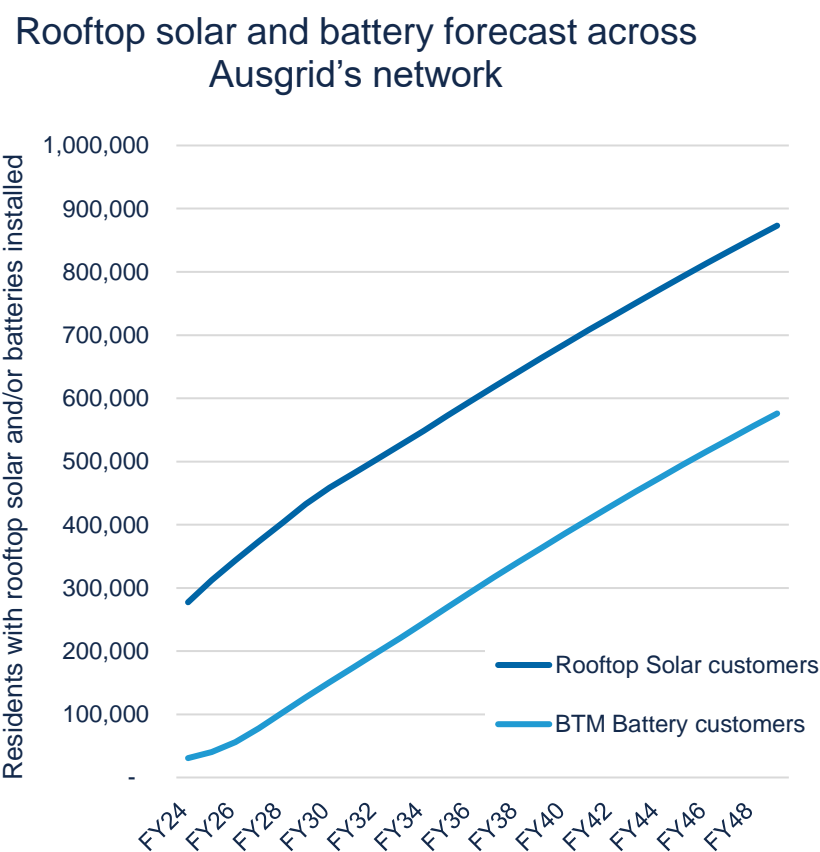
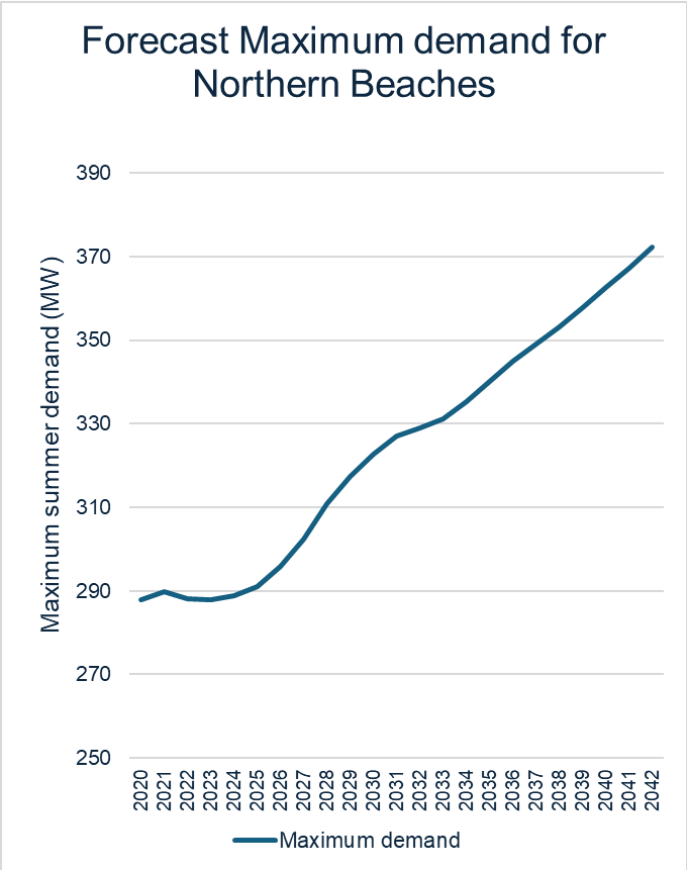
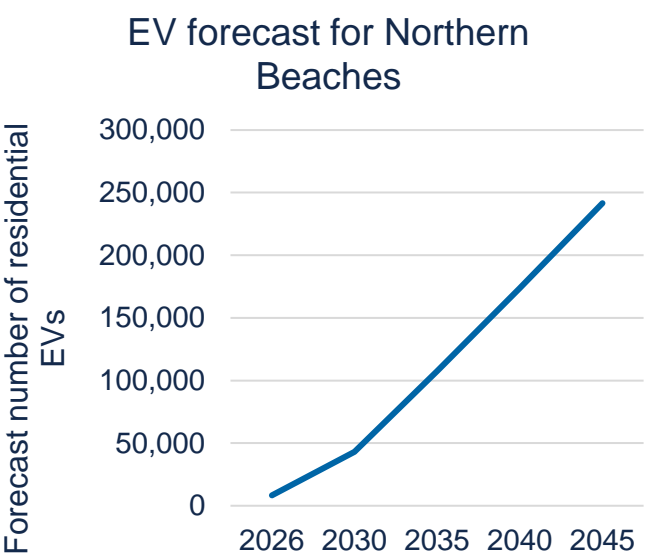
Who is Ausgrid and what do we do?

Ausgrid is the largest distributor of electricity on Australia's east coast. Our grid powers the economic engine room of NSW. We bring power to 1.8 million households and businesses across 22,300 square kilometres covering Sydney, the Central Coast and the Hunter Valley.



Electrification Forecasts – Rate of uptake of CER

Ausgrid’s CER vision is to ***‘Utilise Ausgrid’s network as a platform to safely, efficiently, and equitably enable CER in a way that meets the need of customers, stakeholders and facilitates a net zero future’.***



Electrification – Enabling and Managing CER

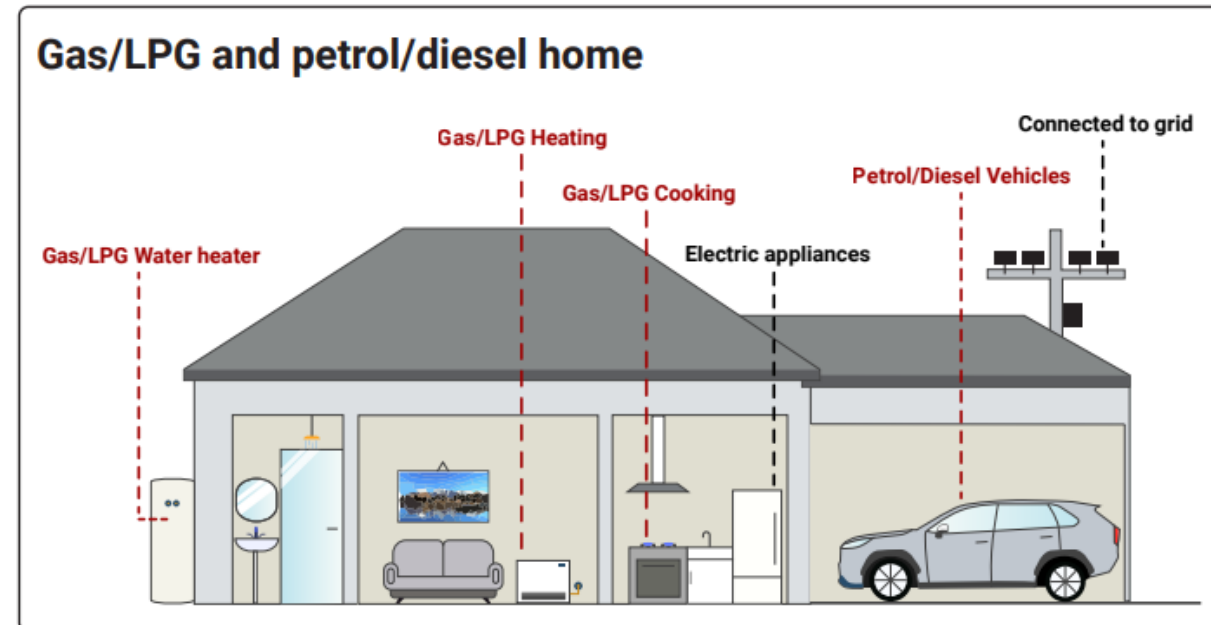
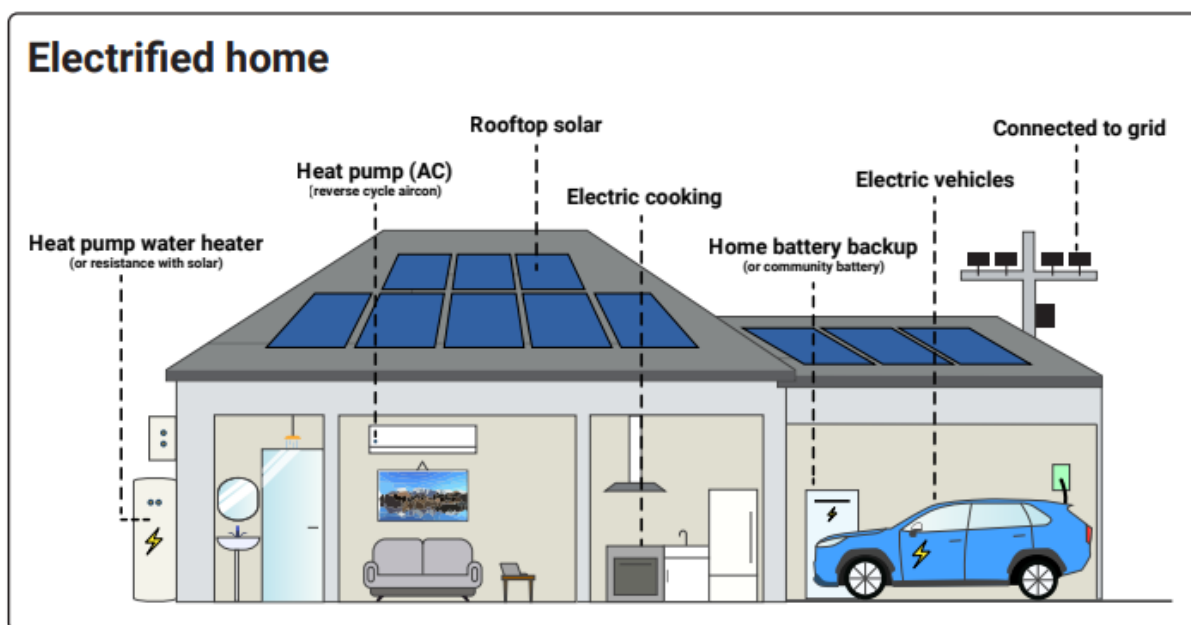
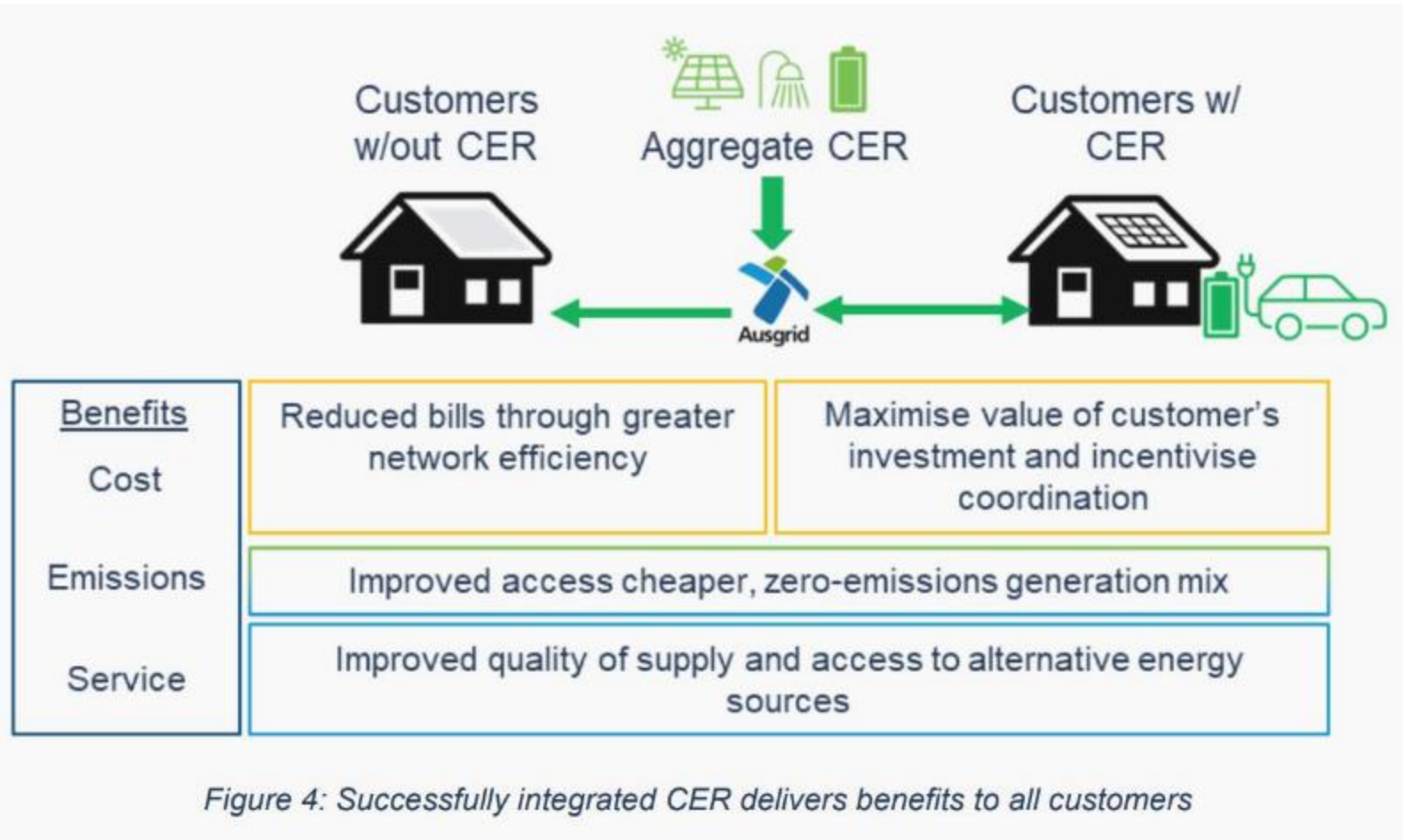


Image Credit: Electric Homes Report by Rewiring Aotearoa – March 2024

What role does Ausgrid play for Customer Energy Resources (CER)?



Electrification: Q&A

- Please raise your hand if you have a question for the panel
- Following Q&A the panellists may be available for a further 10 mins in the Tramshed foyer



Electrification: Thank You

- Many thanks to the moderator and panellists for supporting Council's first Net Zero event – it's much appreciated.
- Thank you also to the audience for joining us. We hope this panel discussion has helped inspire your electrification journey.
- Please visit Council's Solar and Energy webpages for more information.

