



Southern Highlands Future Forum

In partnership with



Bringing the energy experts to you

7 September Session 2 – 1:30pm

Acknowledgement of Country

We acknowledge the traditional custodians of this land and pay respect to elders past, present and emerging of this land we now call the Wingecarribee Shire.

We recognise the continuous and deep connection for Gundungurra and Tharawal people to their country and its great cultural significance to first nations people both locally and in the region.



Cultural Burn - Gibbergunyah



We're with you

Disclaimer

The information and opinions shared by the speakers of the Southern Highlands Future Forum are those of the speakers and do not necessarily reflect the views or positions of Wingecarribee Shire Council. It is important that each of you continue your educational journey and do your own research following this event.



We're with you

Session 2 – 7 Sept 1:30pm – 3:30pm

Exploring electrification and energy efficiency in your home, finding savings for you



John Buchelin
Rewiring Australia
Project Manager



Adam Corrigan
Founder
Your Energy Friend



John Jutsen
Electrified his own home
45 Years of experience in energy and carbon management
Recently stepped down from CEO of Race for 2030



We're with you



John Buchelin
Rewiring Australia
Project Manager



We're with you



Electrify Everything

Putting communities at the heart of climate solutions

John Buchelin
September 2024



About

About

Dad

Electrify 2515

Rewiring Australia



About Rewiring Australia

- ⚡ Non-profit research & advocacy organisation dedicated to representing the people, households and communities in the energy transition.
- ⚡ **On a mission to electrify everything.** That is, to replace all fossil fuel-based machines with efficient, electric ones powered by renewable energy.



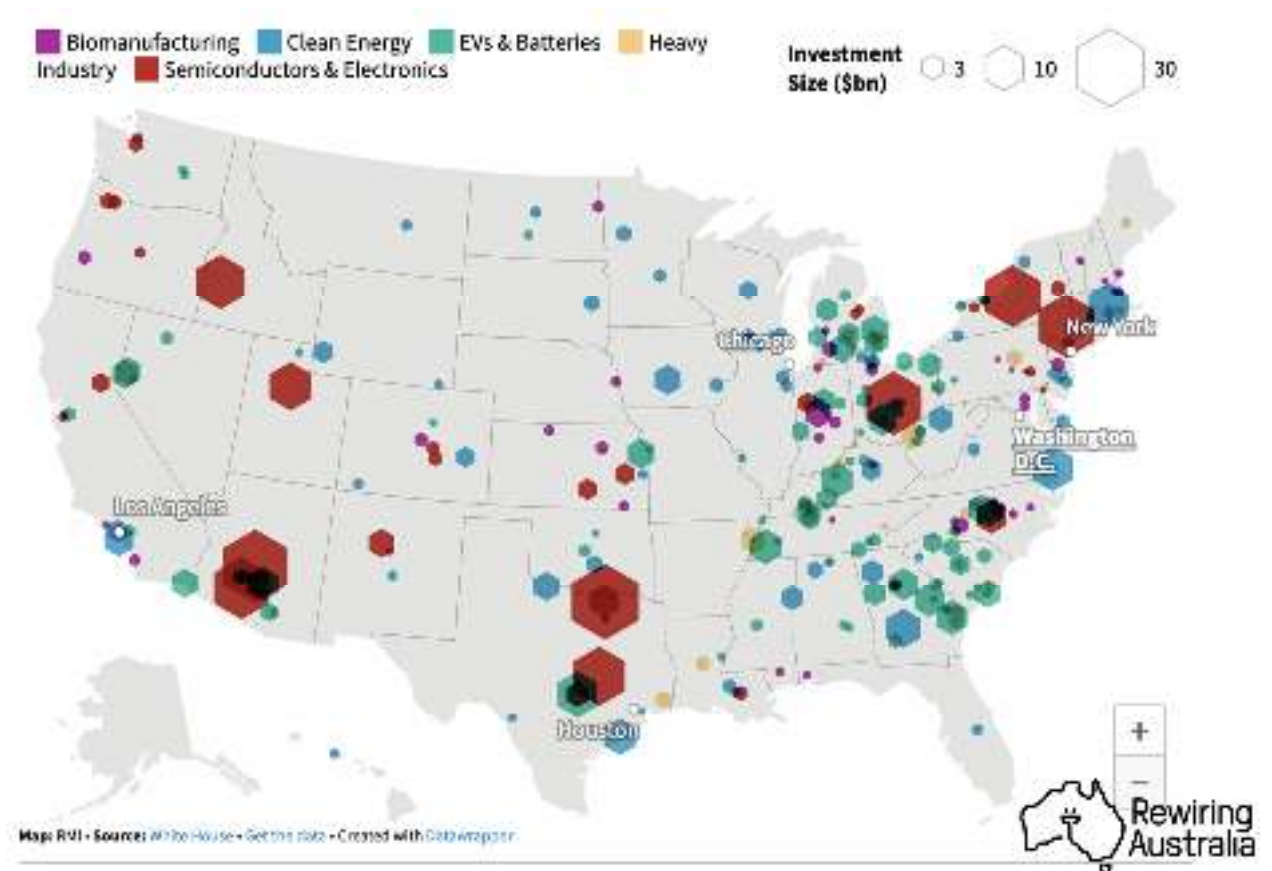
Dr Saul Griffith

- Engineer, scientist, energy expert, visionary
- Founder of Rewiring America / Rewiring Australia / Rewiring Aotearoa
- Books - Electrify & The Big Switch
- Co-designed America's Inflation Reduction Act



US Inflation Reduction Act - 1 year on

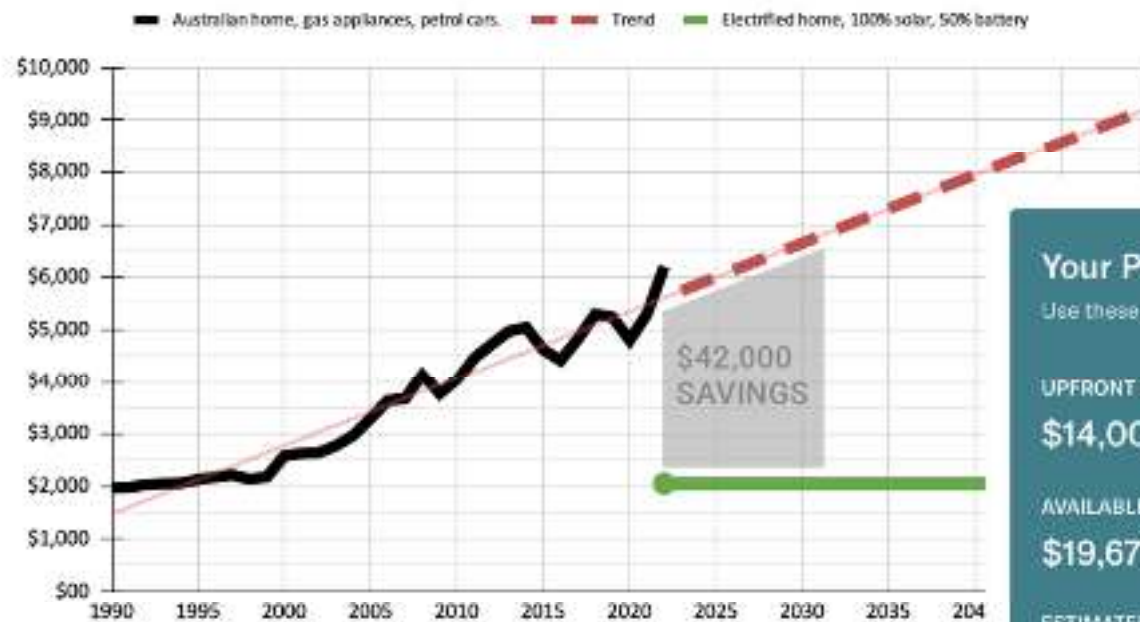
- Govt invested \$369 bil
- Private sector \$240 bil investment in clean tech from private sector
- 170,000 new jobs created. Expected to grow to 1.5 mil over the decade.
- 91 new battery manufacturing sites, 65 new or expanded EV manufacturing facilities, 84 wind and solar manufacturing announcements.



US Inflation Reduction Act - 1 year on

- \$30,000 tax credits to electrify homes
- Projected to save \$27 - 38bil on their electricity bills over a decade
- Reduce greenhouse gas emissions by approximately 1 billion tons in 2030

Australian home running costs | Conventional versus electrified



Your Personalized Incentives

Use these any time in the next 10 years.

UPFRONT DISCOUNTS

\$14,000

AVAILABLE TAX CREDITS

\$19,672

ESTIMATED TOTAL INCENTIVES

\$33,672

ESTIMATED BILL SAVINGS PER YEAR:



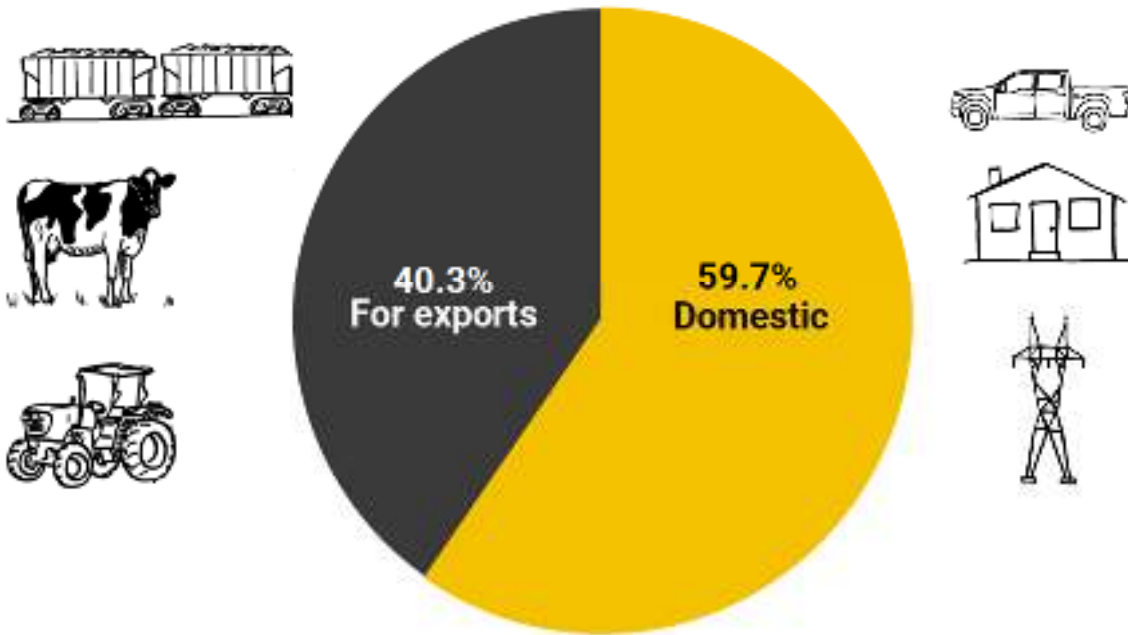
Why electrify everything?



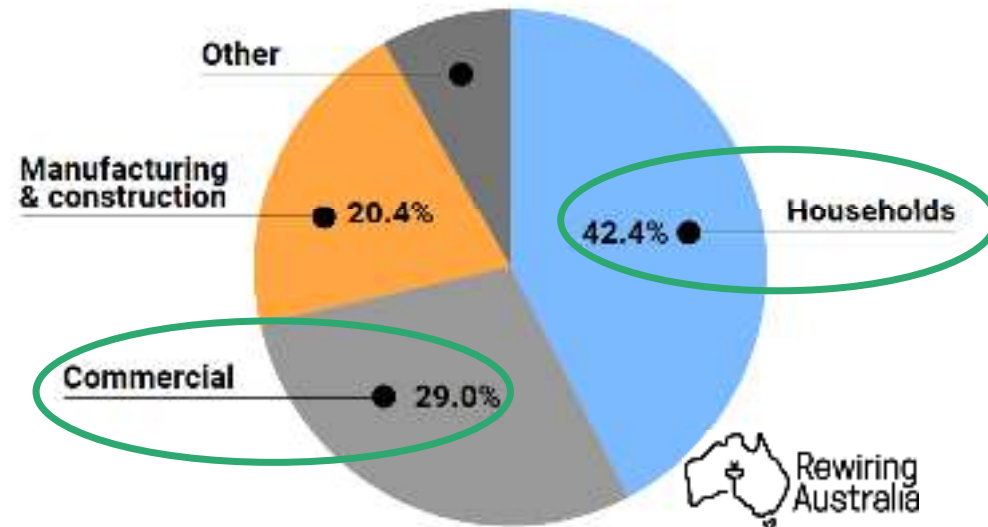
Electrify
Everything
FOR EVERYONE

We need to replace fossil fuels urgently

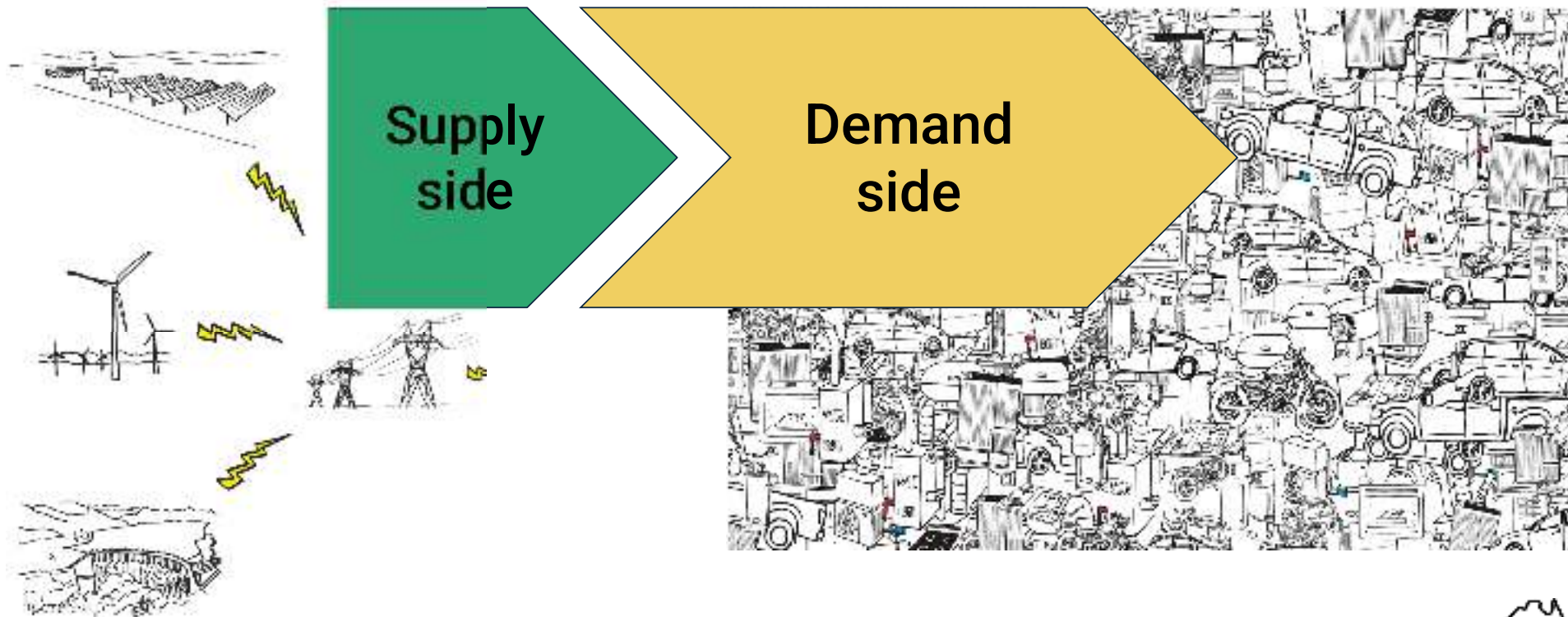
Australian emissions



Domestic emissions



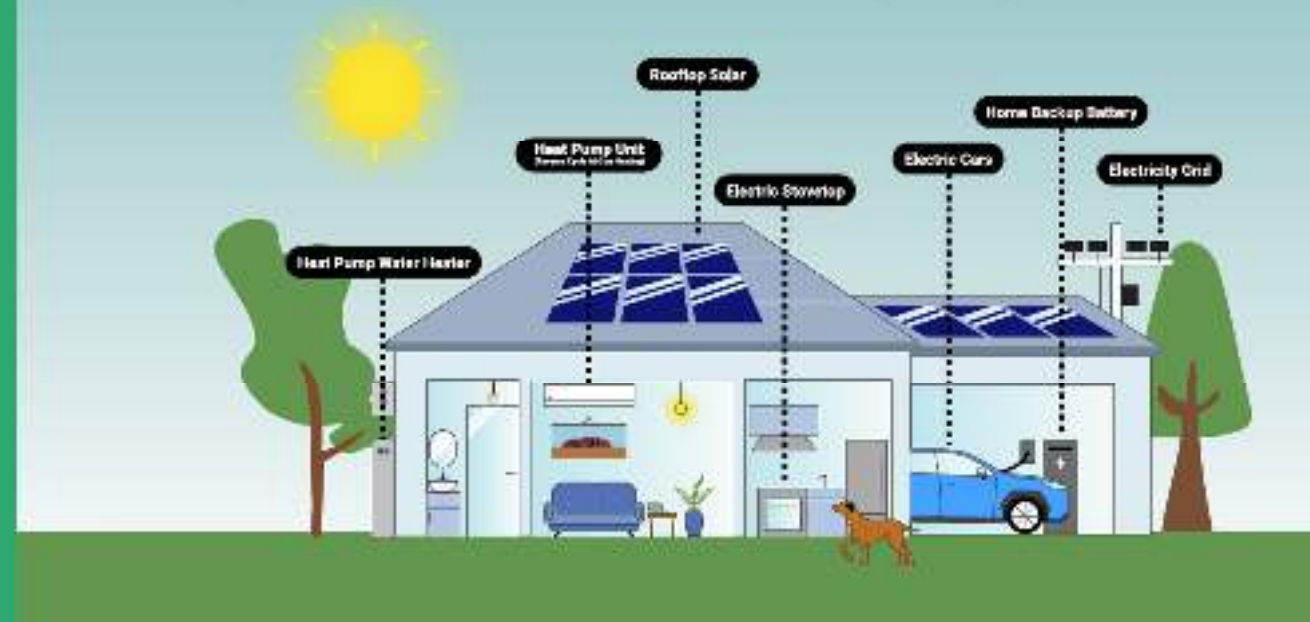
We can shape the system



It benefits households

- Cheaper bills
- Healthier & safer homes
- More energy independence
- Reduced carbon footprint

Savings of \$3,000-5,000 per year.



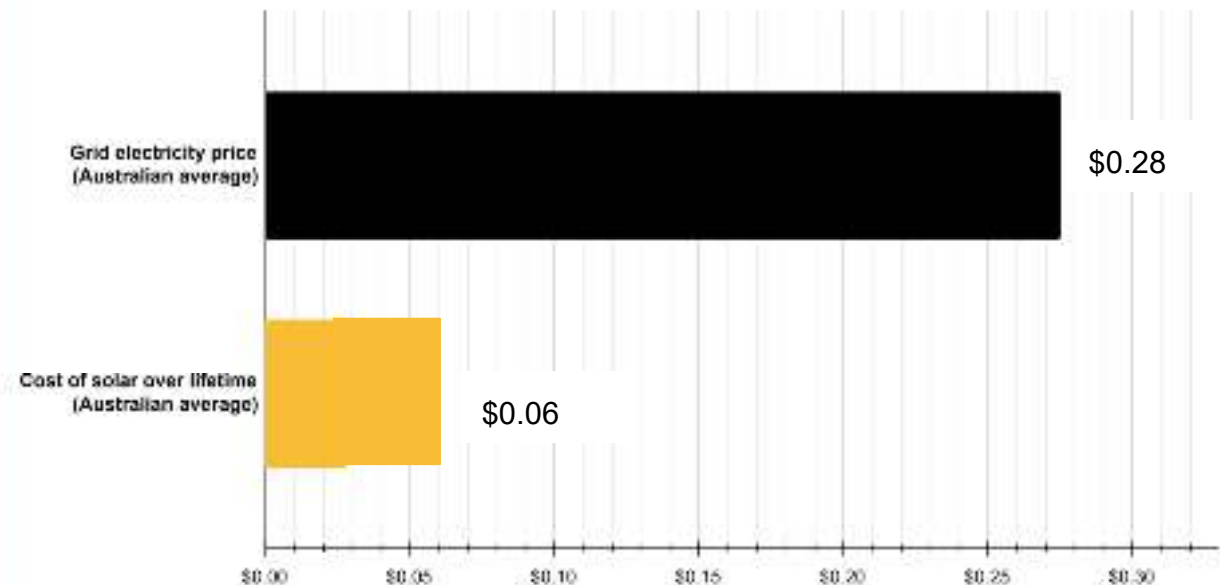
We are the lucky country

Australia is the first country in the world where electrification will work



Cost of grid electricity vs solar electricity (kWh)

Solar capacity: Solar of 17,141, 2023, 22 year lifetime, SolarChoice & ADMC



It benefits Communities

- More resilient from natural disasters
- Creates local jobs
- Supports local economy
- A more responsive grid

2022 (2515 spending)



\$14,856,167 fossil fuel spend.
\$4,124,527 grid electricity spend.

How?



**Where we
buy our
electricity**

**How we
cook our
food.**

Dinner table decisions

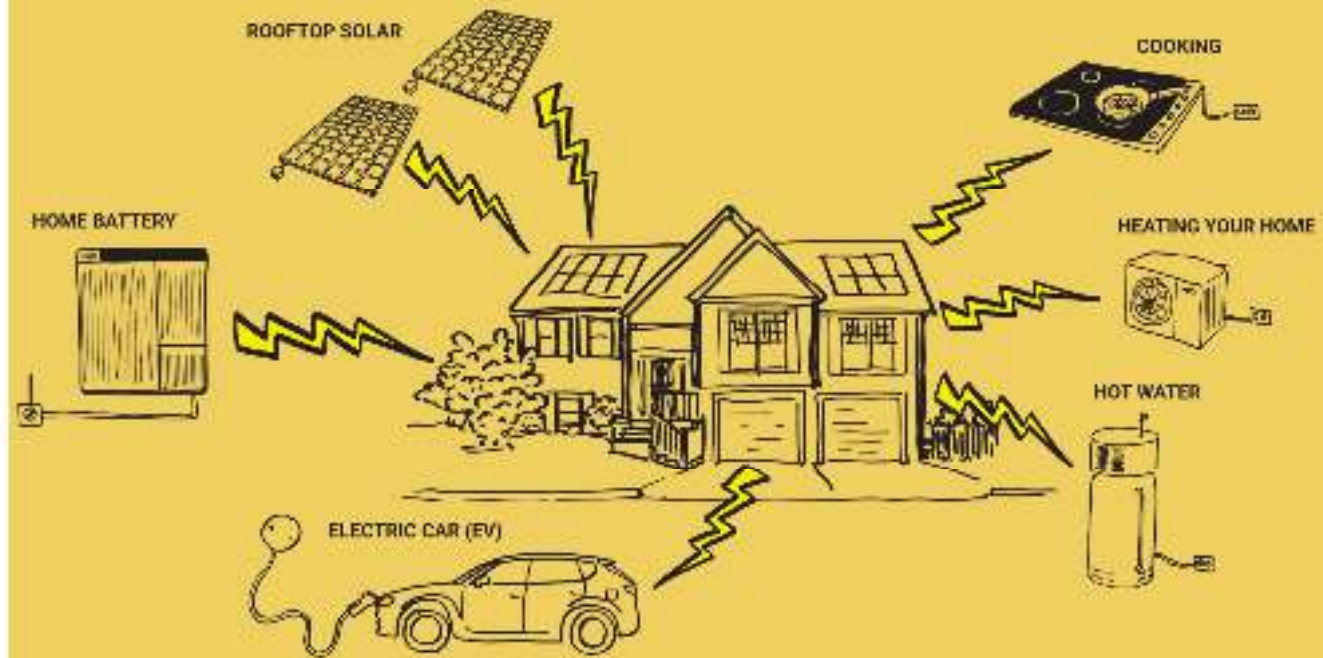
**How we get
to work,
school, play.**

**How we heat
our homes
and water.**

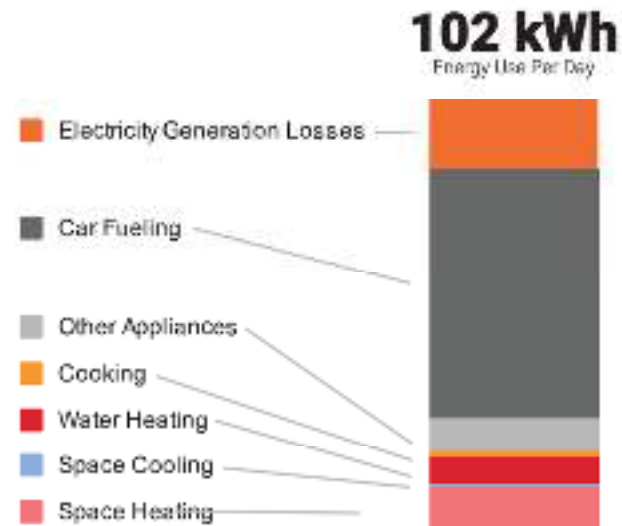
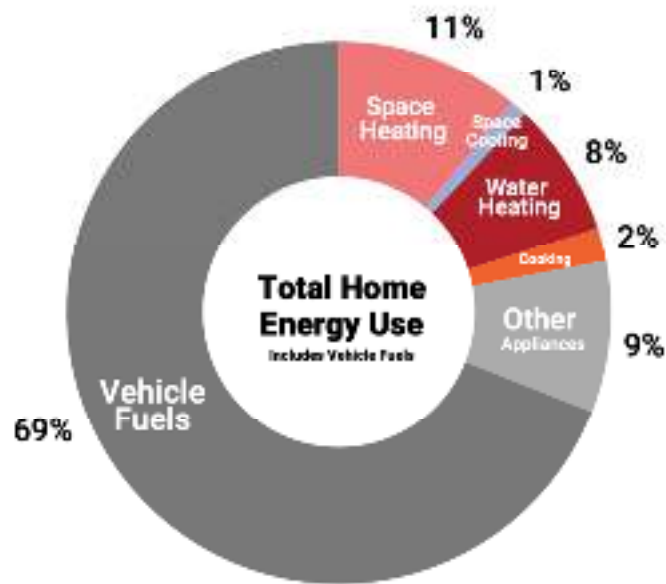
Get off fossil fuels

- ⚡ Water heater
- ⚡ Space heater
- ⚡ Cooktop
- ⚡ Vehicle
- ⚡ Rooftop solar
- ⚡ Battery storage

Electrified Home

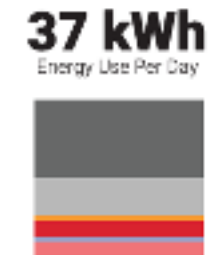


Electrification is efficiency



AVERAGE HOUSEHOLD

CURRENT "AVERAGE"
AUSTRALIAN HOUSEHOLD



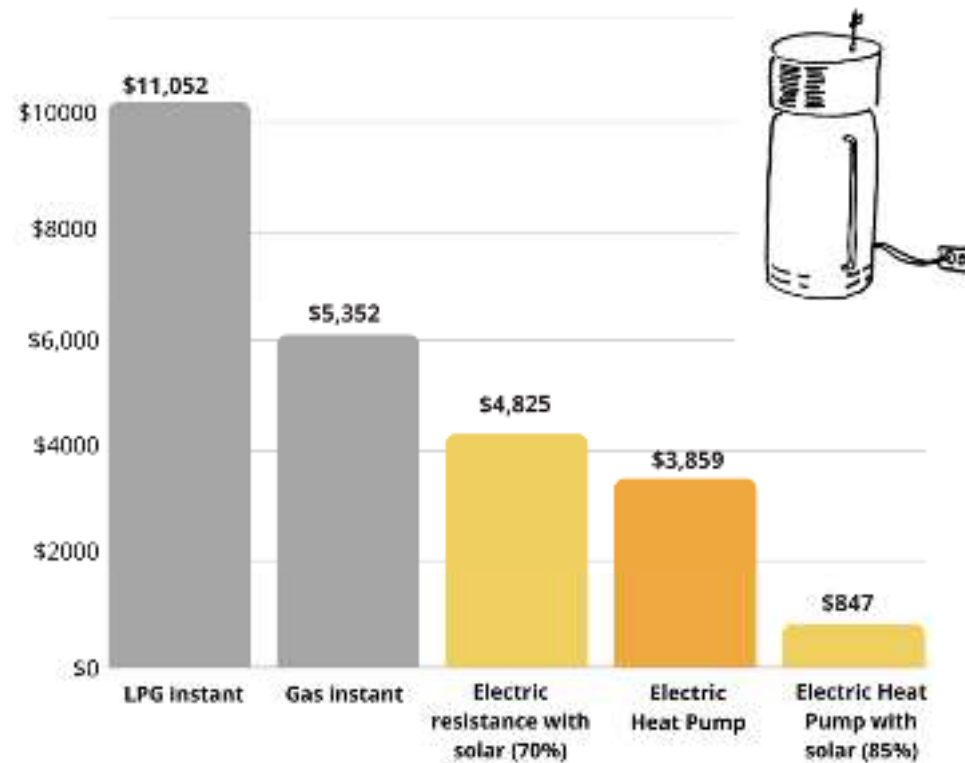
ELECTRIFIED HOUSEHOLD

ELECTRIFIED "AVERAGE"
AUSTRALIAN HOUSEHOLD

2/3 less energy

WATER HEATERS | RUNNING COSTS (LIFETIME)

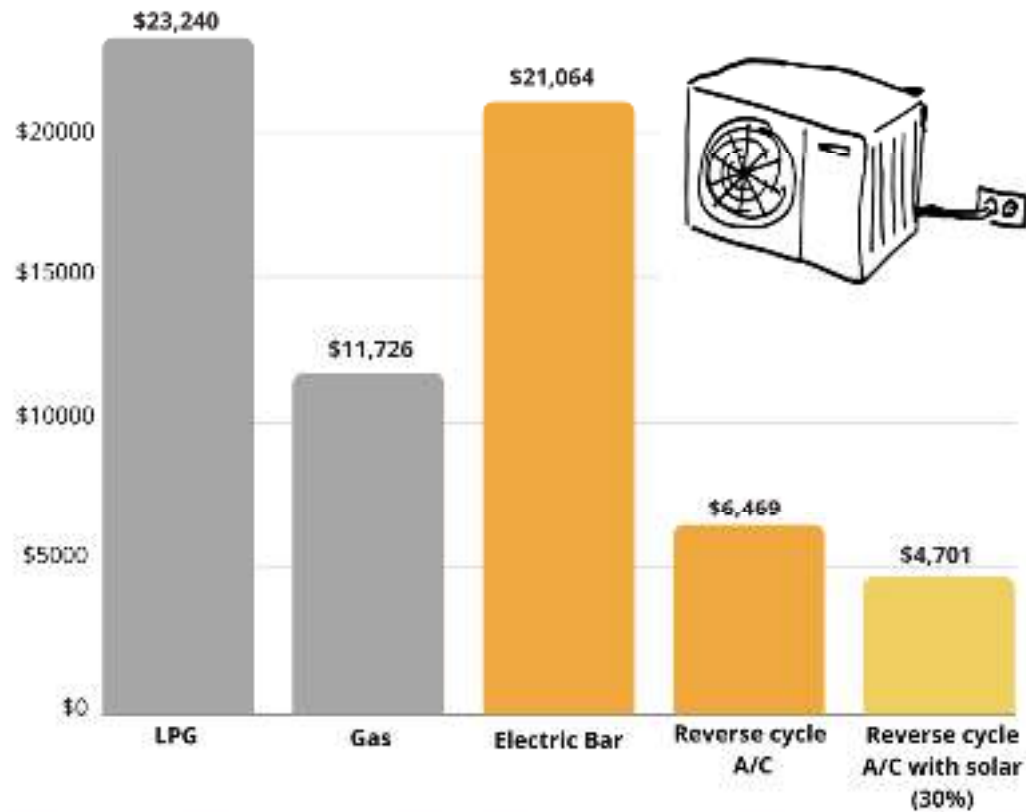
Bill comparison over 15 years, average Australian water heating needs



Sources: Rewiring Australia analysis, Residential baseline study 2021, 2023 electricity, gas, LPG and solar prices.

SPACE HEATERS | RUNNING COSTS (LIFETIME)

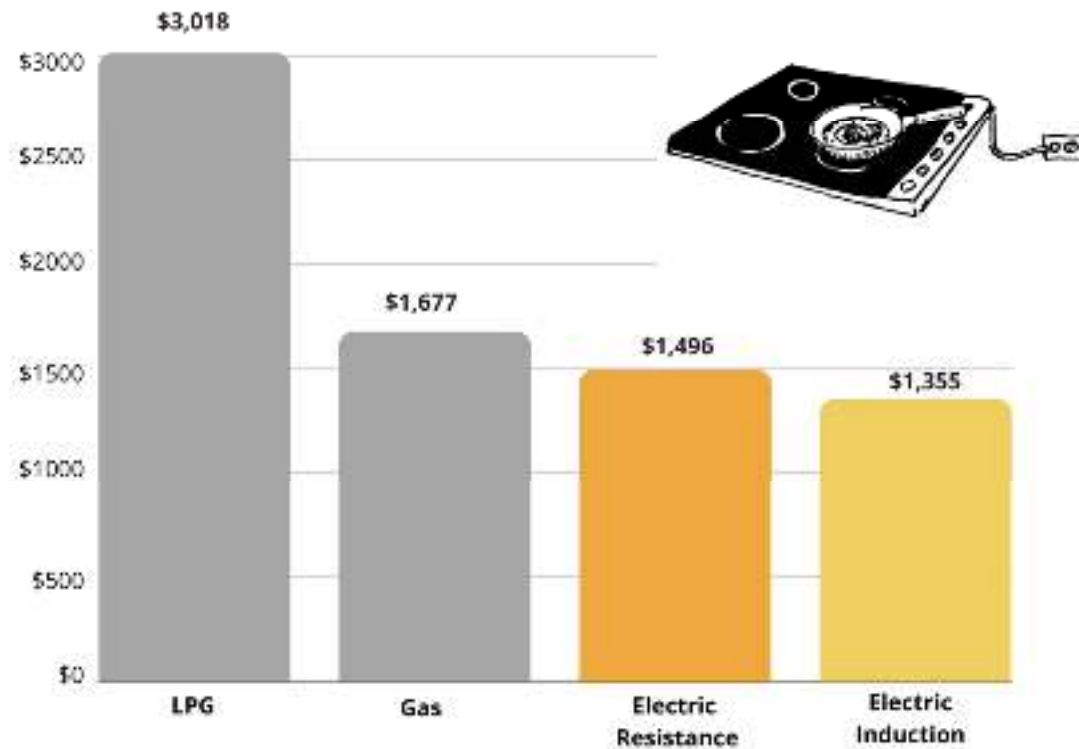
Bill comparison over 15 years, average Australian energy use



Sources: Rewiring Australia analysis, Residential Baseline Study 2021, 2023 electricity, gas, LPG and solar prices.

COOKTOPS | RUNNING COSTS (LIFETIME)

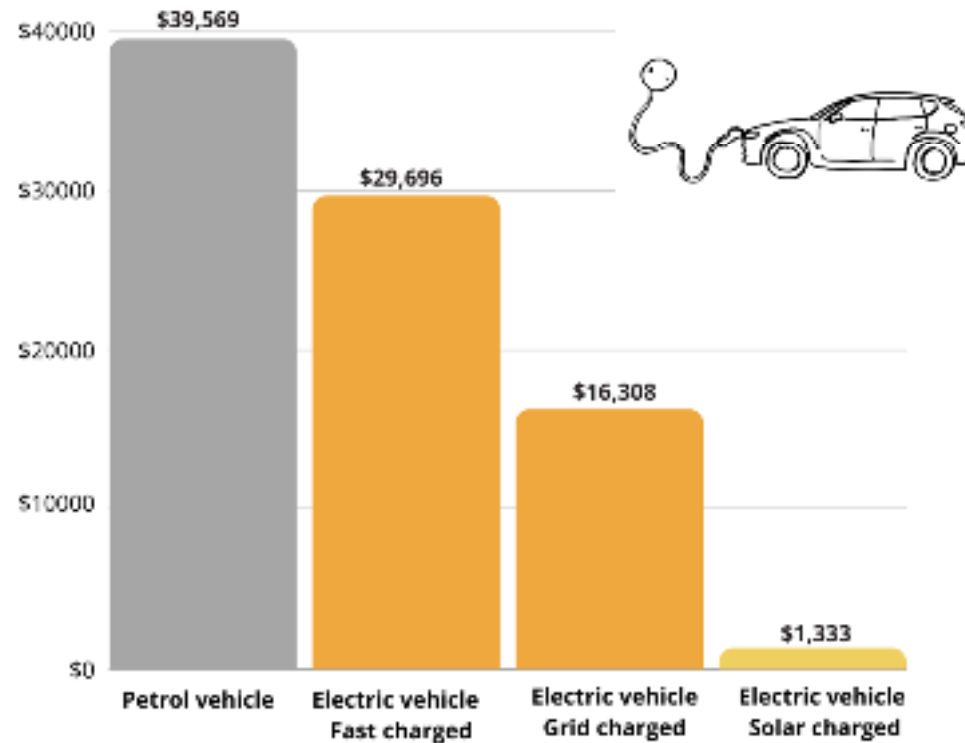
Bill comparison over 15 years, average Australian energy use



Sources: Rewiring Australia analysis, Residential Baseline Study 2021, 2023 electricity, gas, LPG and solar prices.

VEHICLES | RUNNING COSTS (LIFETIME)

Driving cost comparison over 15 years, average Australian driving



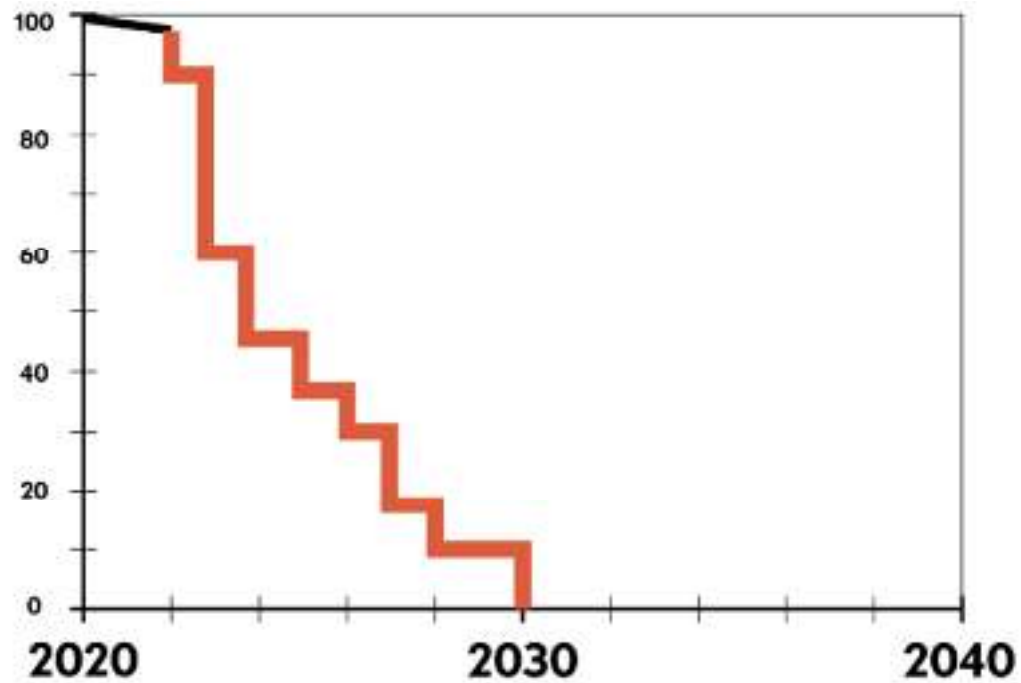
Sources: Rewiring Australia analysis, Residential Baseline Study 2021-2023 electricity, gas, LPG and solar prices

My EV Story

- ⚡ Had to get a second car
- ⚡ EV v Petrol break even point = 3-4 years
- ⚡ 5 Year old car - now has 120,000+ KMs
- ⚡ Does 230+ KM per charge

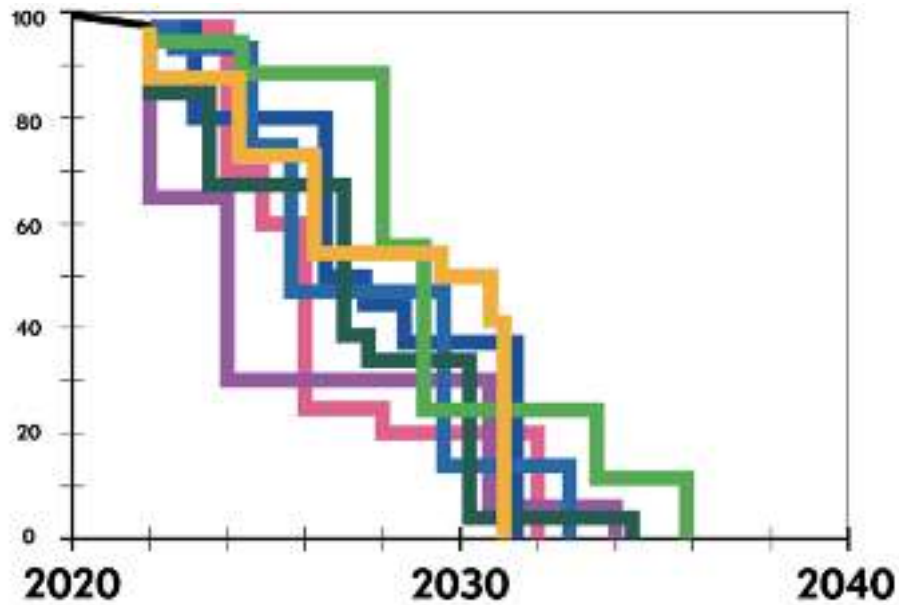


Make a plan: for your “cold shower day”

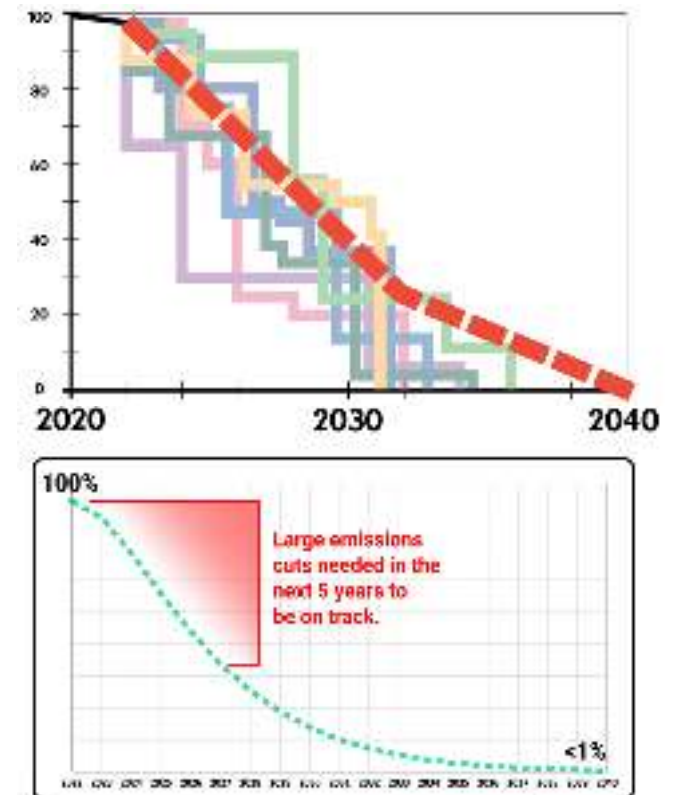


E-bike	2022
Car 1	2023
Main Panel	2023
Rooftop Solar	2024
Green Electricity	2025
Water Heater	2026
Electric Cooking	2027
House Battery	2027
Car 2	2028
Space Heater	2030

Help friends, family and community



- Household A
- Household B
- Household C
- Household D
- Household E
- Household F
- Household G
- Household H



About Electrify 2515



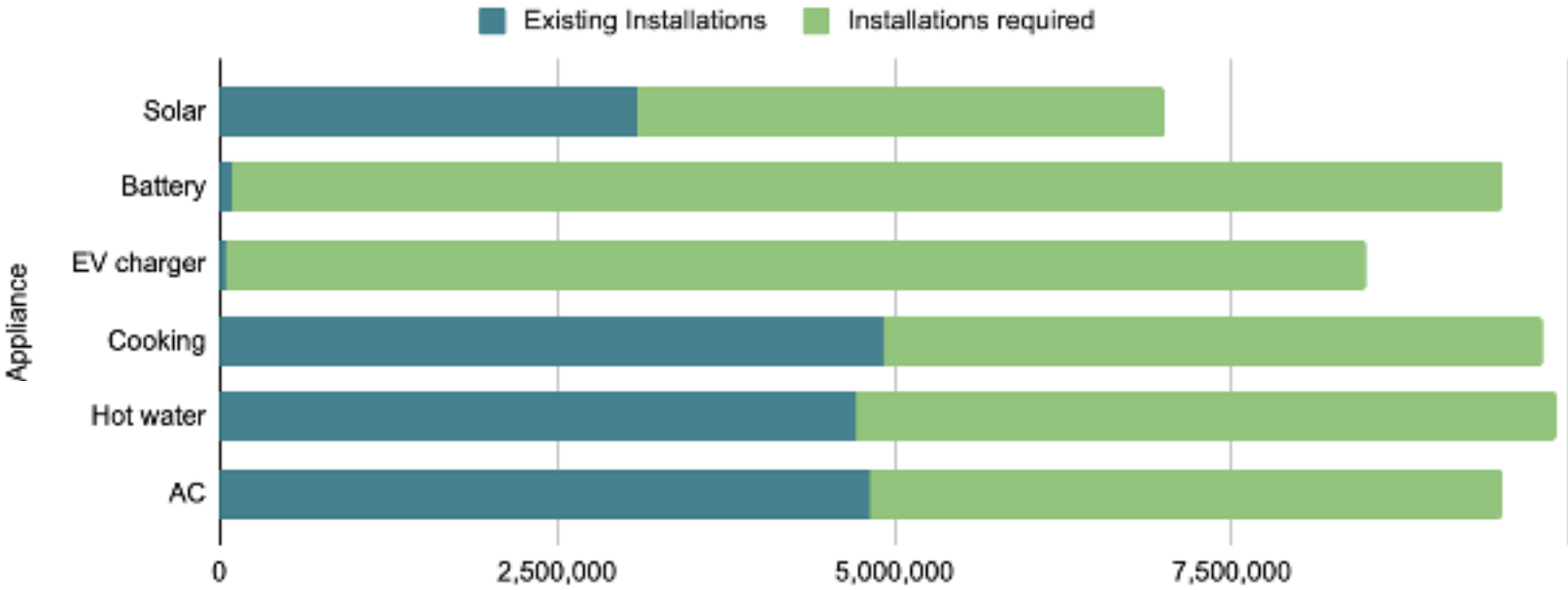


Helping everyone electrify

Rewiring Australia's Goal

10-15 year lifespan - need the changes now

36 million electrification appliances to install

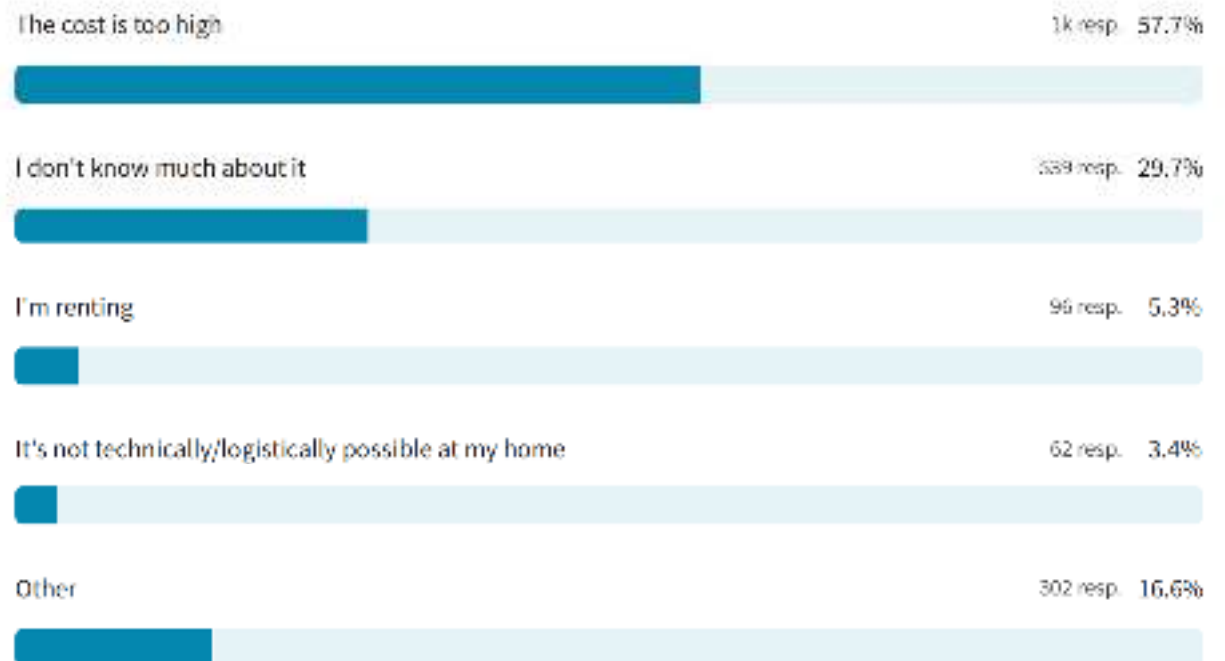


1 million new gas appliances sold every year

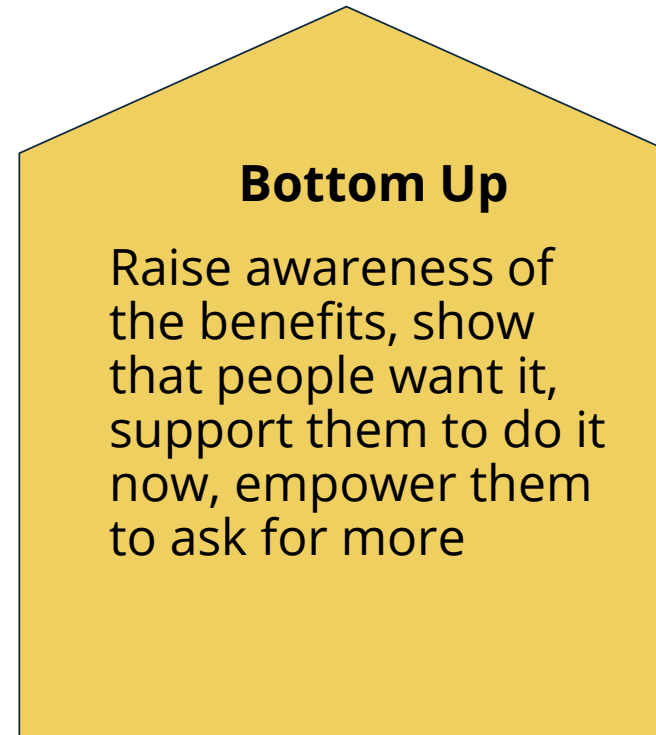
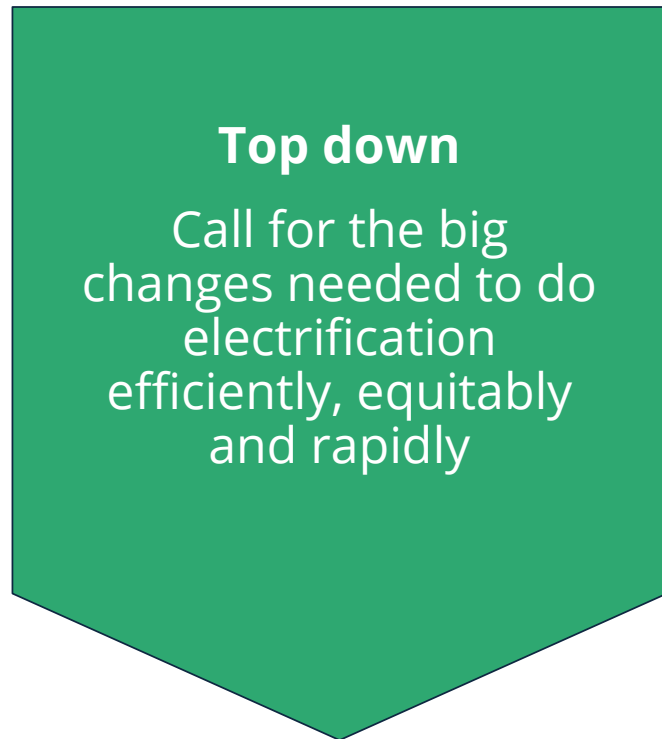


Barriers to electrification

1. **Upfront cost**
2. **Lack of knowledge/trust**
3. Current machine doesn't need replacing
4. Renter
5. Strata
6. Time



Our Approach



Key Asks

Advocacy

1. **Everyone can afford it** -
Electrify Everything Loan
Scheme
1. **Renter reform** - Finance
+ mandatory disclosure
+ minimum efficiency
1. **Electricity Market
Reforms** - Fairer system
for households



COMMUNITY ACTION IS CRITICAL





Thank you

Join us!

rewiringaustralia.org

[@rewiringaus](https://twitter.com/rewiringaus)

Join Mailing List



Questions?



We're with you



John Jutsen

Electrified his own home

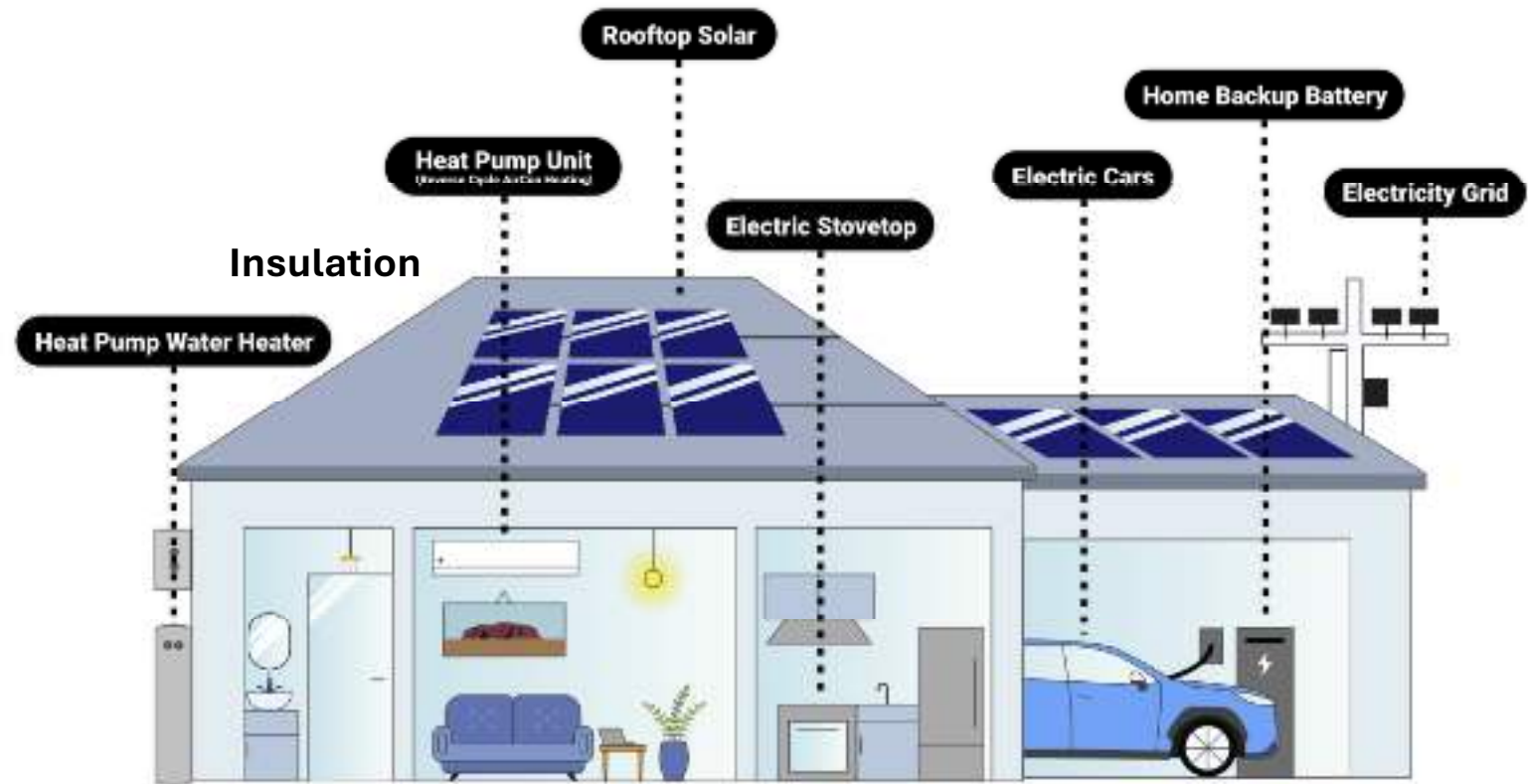
45 Years of experience in energy and carbon management

Recently stepped down from CEO of Race for 2030



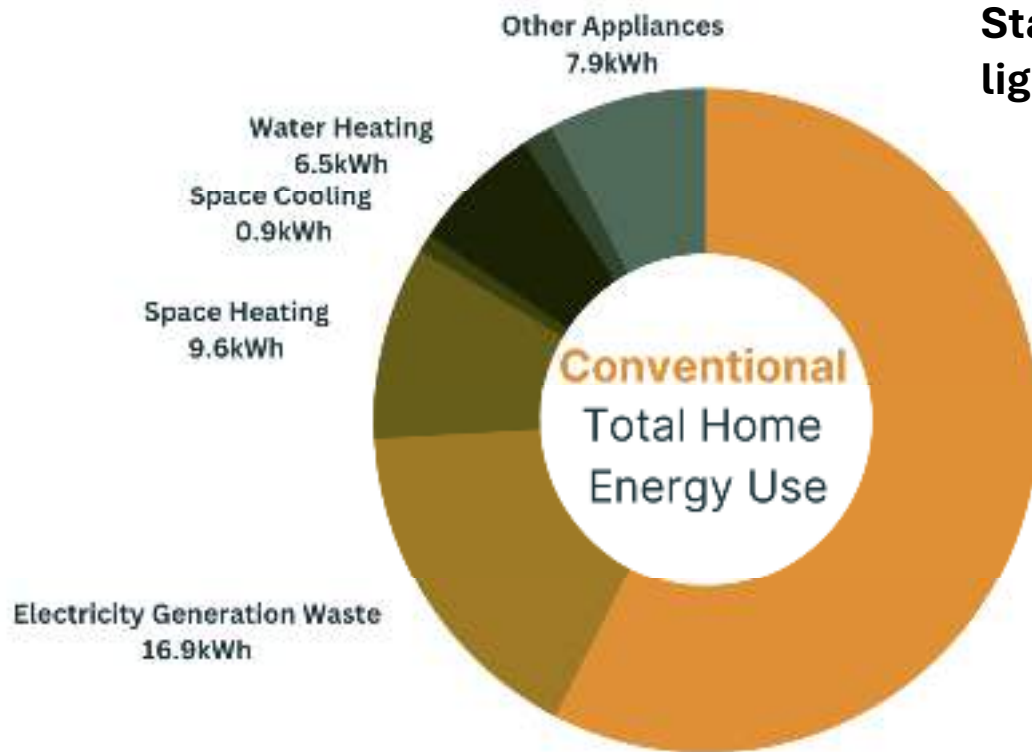
We're with you

Making your home comfortable and cheap to run



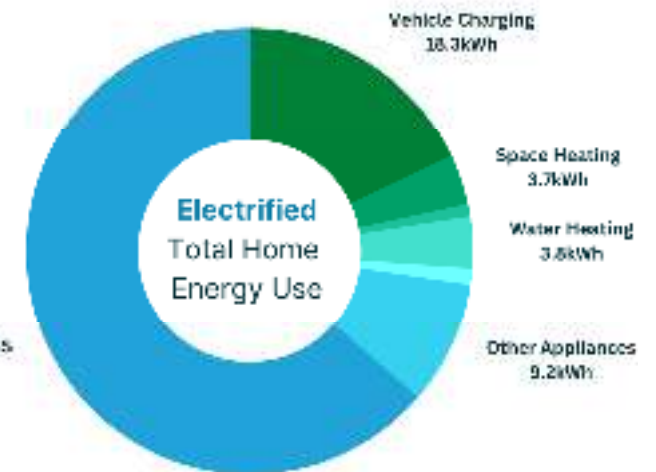
Making your home comfortable and cheap to run

Start with efficiency: Insulation, sealing, LED lighting, windows.



Vehicle Fuels
58.6kWh

ENERGY SAVINGS
64.8kWh



Some refs:

[FOSSIL OFF! – WinZero](#)

[MY STORY:](#)

<https://youtu.be/VEalrbznX-M>

Recent JJ LinkedIn Articles:

(1) [Post | Feed | LinkedIn](#)

(2) [\(2\) Do we need to ‘Orchestrate’ customers/prosumers to achieve load flexibility? | LinkedIn](#)

Questions?



We're with you



Adam Corrigan
Founder
Your Energy Friend



YOUR ENERGY FRIEND



We're with you

Southern Highlands Future Forum

Saturday 7th September 2024



YOUR ENERGY FRIEND



Energy Efficiency, Home Improvements, Insulation, Windows, Shading, Draught Proofing



YOUR ENERGY FRIEND

Your Energy Friend Pty Ltd
Adam Corrigan
Managing Director

Your Energy Friend is an “**Independent**” energy Assessment / Auditing company.

- Home Energy Assessments on behalf of NGO’s, Not for Profits, NSW Councils, State and Federal Gov’ts
- Over 8000 homes Assessed to date



Whats your Motivator?

The 4 C's

1. Cost
2. Carbon
3. Comfort
4. Competition



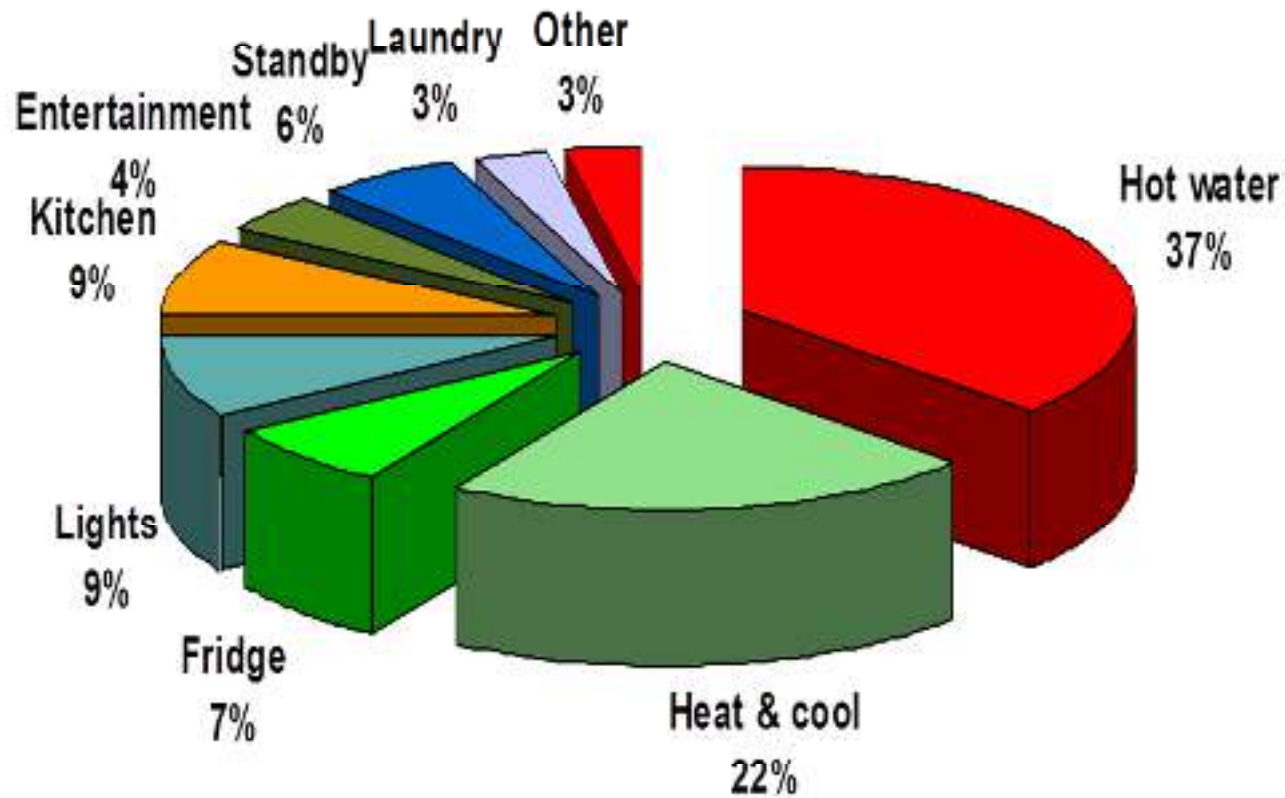
Your Energy Friend – The 5 Steps

1. Understand your Energy Bills – Tariffs, kWh's, Mj's, Time of Use.....
2. Get The Best Rate – Shop around for your Energy Retailers – Big \$ savings!!!!!!
3. Become Energy Efficient – Start to understand where you are using power and start saving – This is the big and most cost effective piece.....
4. Get Solar!!!!!! Its free Energy
5. Keep an eye on Batteries..... Prices are coming down



YOUR ENERGY FRIEND

Where do we use Energy?



YOUR ENERGY FRIEND

Smart Meter



A) Time of use Tariff

Peak – 48¢ per kWh*

Shoulder – 18¢ per kWh

Off Peak – 12¢ per kWh

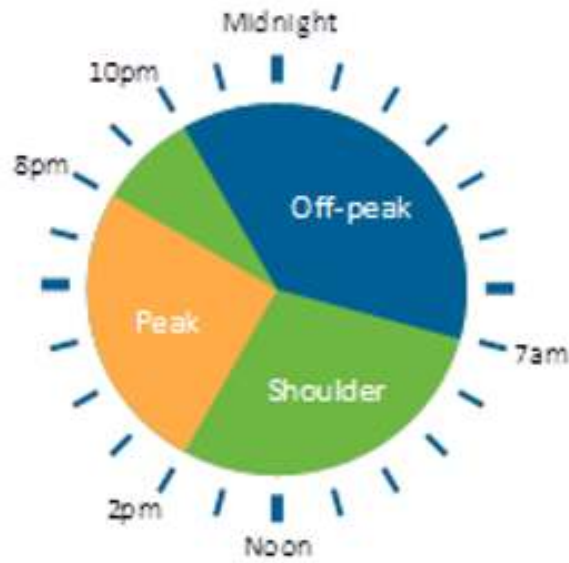
OR

B) Flat Tariff / Single Rate

Flat rate – 25c to 30¢ per kWh

*Pricing will vary on contract terms and conditions and Energy Retailer

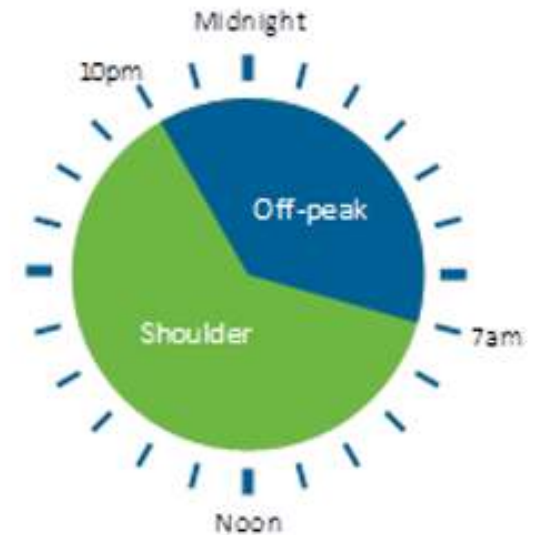
Residential Customers Time of Use Graphic



Summer months
(working weekday)



Winter months
(working weekday)



All other times



YOUR ENERGY FRIEND

NSW, Endeavour Energy region

Peak: 1pm-8pm weekdays excluding public holidays

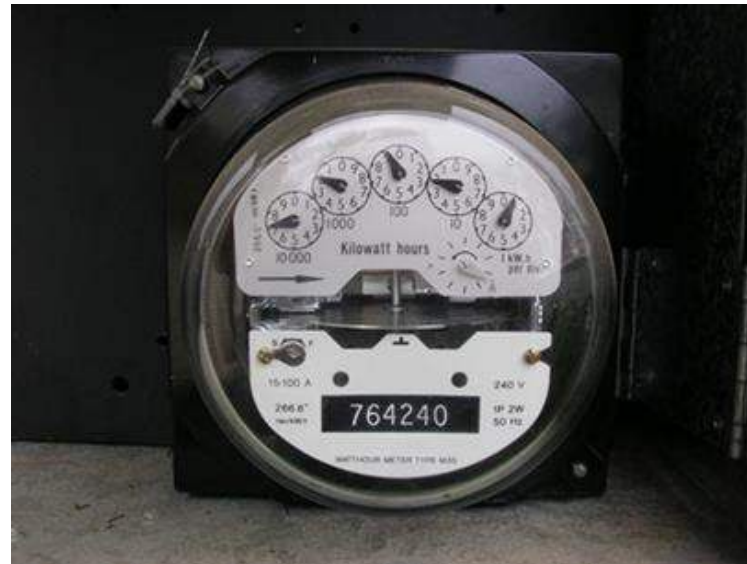
Shoulder: 7am-1pm, 8pm-10pm weekdays and 7am-10pm weekends and public holidays

Off Peak: all other times



YOUR ENERGY FRIEND

Accumulation Meter



B) Flat Tariff / Single Rate

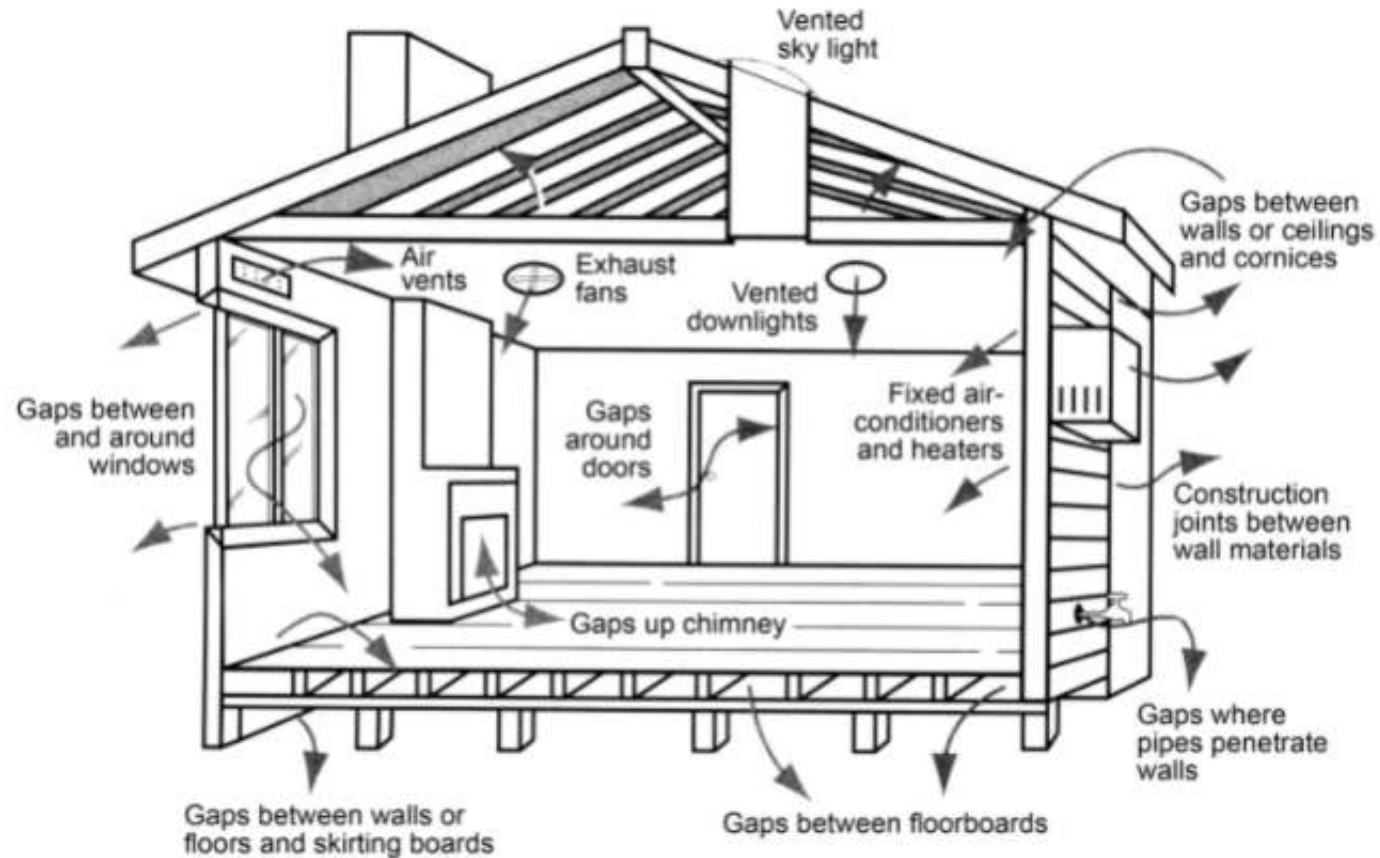


YOUR ENERGY FRIEND

How To Stay Warm & Save Energy in Winter

1. Seal up the House
2. Upgrade or Replace Insulation
3. Window Coverings and Glazing
4. Heat Efficiently

Seal Your Home— You are loosing your Warmth / Coolth and \$'s



Common air leakage points

Source: Sustainable Energy Authority Victoria

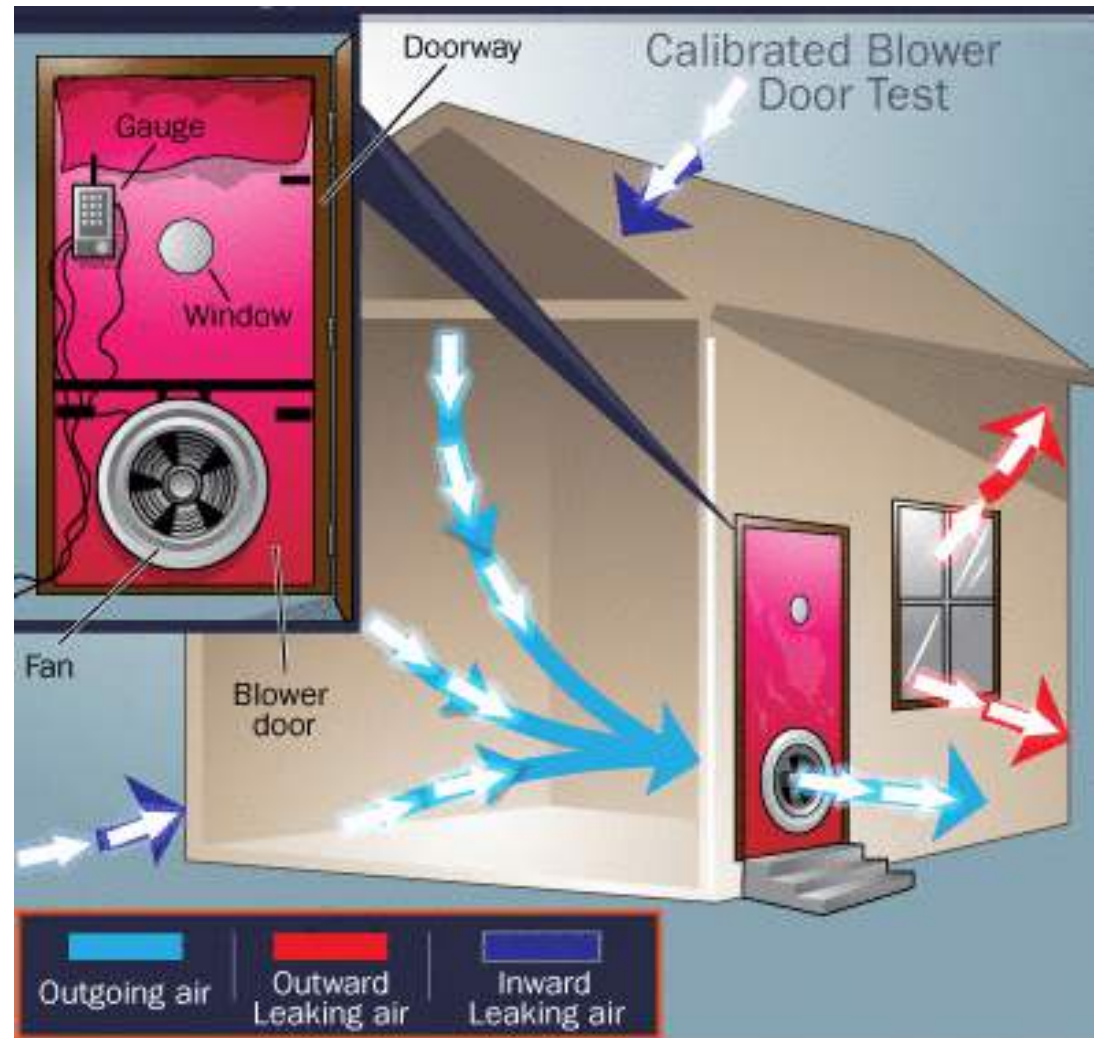


YOUR ENERGY FRIEND

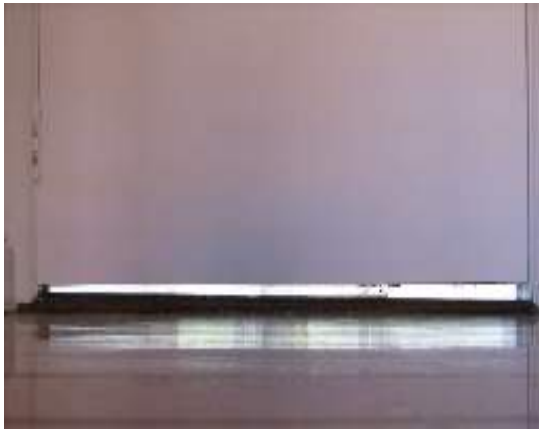


HORNSBY
SHIRE COUNCIL

Door Blower Test



Sealing Doors and Windows



Example of draught under door



Air vents



Chimney's



A chimney sheep to seal unused chimneys



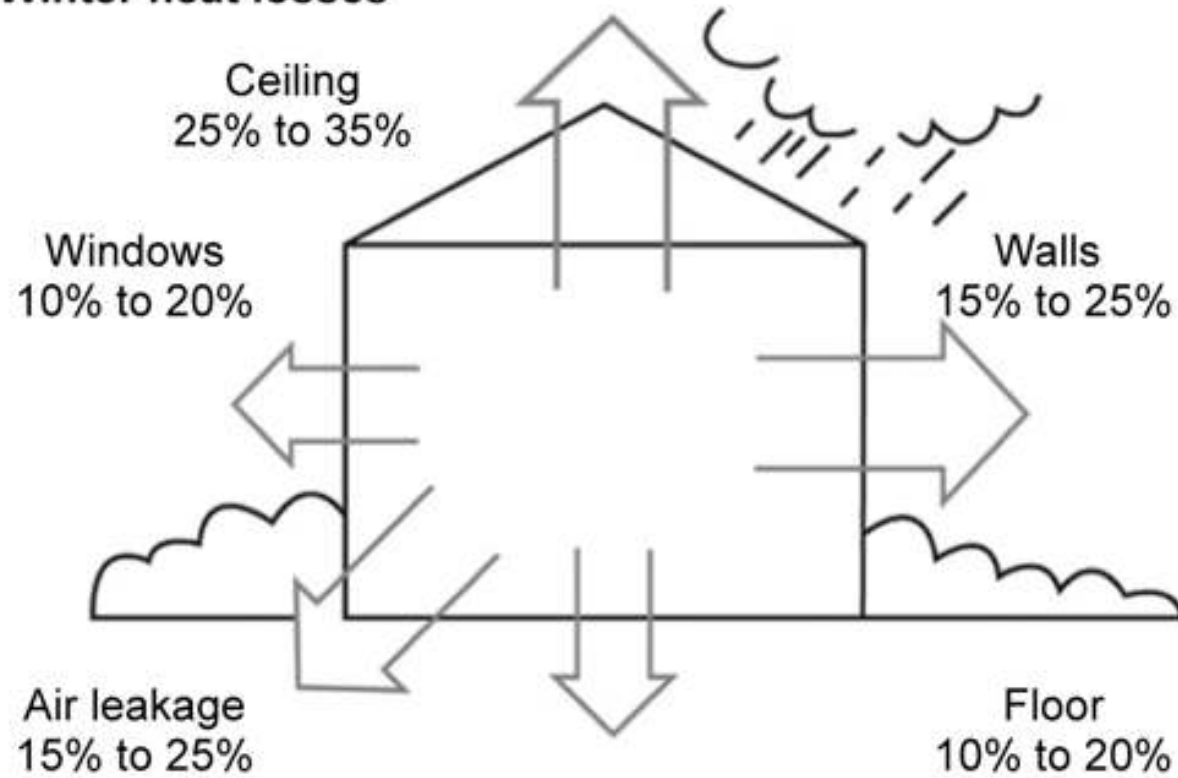
Plumbing and other gaps



YOUR ENERGY FRIEND

Insulation

Winter heat losses



YOUR ENERGY FRIEND

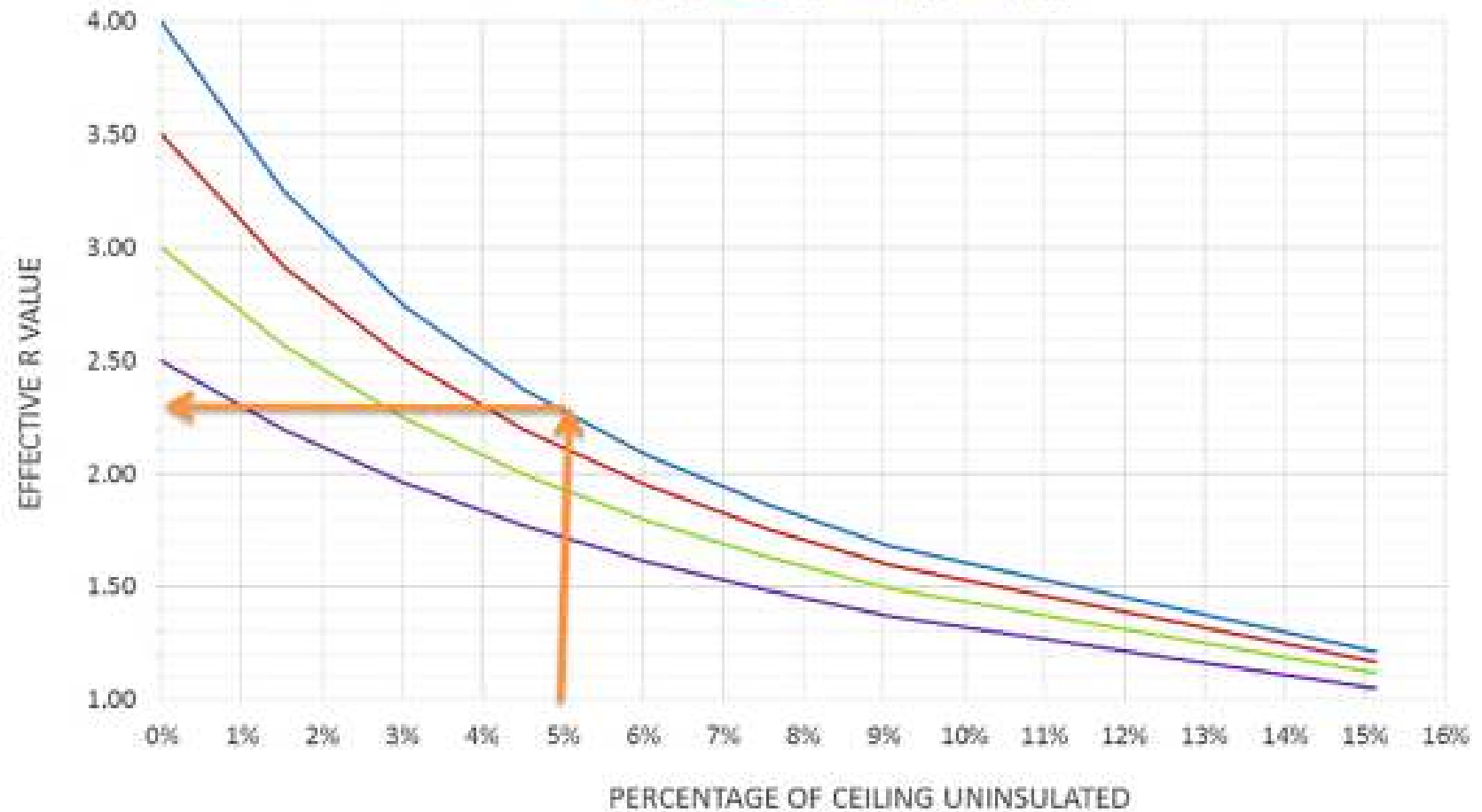


HORNSBY
SHIRE COUNCIL

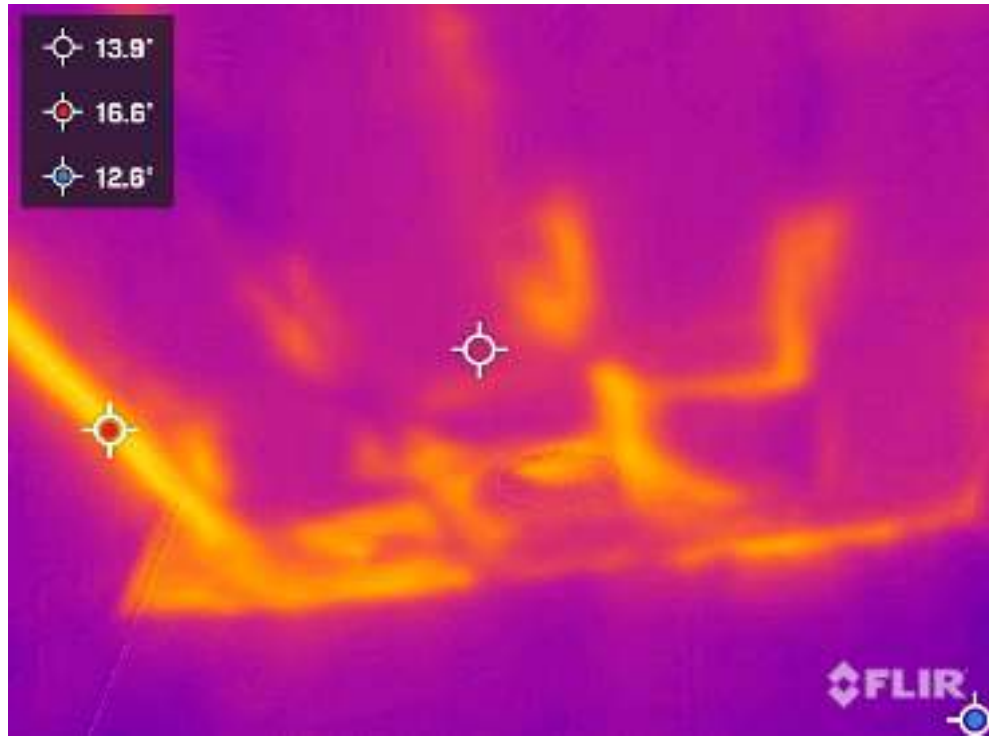
Insulation

IMPACT OF LEAVING PART OF CEILING UNINSULATED

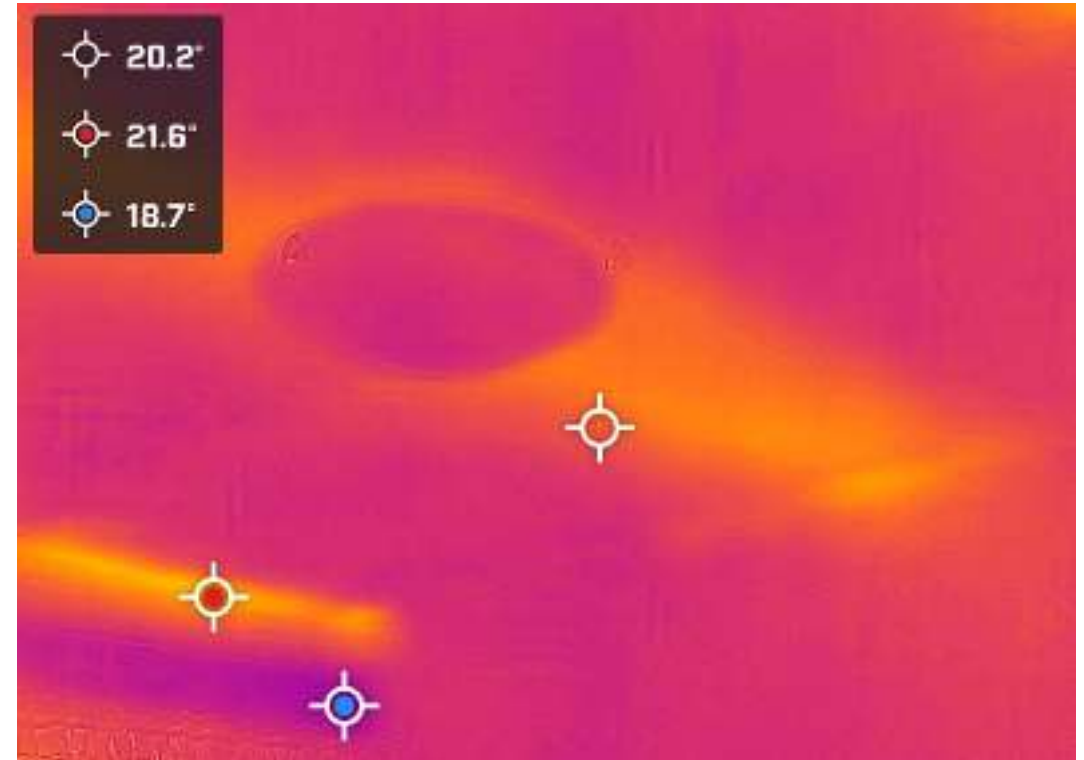
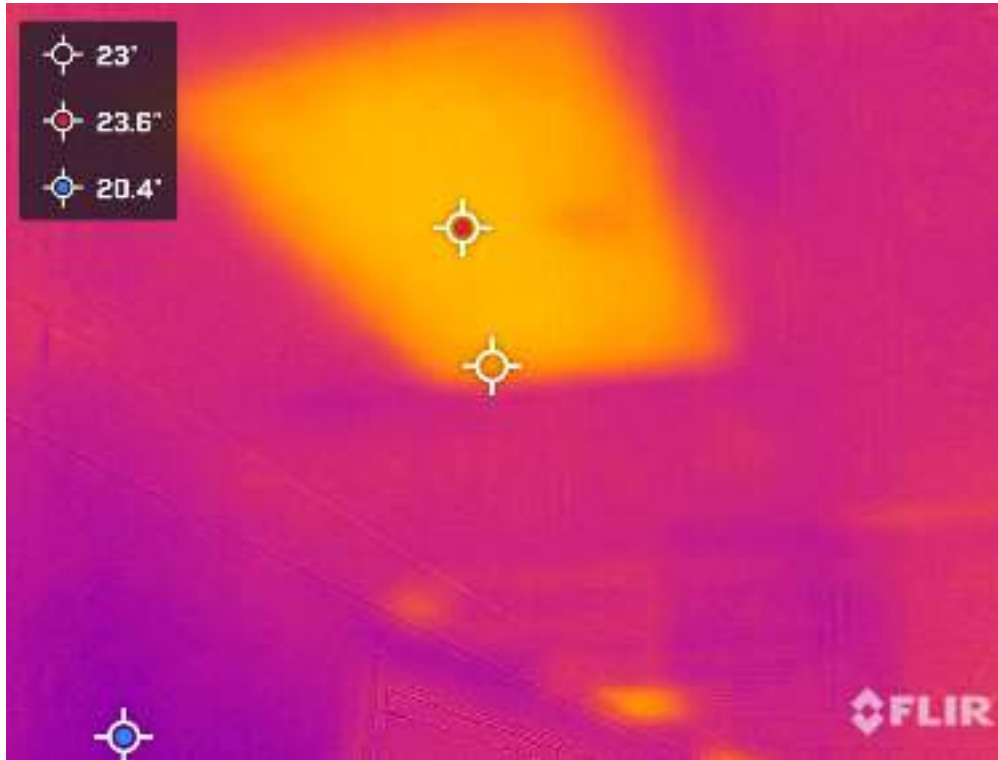
R value of insulation product: — R 4.0 — R3.5 — R3.0 — R2.5



Insulation



Insulation



Insulation



Insulation

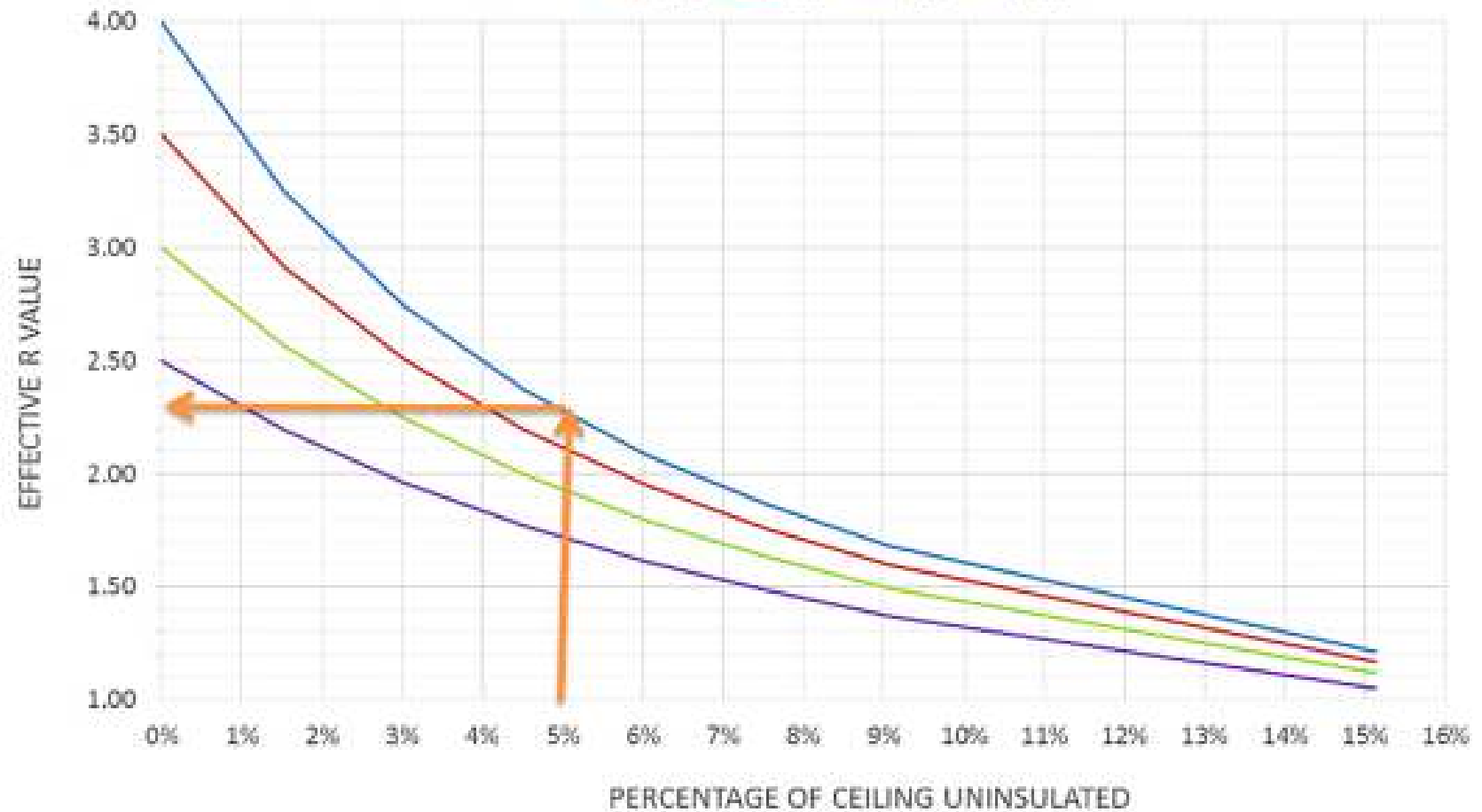


YOUR E

Insulation

IMPACT OF LEAVING PART OF CEILING UNINSULATED

R value of insulation product: — R 4.0 — R3.5 — R3.0 — R2.5



YOUR

Insulation

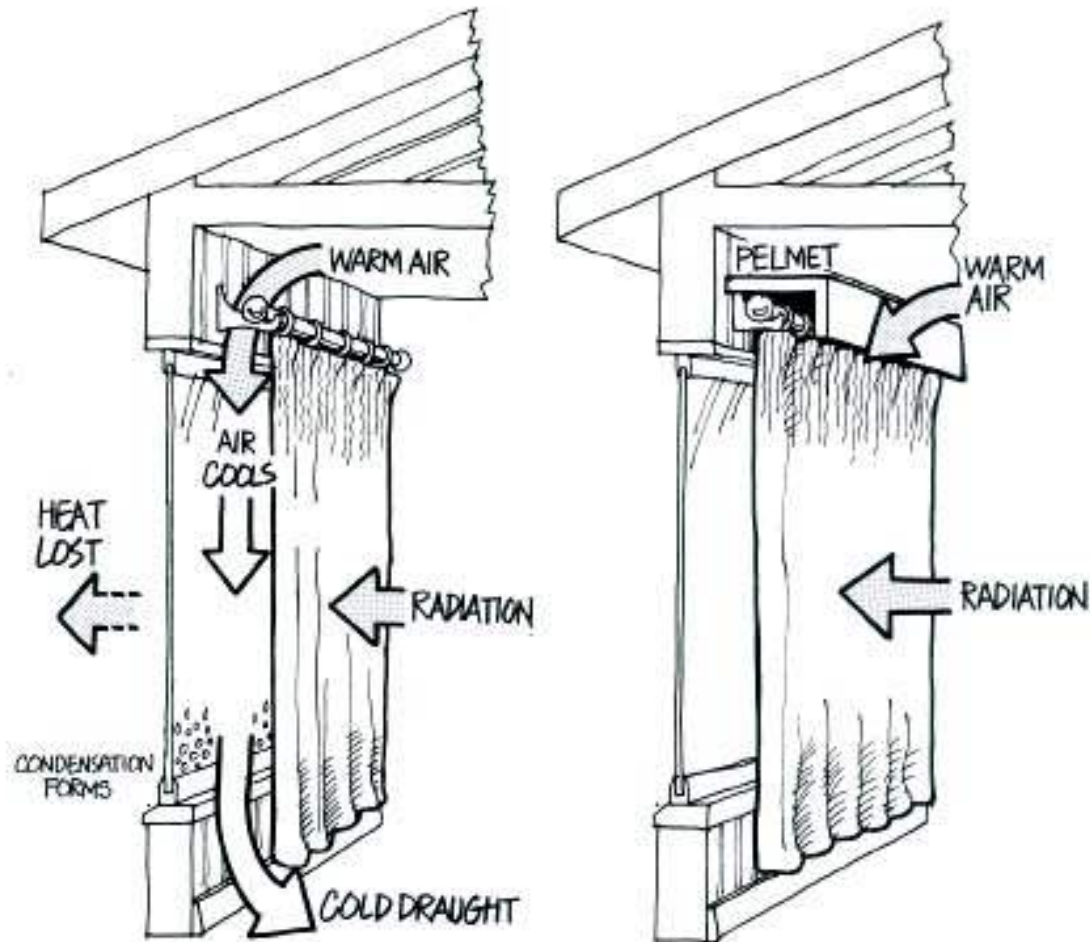
Location	Minimum R-Value for Ceilings	Minimum R-Value for Walls
Perth, Brisbane, Northern NSW	R4.0	R2.0
Sydney, Adelaide, Melbourne	R5.0 or R6.0	R2.5

Insulation Guide - <https://www.yourhome.gov.au/passive-design/insulation>

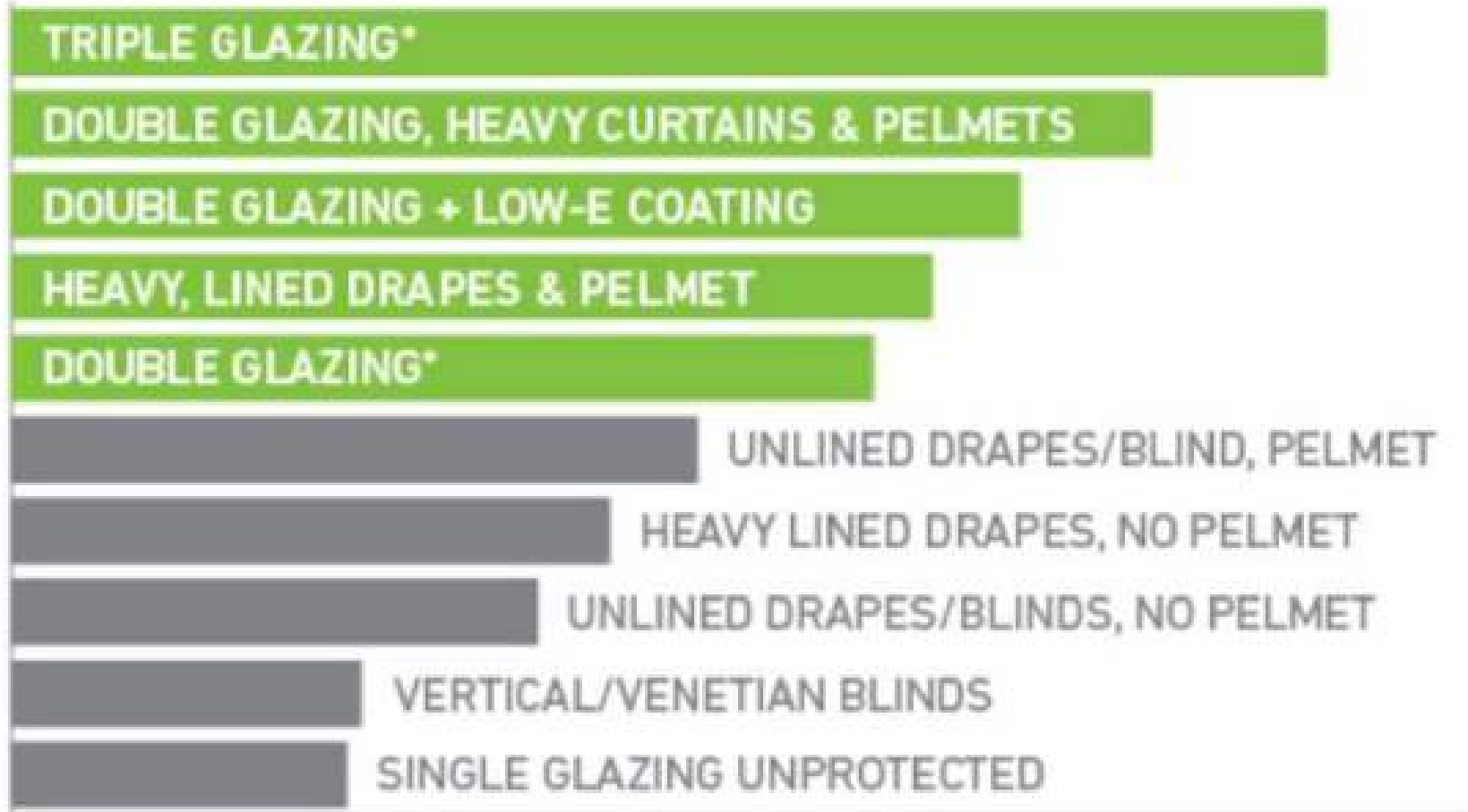
The screenshot shows the 'YourHome' website page for 'Insulation'. At the top, there is the Australian Government logo, the 'YourHome' logo, and the text 'AUSTRALIA'S GUIDE TO ENVIRONMENTALLY SUSTAINABLE HOMES'. Below this is a navigation menu with links: 'Getting started', 'Buy, build, renovate', 'Passive design' (which is underlined), 'Materials', 'Energy', 'Water', 'Live and adapt', 'Case studies', and 'House designs'. A search icon is also present. Below the navigation menu is a breadcrumb trail: 'Home / Passive design / Insulation'. On the left side, there is a vertical menu with links: 'Passive design', 'Design for climate', 'Passive heating', 'Passive cooling', and 'Orientation'. The main content area has the heading 'Insulation' followed by a horizontal line. Below this is the section 'Key points' with two bullet points: 'Insulation is a material that slows or prevents the flow of heat.' and 'Insulation is a key part of any passive designed home, helping to keep heat inside the home in winter and outside the home in summer.'



Window Coverings and Glazing



ENERGY EFFICIENT WINDOWS



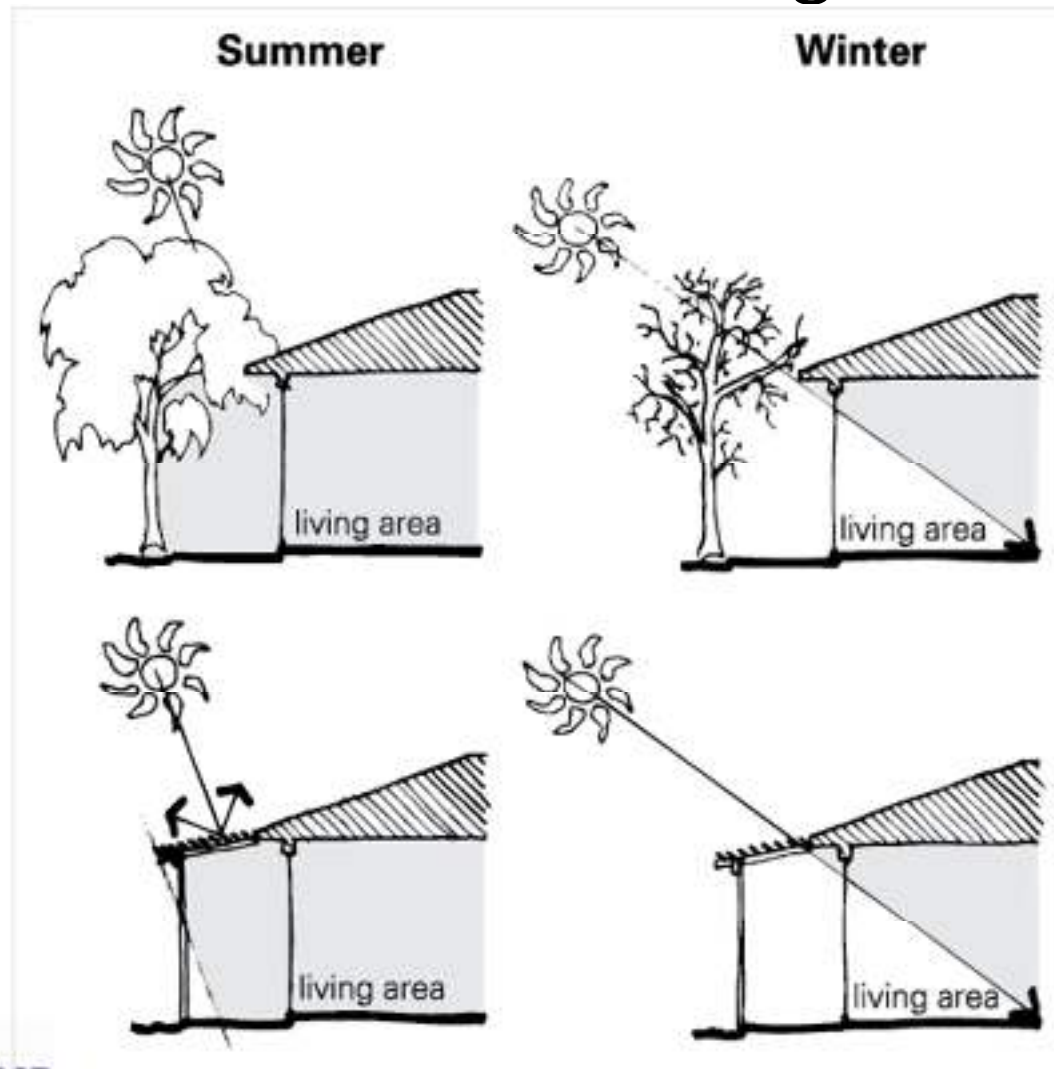
EFFICIENCY LEVEL



YOUR ENERGY FRIEND

Source: <https://www.sustainability.vic.gov.au/You-and-your-home/Building-andrenovating/Windows/Glazing-treatments>

External Shading



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Double Glazed UPVC



YOUR ENERGY FRIEND

Simple Options for Window Coverings



Thick Curtains that touch the floor with pelmets



Plastic Window Film



Bubble wrap

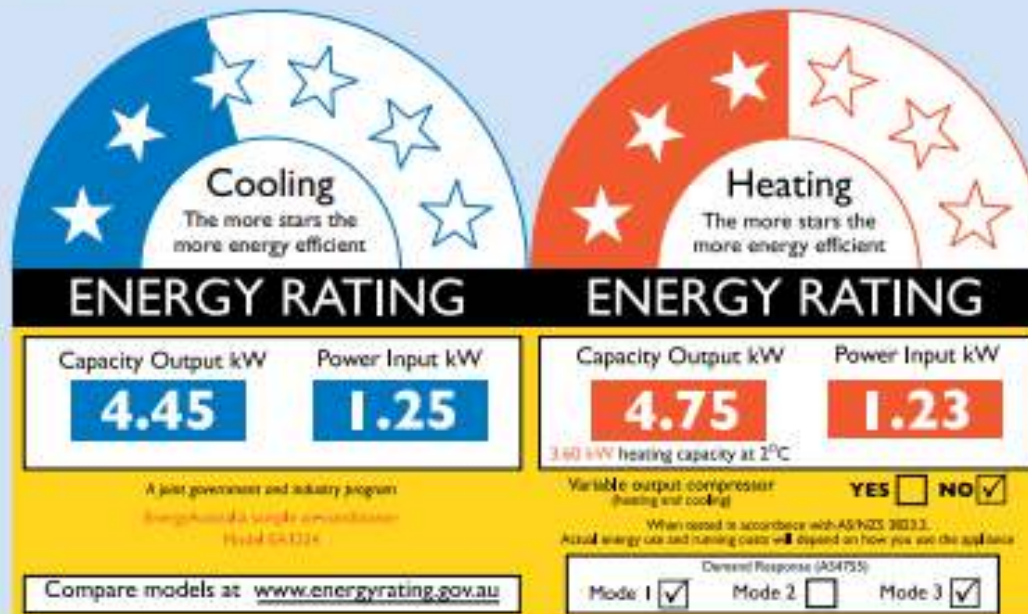
Reaching For The Stars

Air Conditioner Energy Rating Labels

Cooling only labels which provide the efficiency level for the cooling system.



Reverse cycle air conditioner labels with one rating system for heating and one for cooling on the same label.



YOUR ENERGY FRIEND

Questions ?

And hopefully some answers.....

Thank you for attending the Southern Highlands Future Forum

We hope you got a lot out of today's session and you are looking forward to learning more to assist you on your energy journey.



We're with you