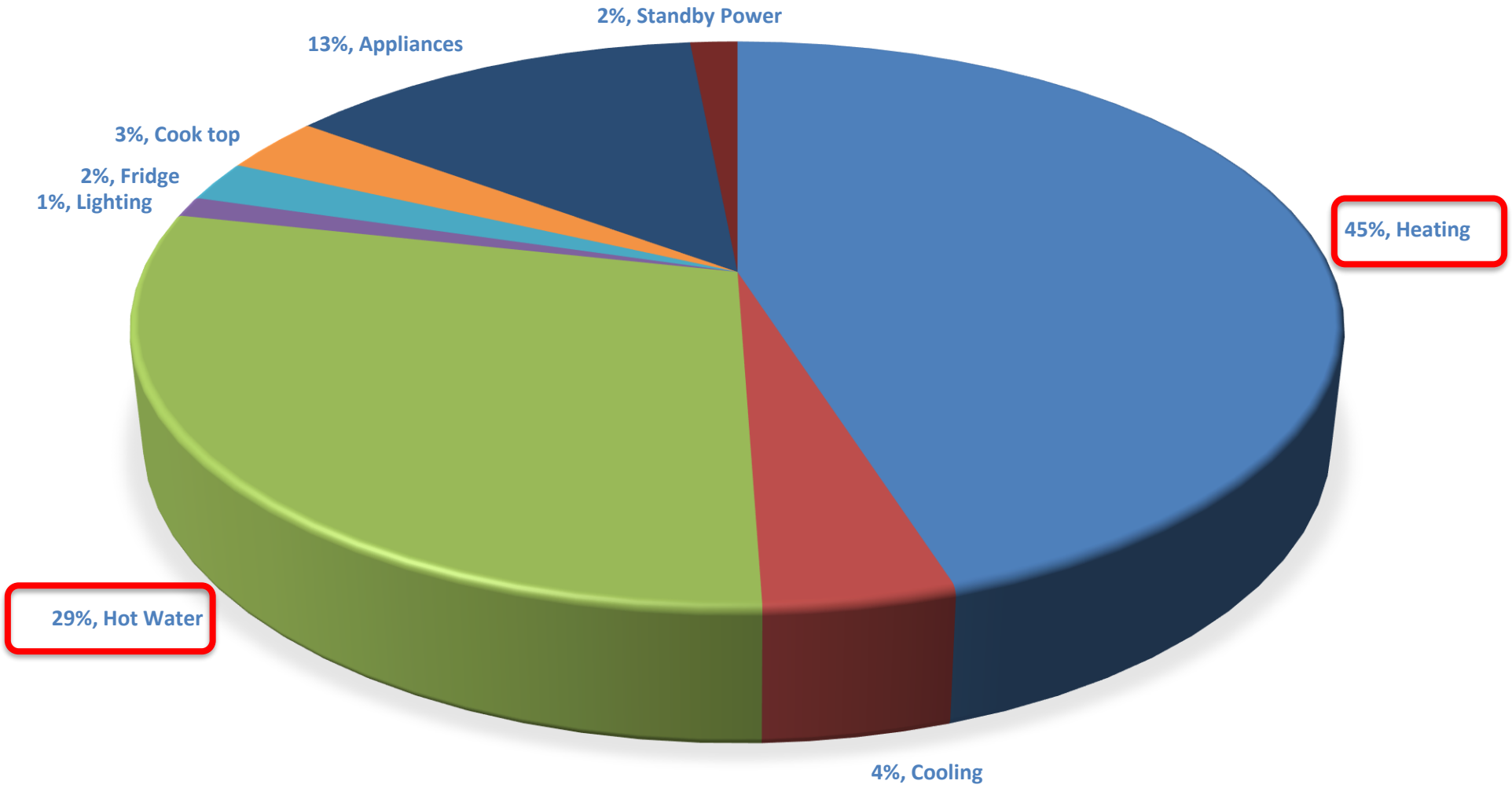
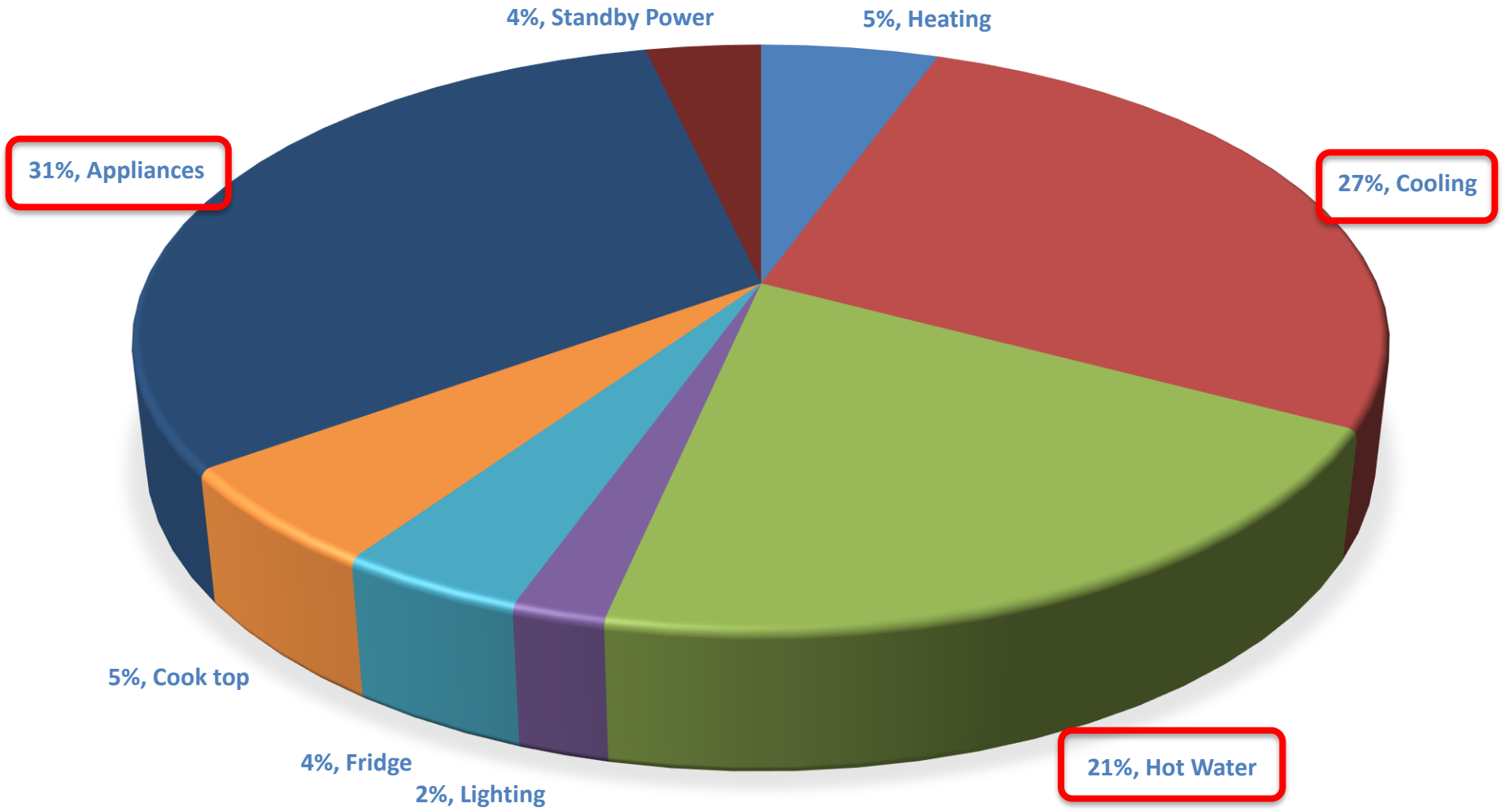
ENERGY USE, **MELBOURNE**

renew.



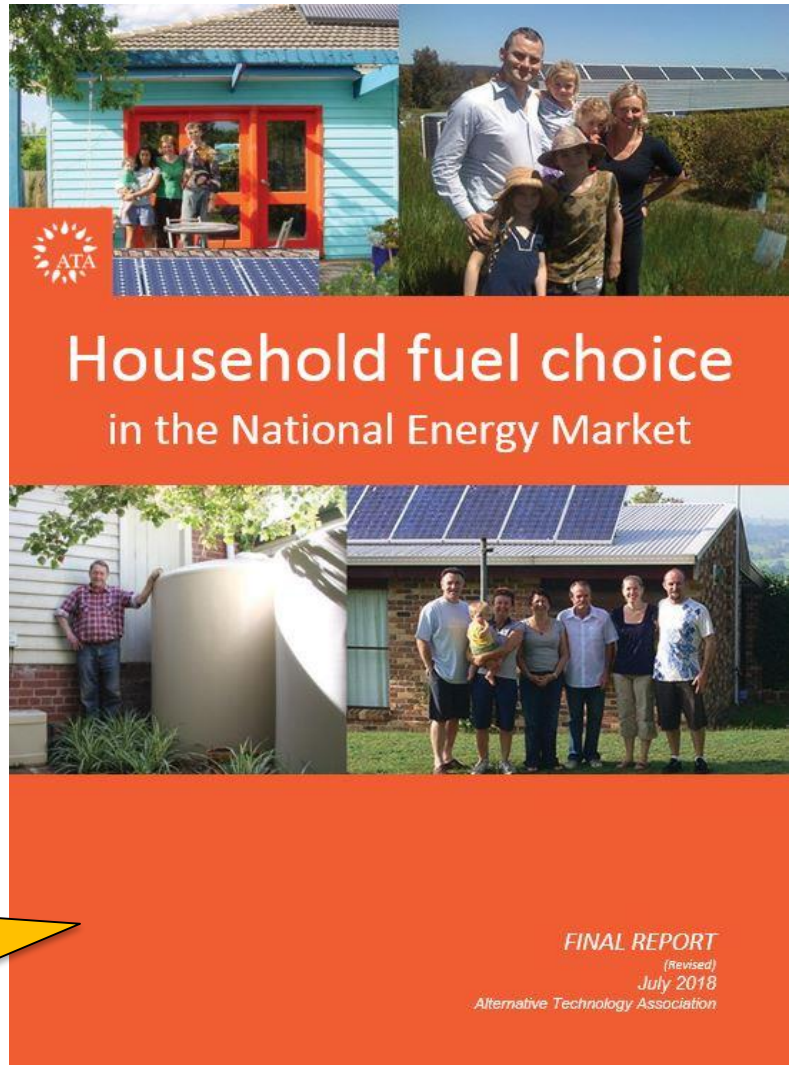
ENERGY USE, **BRISBANE**

renew.



Electricity is more economic

- Efficient electric appliances cost a bit more up-front.
- Lower energy bills achieve payback.
- Also, just keeping a gas connection: say $3,000 over 10 years.



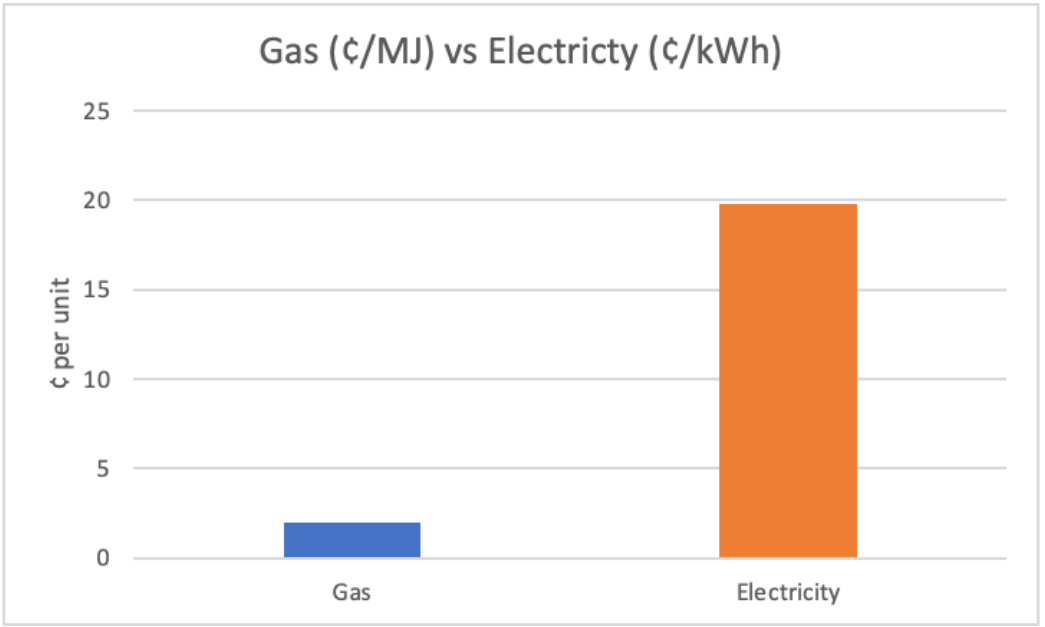
2018 report confirms and expands our research from 2014

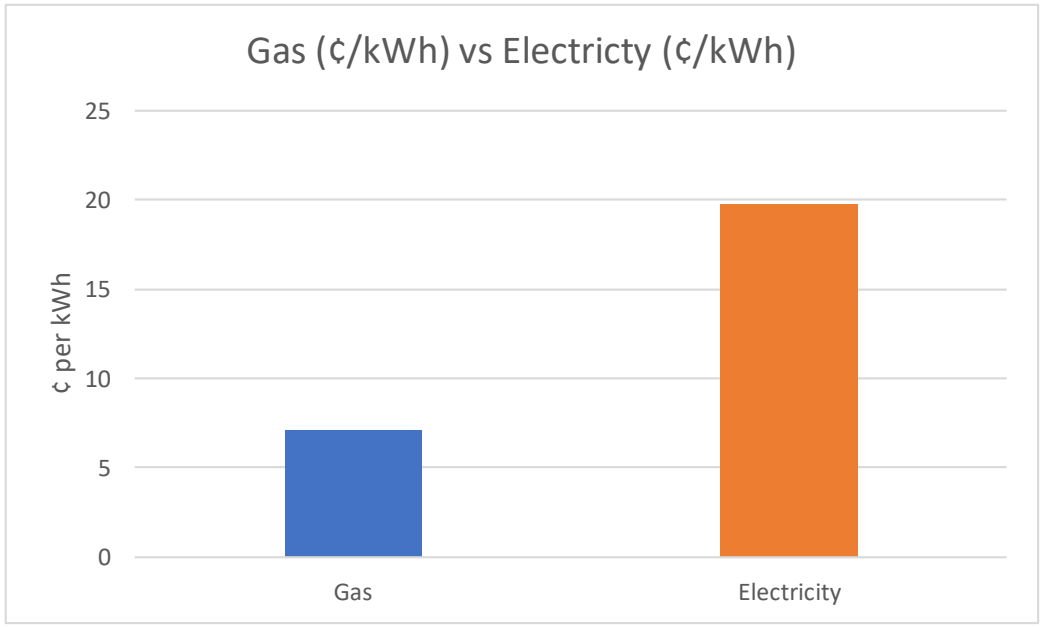
But isn’t gas cheaper than electricity?

- **Gas:** 1.98 ¢ per MJ
- **Electricity:** 19.8 ¢ per kWh

- 1 kWh = 3.6 MJ

- **Gas:** 7.13 ¢ per kWh
- **Electricity:** 19.8 ¢ per kWh



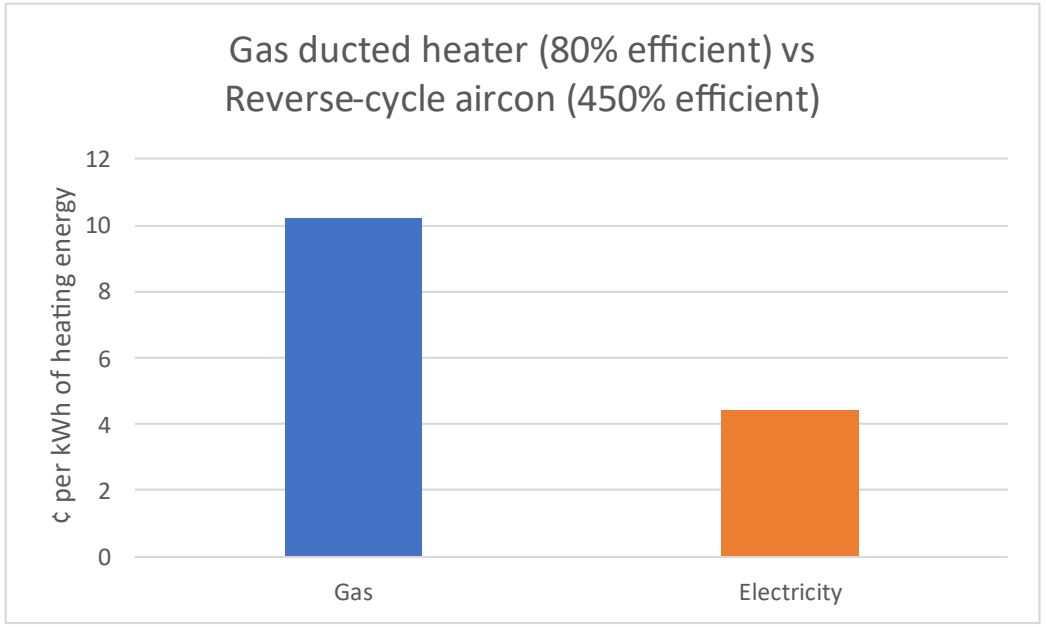


What are you using it for?

renew.

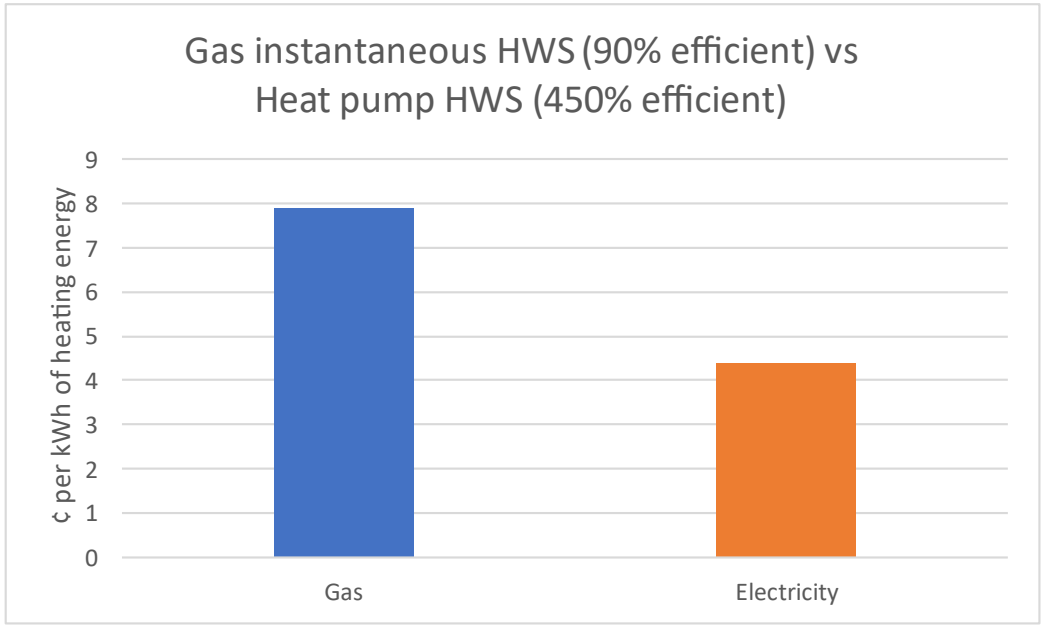
Heating

- Gas ducted heater: 80% efficient
- Reverse cycle aircon: 450% efficient

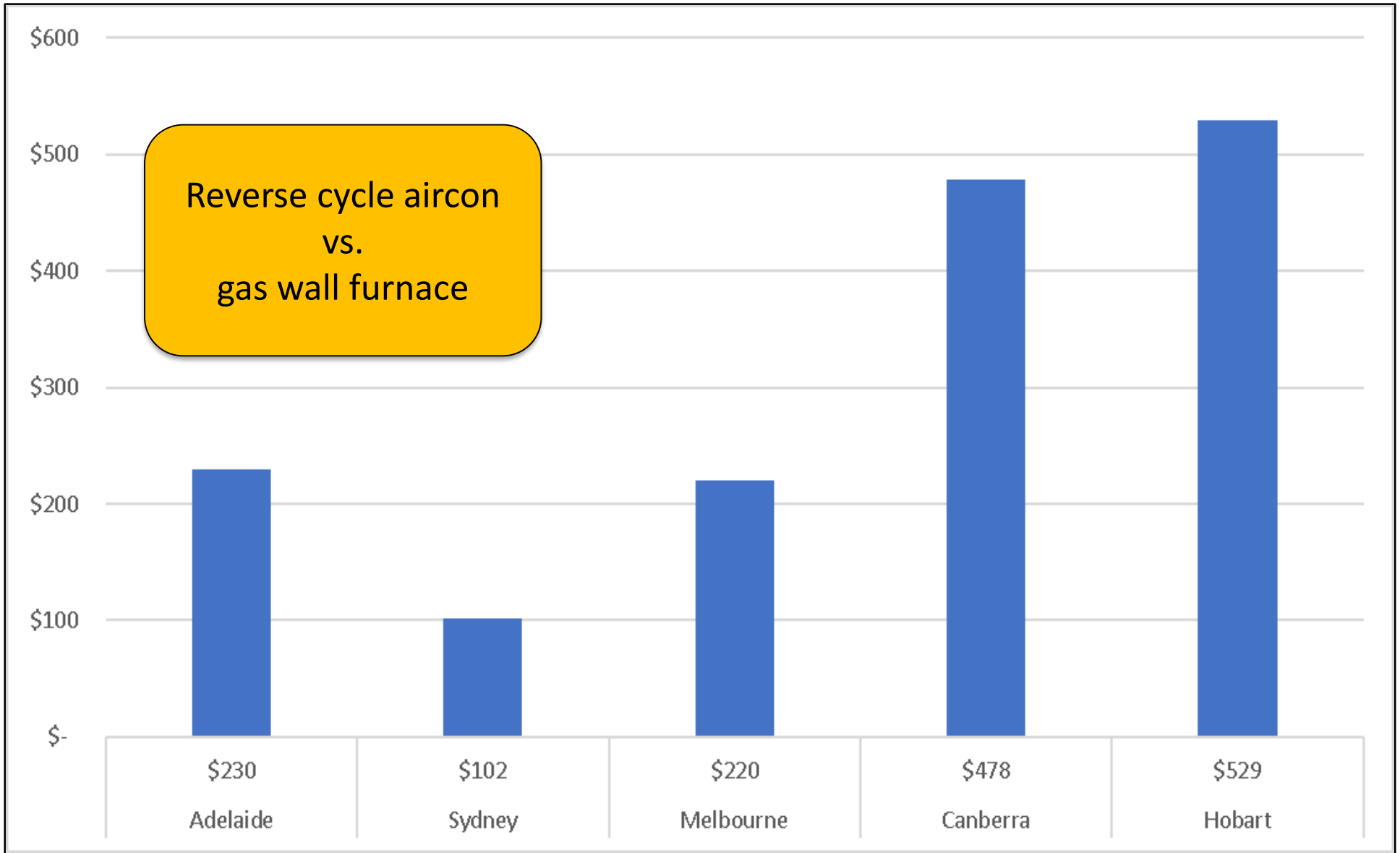


Hot water

- Gas instant HWS: 90% efficient
- Heat pump HWS: 450% efficient

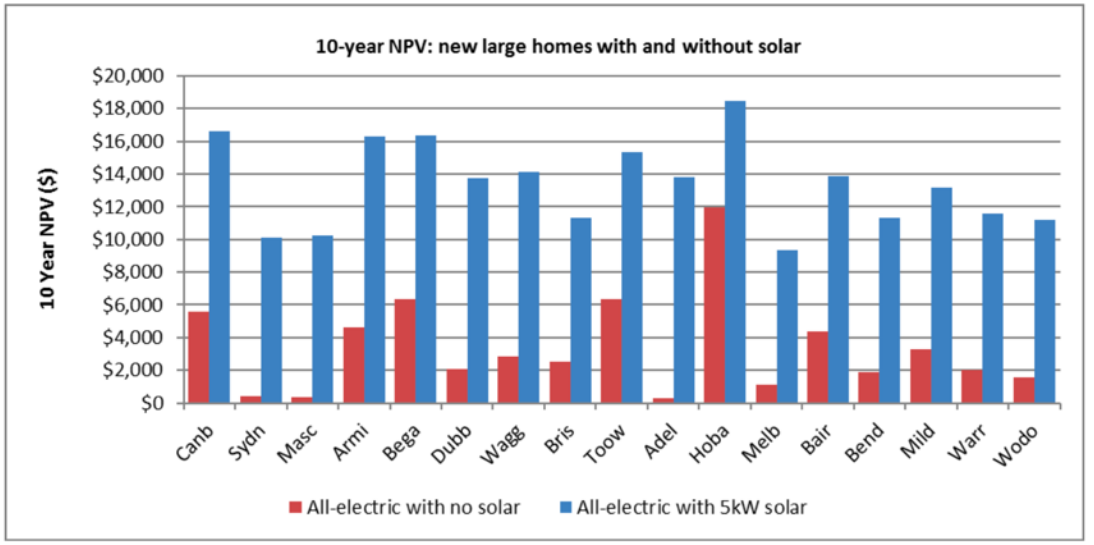


Annual bill saving on heating

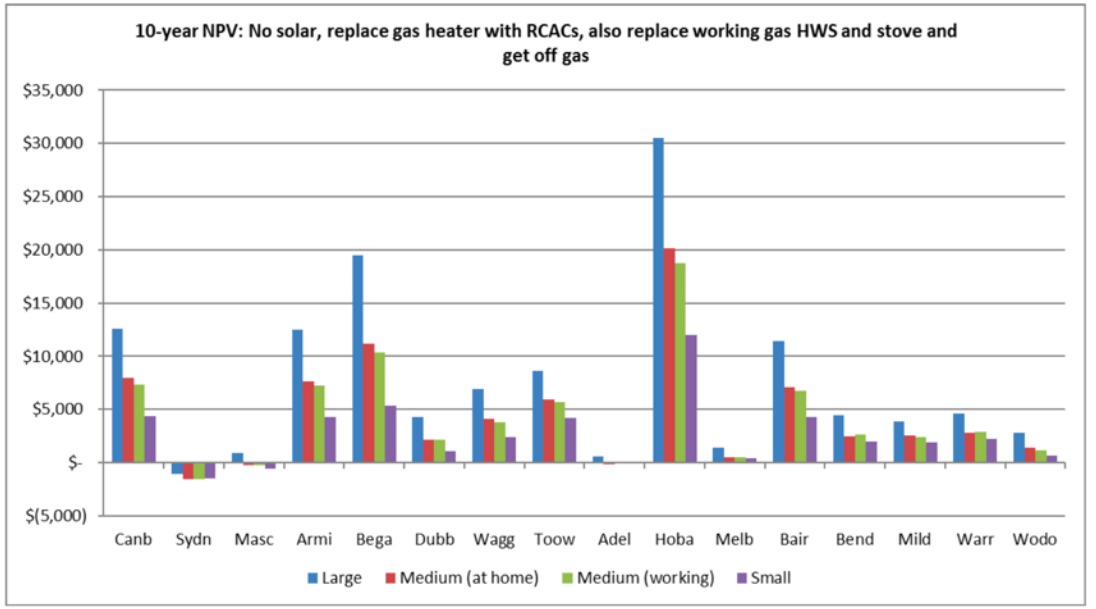


Dual fuel vs all-electric homes

New homes: all-electric is always cheaper
especially with solar



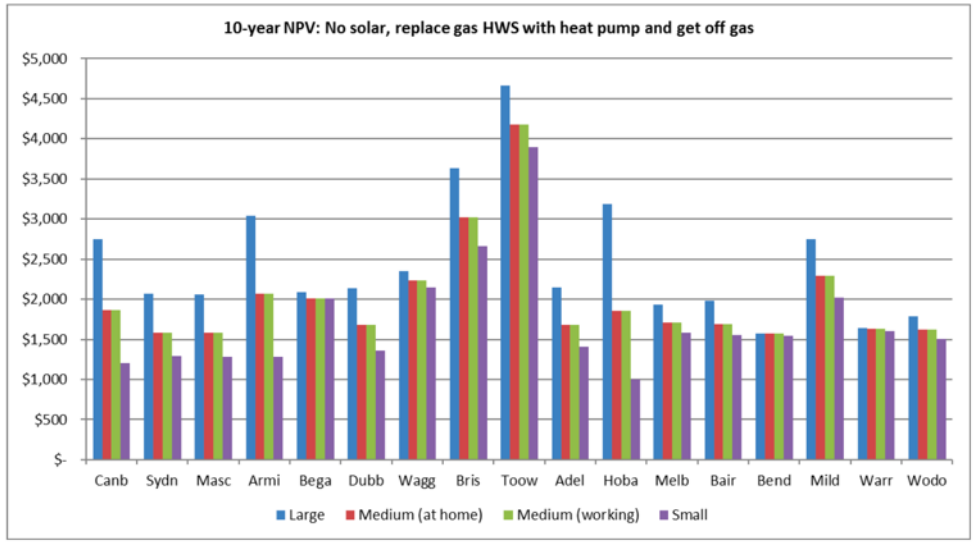
Existing homes: switching everything during a heating upgrade is almost always cheaper
or the same – unless you live in the tropics or Sydney CBD/eastern suburbs

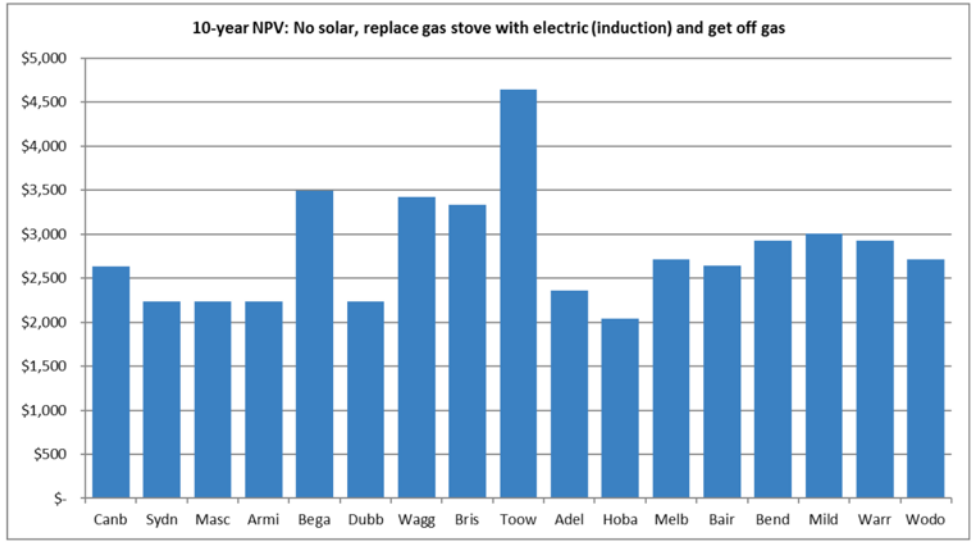


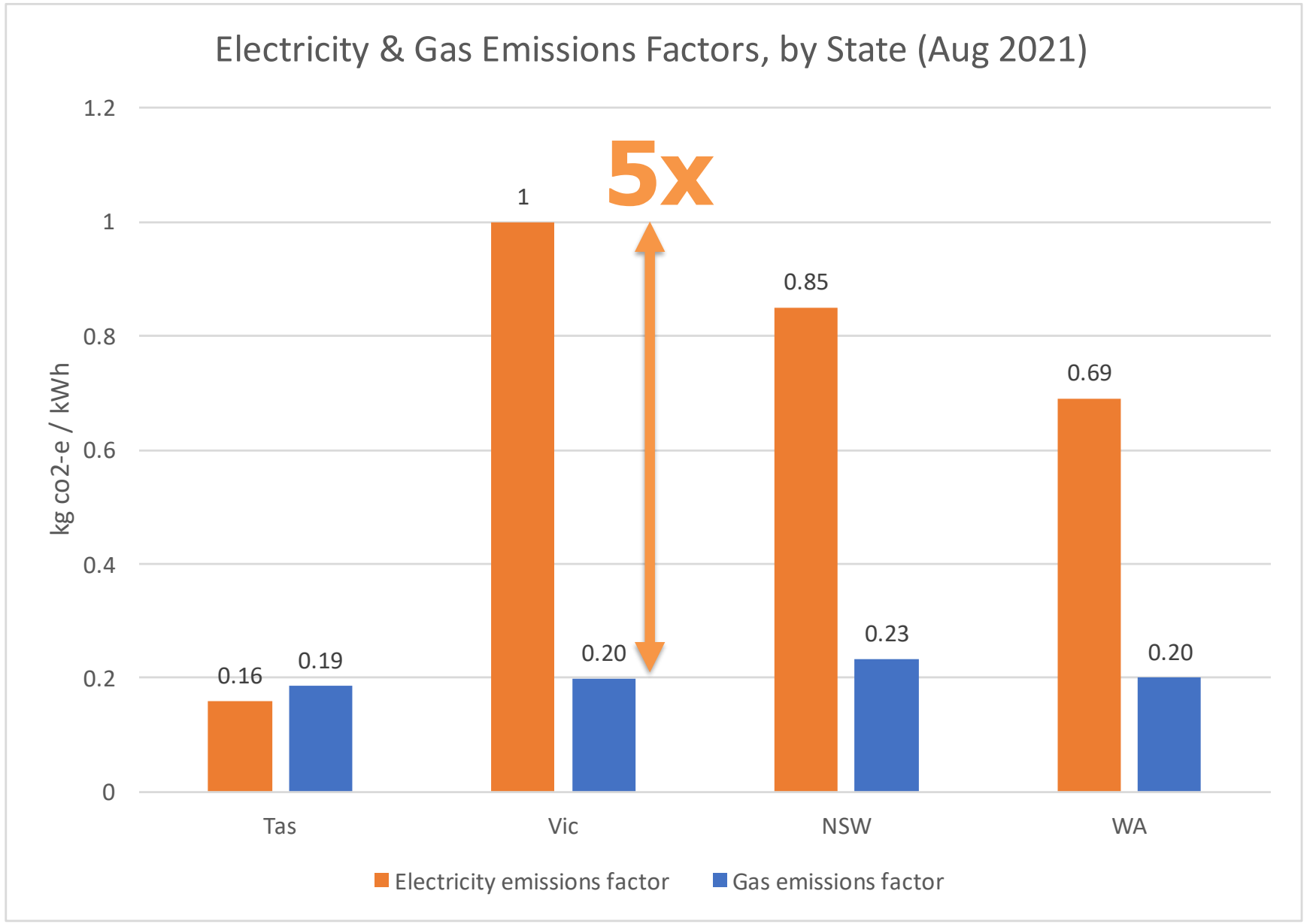
Dual-fuel vs all-electric

Getting off gas: if you only have one gas appliance, it's always a financial benefit to get off gas when you replace it (because of the daily charge)

This daily charge issue is the reason we're not crazy about developing a new green hydrogen reticulated network to replace ~~methane~~ natural gas.







renew.

Heating

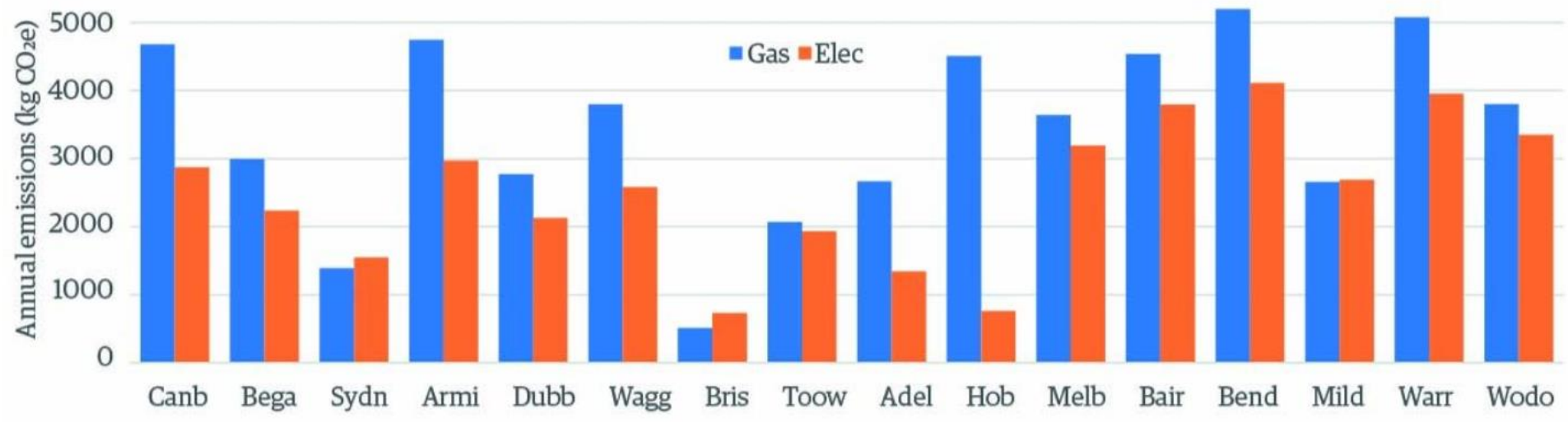
- Gas ducted heater: 80% efficient
- Reverse cycle aircon: 450% efficient = **5.6x**

Hot water

- Gas instant HWS: 90% efficient
- Heat pump HWS: 450% efficient = **5x**

Electric appliances: lower emissions

- Efficient electric appliances use much less energy
- Gas appliances:
  - Emit carbon dioxide when burning gas.
  - Methane leaks from pipes etc.



2019 Renew research for a medium size house

A gas substitution roadmap

Our recommendations to the Vic roadmap:

- Develop a clear roadmap to the cessation of new residential gas connections
  - *transitions need to be planned to manage cost impacts on vulnerable households*
- Remove old policies designed to incentivise gas to reduce emissions
  - *e.g. in Vic if you have gas available you must install a gas-boosted solar HWS*
- Support improvements to home efficiency standards
  - *more efficient homes minimise impact on grid of electrification of heating*
- Retrofit programs for low-income homeowners
  - *upfront cost is a barrier even when lower running costs offset it over time*
- Programs to support gas substitution in rental sector
  - *regulations plus financial assistance*
  - *also social housing roadmap*
- Standard approach and regulated fees for gas abolishment
  - *Currently it costs between $70 and $1,500*

What if there’s an electricity outage?!?

- Yes it’s a bit extra annoying
- But gas heating also doesn’t work in an electricity outage
- Neither do modern instantaneous gas hot water systems
- An alternative way to cook is helpful e.g. BBQ
- Outages are very rare and usually fairly short for most people