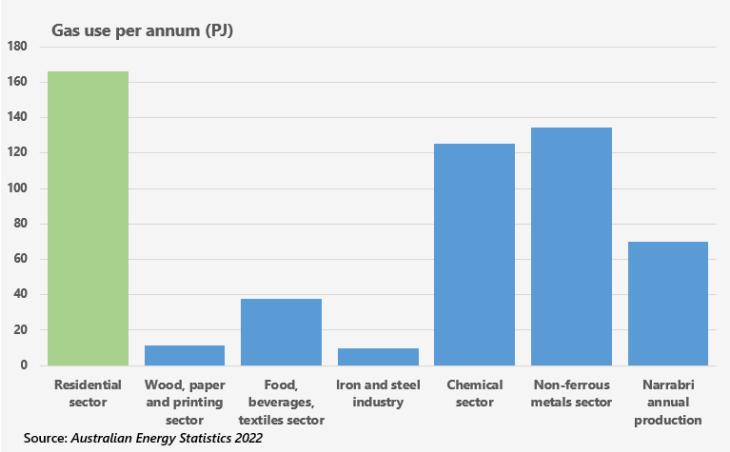
Appliance Manufacturing in Australia

Electrifying Australia's households

Australian households generate 11% of Australia's emissions[1]. Australian houses need to electrify if we are to meet carbon emission targets. Ideally electrification of households will include solar, batteries and electric cars. But the first task is to "fuel shift", powering our homes with (cheaper and increasingly renewable) electricity, rather than gas. This includes gas ovens, stovetops, water heaters and space heaters.

Done well, household electrification will deliver significant cost savings to householders, at a time of growing cost of living pressures. Household electrification will significantly reduce gas demand and provide industry a longer runway to electrify more complex industrial gas processes. Australian households use twice as much gas each year than the projected annual production of the Narrabri project.[2] Electrification will put households in the centre of generating renewable energy, managing demand and the grid.



There are 12.6 million gas appliances that will need to be replaced by electric appliances. And over time efficiency of all appliances, including electric ones, will need to be improved across 9 million homes. This will create a sustained appliance demand over more than a decade.

LEAN backs a goal of electrifying, on average, 1 million houses per year from here to 2030. This will maximise the positives in terms of emissions, cost of living and industry development.

In December 2022, cross benchers negotiated a commitment to a significant investment in household electrification at the May 2023 budget.

Protecting existing manufacturing and creating new manufacturing – the demand opportunity of electrification of Australian households

Australia has a significant household appliance manufacturing capability. There are at least 27 appliance factories currently operating in Australia, including 15 large facilities that employ more than 100 people. The commercial and household appliance sector directly employs 5,000 people and indirectly supports a further 36,600 jobs in the supply chain and local community[3].

[1] DCCEEW (2020) National inventory by economic sector: data tables and methodology
[2] https://www.smh.com.au/politics/federal/labor-fossil-fuel-brawl-flares-as-party-s-environment-lobby-demands-no-new-gas-20221020-p5brd6.html
[3] Calculated using Economic Policy Institute durable manufacturing jobs multiplier https://www.epi.org/publication/updated-employment-multipliers-for-the-u-s-economy/

Household electrification is an opportunity and a threat to this manufacturing base. Government intervention is needed in order to:

1. Support manufacturers of gas appliances to shift to electrical products.
2. Mandate greater efficiency of electrical appliances and support electrical appliance manufacturers to improve efficiency.
3. Develop an industry plan to create new appliance manufacturing grounded in this long run demand, most obviously in heat-pumps for water heating.

More than 50% of ovens sold in Australia are manufactured locally, but they are not very efficient and most Australians will have experienced the way they heat the kitchen as well as the food. Low efficiency costs households and locks local manufacturers out of export markets like the EU.

1. Gas appliance manufacturers The majority of facilities (74%) manufacture some gas appliances, and seven factories (26%) produce exclusively gas appliances. This industry segment is most at risk from household electrification, expanding electric appliance lines at these facilities is a priority to retain local manufacturing capacity.

2. Improved efficiency The key driver of increased energy efficiency in Australia is the Commonwealth Greenhouse and Energy Minimum Standards (GEMS) program. This program - that creates Minimum Energy Performance Standards (MEPS) - has one of the best returns-on-investment of any action that could be taken to reduce household bills. Without mandatory efficiency standards, wealthy people can buy efficient, smart appliances while the poor are left with cheaper, low standard models.

Fast tracking an increased minimum energy performance standards for high energy use appliances, such as hot water systems and air conditioners is a priority.

However, improved energy efficiency without support for local manufacturing can drive producers off-shore. The closure of the Electrolux fridge factory in Orange in 2016 is an example of this and cost 544 local jobs.[4] The cost of retooling locally was more than the cost of moving offshore for Electrolux. Other advanced economies support their manufacturers through these regulatory changes. In order to maintain manufacturing jobs Australia must do the same.

3 Building new manufacturing capability Global markets are growing for efficient electric appliances – for example in the Netherlands, the market grew 400% between 2018 and 2021[5] - before the Ukraine-Russian war turbo charged demand further. Heat pumps for water heating are the most obvious potential new manufacturing supply chain opportunity for Australia. Electrifying Australia's 400,000 social and public houses, with local procurement mandates would provide the guaranteed demand to support establishment of new appliance manufacture.

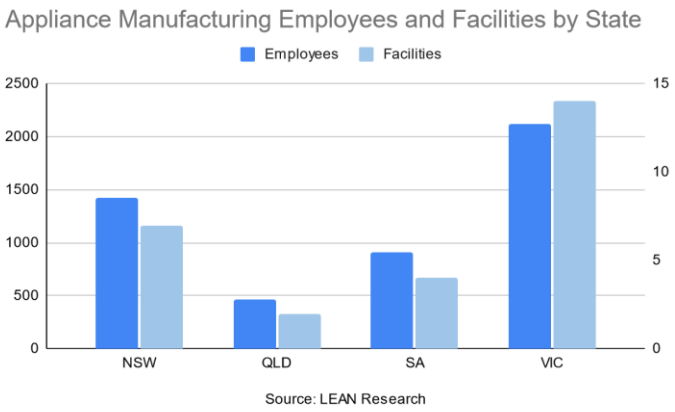
A national electric appliance plan is critical for Australia to retain a local appliance manufacturing sector, support local jobs, and ensure households can access sufficient supply of appliances electrify the residential sector and drive down energy costs.

[4] https://www.channelnews.com.au/vhtzpxjz-electrolux-to-shut-orange-plant-544-jobs-to-go/
[5] https://opendata.cbs.nl/statline/#/CBS/nl/dataset/82380NED/barv?dl=69BD9

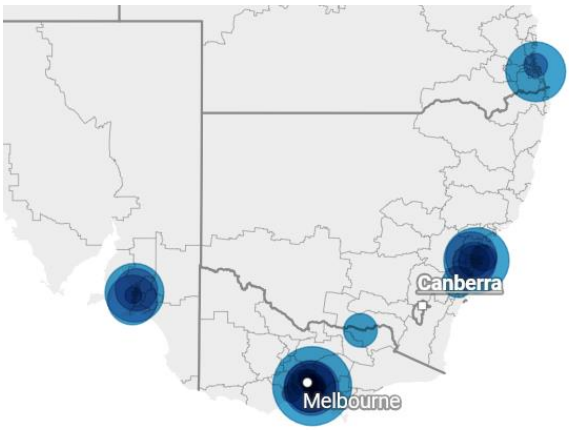
Appliance manufacturers in Australia

There are 27 manufacturing facilities[6] in Australia that produce hot water units, heating/cooling systems, and cooking appliances for the household and commercial sector.

These facilities employ 4920 people directly and are at heightened risk of closure electrification of the residential sector accelerates.



Appliance manufacturing has a notably high jobs multiplier impact with research by the Economic Policy Institute in the USA finding that each job in 'durable manufacturing' generates 2.891 jobs in the supply chain and a further 4.549 induced jobs in the local economy[7].



The Australian manufacturing ecosystem is broadly similar to the USA which suggests local appliance manufacturing creates an additional 36,605 jobs, or 41,525 total direct and indirect jobs.

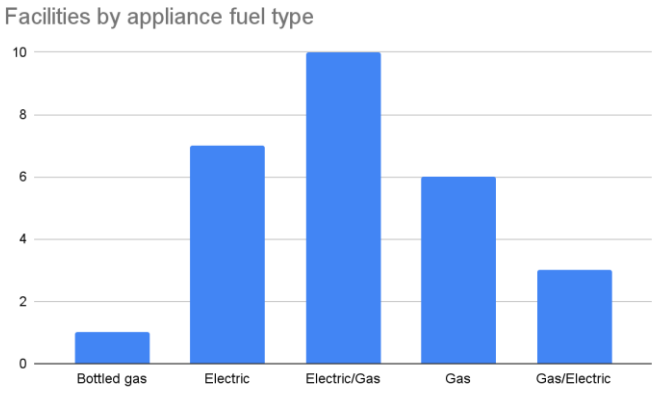
The closure of appliance manufacturing in Australia would be a devastating blow to the local communities reliant on the employment these factories generate.

Link to dynamic map with factory details

An all-electric Australian appliance plan

Australia should continue to make a wide variety of appliances domestically to meet the aims of a shift from gas to renewable energy sources by retooling factories, reskilling workers and redeveloping industrial capabilities to meet these transition targets.

Transitioning the product lines in Australia's remaining appliances factories across to the production of high efficiency electric appliances is key for Australia to maintain appliance manufacturing capabilities, drive down household energy costs, and ensure the supply of electrified appliances needed to achieve the 43% emissions reduction by 2030.



[6] *An additional 7 facilities were identified but not verified so not included in the data.*

[7] https://www.epi.org/publication/updated-employment-multipliers-for-the-u-s-economy/

There is a high risk of factory closure, even for diversified factories that produce both electric and gas appliances, without a plan to electrify and improve appliance efficiency. For example, if major facilities, like the Rheem plant in Victoria which employs 300 people and produces gas hot water systems alongside other systems, were to stop making gas appliances with no replacement line, the whole plant is likely to shut down as the fixed costs factory will then be spread over fewer products.

Cost of living and social housing

A national program to electrifying social housing in Australia will help address the cost of living crisis facing many low income households and will can also be used to spur investment in local electric appliance manufacturing.

A government procurement plan which includes bulk orders for Australian-made, high-efficiency appliances to retrofit and fully electrify existing social housing stock and new social housing stock could underpin the electric pivot by local manufacturers.

Demand-driven growth of a high-efficiency appliance manufacturing sector in Australia will drive the scale and scope of local capabilities that make the sector economically sustainable. Beyond public procurement contracts, initial government support to help transition the sector and give manufacturers the confidence to invest in retooling factories and production lines.

Social procurement would develop industrial scale; private sector purchasing in Australian supply chains could be mandated to meet regulatory standards for electrical appliances by purchasing Australian-made products and this would ensure a sustainable demand pipeline beyond socially procured appliances.

The combined mechanisms of bulk procurement, increased performance standards, capital upgrade co-investment, and worker training can be used concurrently for an All-Electric Australia Appliance sector to become a reality.

All electric policy mix

Local electric appliance procurement
Establish a national plan to electrify all social housing in Australia and use the power of bulk government procurement to underpin early demand for high efficiency, Australian made electric appliances.

Mandatory Energy Performance Standards
Increase MEPS standards for appliances sold Australia to improve energy performance, reduce household energy expenses and help to accelerate the shift to electrification of all household appliances. MEPS has been highly effective in improving the performance of appliances and reducing household energy bills.

Invest in retooling appliance facilities
Use the National Reconstruction Fund to coinvest in manufacturing facilities to upgrade production lines to all electric and high efficiency appliances is required concurrently with any change MEPS standards. This will mitigate the risk of offshoring and provide the basis for establishing a local heat pump manufacturing supply chain in Australia.

Worker training
Supporting workers to reskill to manufacture electrified appliance lines will ensure ongoing local employment as well as ensure manufacturing can continue to remain competitive at existing locations.

Appendix

1. Table of appliance manufacturers in Australia

Company	State	FTE*	Appliance type	Company	State	FTE*	Appliance type
Robert Bosch	VIC	740	Water heating	Archer Gas Log Fires	VIC	50	Heating
Rheem (NSW)	NSW	500	Hot water	Trent Refrigeration	VIC	40	Commercial Refrigeration
Stoddart Australia	QLD	415	Commercial cooking and refrigeration	United Refrigeration Pty Ltd	VIC	30	Commercial Refrigeration
Electrolux	SA	400	Cooktops, ovens	IXL Group (Cannon gas heaters)	VIC	30	Heating
Rinnai	VIC	345	Water heating	Heatlie Barbecues	SA	25	BBQs
Actron Engineering Pty Ltd	NSW	300	Heating/Cooling	Illusion Fires	VIC	25	Heating
Rheem (VIC)	VIC	300	Hotwater	Scandia	VIC	10	Heating
Seeley International (SA)	SA	280	Heating, hotwater, whitegoods	LUUS Industries Pty Ltd	VIC	65	Commercial cooking equipment
Brivis (subsidiary Rinnai)	VIC	270	Heating	Cookon (Langford Metal Industries Pty Ltd)	QLD	55	Commercial cooking equipment
Daikin	NSW	200	Heating/Cooling	Williams Refrigeration Australia Pty Ltd	VIC	50	Commercial Refrigeration
Climate Technologies (subsidiary of Symphony Limited)	SA	200	Heating/Cooling	Real Flame (subsidiary of Glen Dimplex)	VIC	50	Heating
Temperzone	NSW	150	Heating and cooling	Archer Gas Log Fires	VIC	50	Heating
Seeley International (NSW/VIC)	VIC	120	Gas heaters and cooktops	Trent Refrigeration	VIC	40	Commercial Refrigeration
Middleby Australia Group Pty Ltd	NSW	100	Commercial cooking equipment	United Refrigeration Pty Ltd	VIC	30	Commercial Refrigeration
Dux Manufacturing	NSW	100	Water heating	IXL Group (Cannon gas heaters)	VIC	30	Heating
Roband Australia Pty Ltd	NSW	70	Cooking	Heatlie Barbecues	SA	25	BBQs
LUUS Industries Pty Ltd	VIC	65	Commercial cooking equipment	Illusion Fires	VIC	25	Heating
Cookon (Langford Metal Industries Pty Ltd)	QLD	55	Commercial cooking equipment	Scandia	VIC	10	Heating
Williams Refrigeration Australia Pty Ltd	VIC	50	Commercial Refrigeration				
Real Flame (subsidiary of Glen Dimplex)	VIC	50	Heating				

*Employees are based on publicly available data and confirmation with facilities