

Household electrification: reducing emissions and bills for gas-consuming households

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Overview

Australia will not hit its 2050 net-zero emissions target unless it gets off natural gas. Getting off gas will be complex and difficult, but delaying action will only make it more so.

Governments should start by ensuring all Australian homes become all-electric. All-electric homes are cheaper to run and better for people's health. Alternative technologies such as hydrogen or biomethane are too costly and too far off for widespread use in homes and small businesses.

It's a big task. About five million households in Australia are on the gas network. Victoria, the state that relies most on gas, will need to take 200 homes off gas every day until 2045 to achieve net zero. Governments need to start now.

There are many barriers, and all must be addressed. They include the initial cost of upgrading houses, apartments, and rental properties from gas to all-electric, the different interests of renters and landlords, and a myriad of space, wiring, and logistical problems.

Governments should embark on a six-pronged strategy.

First, state and territory governments should provide certainty about direction and timing by setting dates for the end of gas.

Second, they should prepare and roll out long-term, consistent, targeted communications campaigns on why households should switch to all-electric, and how best to do it.

Third, they should ban new gas connections to homes, shops, and small businesses.

Fourth, they should eliminate regulatory barriers to all-electric homes.

Fifth, they need to lower the cost hurdles, because electric cook-tops, home heaters, and water heaters often cost more to buy than the gas equivalents. Governments should pay for upgrades to social, community, and Indigenous housing, and provide low-interest loans or similar financing agreements for homeowners, and tax incentives for landlords.

And lastly, at a future date, governments should phase out the sale of natural gas appliances, so that the last remaining gas appliances are replaced with electric ones.

These activities must be supported by plans to safely decommission the gas network, and upgrade the electricity grid so it can cope with the extra demand.

Governments will also need to solve the problem of industries that cannot get off gas at present. Solutions may include local industry clusters using biomethane or hydrogen. Finding these solutions will require collecting gas usage data from numerous sites across Australia.

Finally, the current approach to regulating the energy sector is simply not up to supporting this transition. It risks sending the gas network businesses into bankruptcy or stranding some customers on a redundant, unsafe, expensive gas network – or both.

Governments will need to engage with industry and households to develop solutions that are fair to consumers, provide certainty to businesses, and ensure the network is safe to use.

1 Our submission

Grattan Institute is an independent think tank focused on Australian domestic public policy. It aims to improve policy by engaging with decision-makers and the broader community.

We welcome the Senate Inquiry into residential electrification as referred to the Senate Economics References Committee on June 2023. Australian homes and businesses are dealing with material increases in cost of living expenses and business inputs respectively, not least being the cost of energy.

Where we have relevant analysis and recommendations, our responses to the Terms of Reference for the Inquiry are covered in our recent report, "Getting off gas"¹.

The focus of the report is the electrification of the domestic gas load in Australia. Therefore, there are several issues where we have not done a detailed analysis to fully address the apparent concern. For example, while we have assessed the financial benefit to households of electrification, we have not extended that analysis to the impact on inflation or the consumer price index. And, although we note in the report that households with rooftop solar and batteries would benefit more strongly from electrification than others, quantifying that benefit was beyond the scope of the report.

This report addresses all of the issues raised in the ToR where we feel qualified to respond and we therefore make that report the substance of our submission.

1. Wood, T., Reeve, A., and Suckling, E. (2023). Getting off gas: why, how, and who should pay? Grattan Institute.