



Brotherhood
of St Laurence

Working for an Australia free of poverty

Residential Electrification

Submission to Senate Economics References Committee, October 2023

The Brotherhood of St. Laurence (BSL) welcomes this opportunity to provide a submission to the Senate Economics References Committee inquiry into Residential Electrification.

The transition to clean energy is crucial to Australia's decarbonisation efforts, as energy accounts for the majority of our domestic emissions (DCCEEW 2022). The energy sector is also expected to decarbonise faster than most other sectors (AEMO 2022), necessitating a rapid transformation that will reshape certain industries and communities. Eliminating emissions from 'natural' gas used in the residential sector is a significant, and an important opportunity to reduce Australian domestic emissions. Shifting away from residential 'natural' gas and towards 100% electric homes is an essential step to reduce Australia's emissions and improve energy affordability, particularly for lower income households and those facing energy stress.

Several recent studies have highlighted the potential benefits of reducing or eliminating residential gas emissions by shifting towards electric homes, see for example Grattan (2023), Infrastructure Victoria (2022), and Victorian Government (2022).

In this brief submission we focus on select items raised in the inquiry ToR that are most relevant for low-income and households and those facing energy hardship or stress. We would welcome the opportunity to engage with the committee further on the topic.

Recommendations¹

ToR h: Solutions to the economic barriers to electrification for low-income households

These recommendations are drawn from the Enabling Electrification report and reflect the issues raised in the surveys and focus groups.

The Commonwealth and other jurisdictions involved in electrification policy and program design should:

Address barriers to trust, information and knowledge and reducing perceived risks by:

- Providing appropriately targeted household electrification and energy efficiency information, advice, and support. This should include:
 - a one-stop shop, where people can go for trusted, independent tailored advice and support.
 - different levels of support including mainstream and targeted online information, and 1 on 1 advice through phone services (or energy audits).

¹ These recommendations are drawn from our Enabling Electrification report, which is based on surveys with 220 low income and energy stressed households, and our work on the Victorian gas access arrangements.

- investment in trusted channels for engagement such as community organisations, local councils, and government channels.
- investing in program co-design to ensure programs are fit for purpose and meet participants needs
- seeking to ensure programs are in the market for longer periods of time to enable brand awareness to grow (such as Victoria’s 10 year Solar Homes program)
- developing a coordinated plan to ensure there is an appropriately skilled workforce in place, and investing in more accredited training initiatives for the existing workforce, such as the Plumbing Industry Climate Action Centre

Provide certainty to households on the transition away from residential gas, by:

- developing integrated plans for electrification. A plan for the future of the residential gas network will build trust and reduce uncertainty.
- regulating to restrict further investment in the residential gas network that will lock in future vulnerability (through the costs associated with decommissioning the network).

Ensure renters are not left behind, by:

- State governments introducing stronger mandatory standards for energy efficiency and electrification for rented homes and appliances, alongside targeted information, and targeted incentives. The Commonwealth should implement national framework for mandatory energy efficiency standards for rental properties.
- Commonwealth and state government increasing investment to transform community and public housing to be 100% electric and energy efficient.

Address capital barriers, by:

- Commonwealth and state government putting in place appropriately targeted grants and rebates to support electrification (including rooftop solar), and where appropriate genuine no (or very low) interest loans (noting there is some reticence to take out loans in our audience).

Integrate support for residential electrification and energy efficiency

- Integrate support for energy efficiency upgrades and electrification in policy and programs, to reduce costs and maximise the benefits.

Create inclusive planning processes

- Government needs to play a central role in enabling inclusive planning processes for electrification (and not leave it to industry)

TOR k: any other matters.

Coordinate a response to ensure an equitable gas network winddown

- Commonwealth and state governments should work with regulators, market bodies and networks to develop coordinated plan for the equitable winddown of gas networks

Background: BSL and residential electrification

For over 15 years, our Change & Energy team has been working to reduce Australia’s emissions while ensuring benefits for low-income Australians. We do this by promoting policy solutions that lower energy bills, improve the energy efficiency and quality of people’s homes, and create new employment opportunities available through the transition. Our most recent research, Enabling

Electrification, was produced in partnership with the Australian Research Council Life Course Centre. It focused on the barriers and enablers for low-income households and those facing energy stress to electrify. In the past five years, we have provided a consumer perspective on gas and electricity price determinations in Victoria. Through these processes, we have sought to highlight the importance of the long-term interests of consumers, particularly those on low incomes. In the recent gas access arrangements, we emphasized the importance of a clear roadmap to move off residential gas to enable an equitable sharing of costs associated with the wind-down of residential gas networks.

Our Climate Change & Energy team has also run, and conducted research on, a series of innovative energy efficiency pilots focussed on low-income households, which have included key aspects of electrification including rooftop solar, heat pump hot water, and reverse cycle air-conditioning for heating and cooling. They include:

- the Home Energy Efficiency Upgrade Program (HEEUP), replacing over 790 hot water systems and testing subsidy models (Commonwealth funded in 2014–16).
- Home Energy Assist: Affordable Retrofits, testing deep efficiency retrofits for 88 households, funded by the Victorian Government (2018–19).
- the Residential Energy Scorecard Not for Profit trial (Victoria) – residential energy efficiency scorecards and advice for over 250 low-income households.
- Climate Safe Homes, which has developed a new delivery model to make energy efficiency upgrades available to those impacted by chronic health challenges, aiming to maintain safe indoor temperatures and reduce their energy bills – and greenhouse gas emissions – by working closely with partners in the health sector. (Current, funded by Lord Mayor’s Charitable Foundation).
- assisting over 8000 households with advice through the Energy Assistance Program and access to the Power Saving Bonus.

Our team uses the lessons from these pilots, as well as from research, to advocate for policy related to energy efficiency, electrification, and climate change. We have informed the design of government-run energy efficiency programs in several states, as well as regularly contributing to policy processes.

1 (ToR h) Solutions to the economic barriers to electrification for low-income households

Our proposals in this section are based on the Enabling Electrification research report, which the BSL recently released with the Australian Research Council Life Course Centre. The report, which focussed on the barriers and enablers for low income households and people facing energy hardship to get off gas, drew on surveys with 220 people and discussions with 37 people in focus groups. Two thirds of the respondents supported the transition from gas, but few had electrified appliances (10%), mainly due to barriers such as cost, information or renting their home. This gap reflects several factors including barriers the households face. The insights from the report are useful for understanding the solutions to the barriers low income households face to electrification. We summarise the implications for policy in the table below. The full report provides further detail.

| Barrier and implication | Examples | Opportunities to address the barrier |
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| information and knowledge: Low levels of awareness of support programs | Support for electrification is relatively high but awareness of support services is low. Relatively high awareness of Victoria's solar homes program, but lower for some recent targeted programs | Ensuring programs are in the market for longer periods of time to enable brand awareness to grow (such as Solar Homes program) Co-designed and better targeted program marketing (particularly for those who speak a language other than English at home) Well-designed programs that meet participant needs |
| Information and knowledge: Lack of information specific to diverse participant needs. | There were diverse needs in participant group. To address these needs participants, require different types of information specific to their needs. | Ensuring co-design including with culturally and linguistically diverse, and people with different financial circumstances. Provision of information and support at different levels including online information, and 1 on 1 advice through phone services, or energy audits. Information should be provided through trusted channels. Building energy literacy has a role in a limited number of households |
| Trust; information and knowledge There was a lack of trust in certain key actors in the supply chain | It was difficult for people to know where to get trusted information. This was combined with a sense of confusing and mixed messages around gas and electrification. Participants trusted community service organisations, government including local government. | A one-stop shop, where people can go for trusted, independent tailored advice and support. A coordinated plan for ensuring we have an appropriately skilled workforce in place. Investing in more accredited training initiatives for the existing workforce, such as the Plumbing Industry Climate Action Centre |

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| | The importance of tradespeople and retailers (Bunnings etc) was identified, but there was a lack of trust from several people due to perceived vested interest | |
| Perceived risks of electrification Lower-income households may be deterred by the perceived risks of electrification. This enforces a status quo bias (including like for like replacements such as gas hot-water for gas hot water) | Risks include: Perceived costs involved, lack of certainty over the upfront costs and lifetime benefits. Unknowns of changes, such as 'new' technology like heat-pump hot water systems Fears of possible future rent increases after upgrades These perceived risks are magnified for those with limited savings and renters | Provision of evidence-based information on the benefits of electric vs gas appliances (over the appliance life), delivered through appropriate channels. Providing tailored advice, information and financial support that acknowledges household experiences. Addressing the structural barriers such as the split incentive for renters |
| Perceived risks of electrification Lack of certainty about future gas network and electrification | There was uncertainty about what the future hold for the gas network and electric homes. | A plan for the future of the residential gas network will build trust and reduce uncertainty. State and Federal governments should develop integrated plans for electrification (In Victoria, further iterations of the Roadmap) Government regulation should ensure further investment in the residential gas network does not lock in future vulnerability (through the costs associated with decommissioning the network) |
| Tenure and control Renters have little (if any) control over moves towards electrification | Homeowners are better placed to electrify, provided they can wait to recoup the cost | Stronger mandatory standards for energy efficiency and electrification should be introduced for rented homes and appliance, alongside targeted information, and targeted incentives. Government should investment to transform community and public housing to be electric and energy efficient. |
| Capital barriers Many households faced capital barriers to upgrades | | Appropriately targeted grants and rebates are needed. Genuine no (or very low) interest loans have a role to play, however there is some reticence to take out complex loans |

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| <p>Barriers to accessing rooftop solar</p> | <p>Access to solar panels is a key step for electrification, and renters and lower-income households need more support</p> | <p>Increased incentives for low-income renters / landlords Ensuring information on existing programs is available in relevant formats for different groups (language, culture, geographic) Integration of support for energy efficiency upgrades and electrification</p> |
| <p>Lack of integrated support across residential electrification and energy efficiency</p> | <p>Energy efficiency upgrades and electrification are perceived in a similar way.</p> | <p>Integrate support for energy efficiency upgrades and electrification in policy and programs</p> |
| <p>Inadequate planning processes The voices of those facing barriers to electrification are often not heard and included in planning</p> | <p>There are limited channels to do this at present. Gas industry led consumer engagement processes have limitations.</p> | <p>Government needs to play a central role in enabling inclusive planning processes for electrification (and not leave it to industry)</p> |
| <p>Multiple and compounding stressors: some households facing barriers to electrification are also experiencing many other challenges</p> | <p>Housing stress – precarious housing, affordability of rent Insufficient income</p> | <p>Addressing the challenges of inadequate and unaffordable housing, insufficient income are necessary in themselves, if unaddressed they will be a barrier to the transition</p> |

2 (TOR k) any other matters.

Our involvement in the Victorian gas access arrangements highlighted several critical issues to enable a fair transition away from residential gas.

Managing gas networks to safeguard affordability and energy equity

The recent Victorian gas access arrangements have demonstrated the importance of a deliberate and committed plan to manage residential electrification and the migration from the gas networks, to minimise risks for households, and best realise the benefits electrification may offer. The outcome of the recent Victorian gas access arrangements show that residential electrification must be coordinated in a way that allows ongoing investment in gas infrastructure to be minimised. In their final determination Australian Energy Regulator (AER) granted the distribution and transmission networks' proposal for accelerated depreciation – in recognition of the existential risk that competitive electrification poses to their business case, and the likelihood that their assets will become stranded before the end of their operational life (Brotherhood of St Laurence 2022). The implication of this decision is that there's a realistic possibility that falling gas use will lead to unaffordable network costs for remaining customers – the 'disconnections spiral' scenario. This possibility should be recognised as an unacceptable risk for households that rely on gas – especially because of the disproportionate risk facing low-income households and renters who face barriers to switching. It demands a response from government, and properly addressing the new risks it poses, will require coordination between regulators, market bodies, networks and different levels of government.

New investment to expand gas infrastructure must be avoided

The recent Victorian access arrangements allowed substantial new capital spending for transmission and distribution – at the same time as compensating networks for the stranding risk facing their assets. This situation maximises the risk that remaining gas users will face unaffordable network prices as the gas migration progresses. Victorian distribution businesses included a large amount of proactive asset replacement in their proposals, as well as new connections and augmentation. The transmission business proposed augmentation and new pipelines to access new gas supplies, to address short-term peak day supply/demand imbalances.

A pro-active rollout of residential electrification will be an important part of avoiding new investment in gas infrastructure. This will require coordinated gas infrastructure planning, to avoid replacement as assets reach end of life – and measures to ensure electrification progresses according to a timeline that avoids investment to address forecast peak day shortfalls on the east coast. It will also require effective demand management programs to be developed quickly – and review of factors that drive investment – such as reliability standards – to ensure they're suitable in the context of the gas migration.

New gas connections should be ended as soon as possible

The Victorian gas access arrangement has shown that it's essential to end new gas connections as soon as possible, especially for new estates. Networks were awarded accelerated depreciation² (\$362 in extra revenue) in recognition of the stranding risk facing their assets. At the same time,

² For the period of the gas access arrangement 2023 to 2028

the networks were granted \$530m in revenue to extend assets to new customers and undertake necessary augmentation. This was funded through revenue even though the gas usage on new estates is forecast to fall off very rapidly. Gas distributors expect that the very strong business case electrification offers for new homes will see forecast gas consumption on new estates fall to unviable levels over the next 5 years.

This means the pipelines built to supply new estates are at risk of being underused, to an unviable level, from the outset – and almost certainly over their lifetime. Connecting new estates will increase the stranding risk that now threatens affordability for existing customers, as well as leaving new gas homes worse off.

Managing the migration will require commitment to the electrification pathway

The Victorian access arrangement included many examples of the high hidden costs that failing to commit to electrification will incur for the transition. Network businesses suggested that a reticulated hydrogen pathway was also a potential future. Little analysis was done to evaluate the relative likelihood of these alternative options. Because the transition pathway was presented as being ‘uncertain’ (i.e. whether residences would electrify or adopt reticulated hydrogen) – network costs were maximised. Another example is the new requirement for Victorian homes to disconnect from gas at the mains in the street, rather than the meter. Despite a similar risk profile for service line pipes between households with and without gas, this was proposed as a safety measure for electrifying households, with no allowance made for the expectation that the gas network would not be operating indefinitely. This decision could add up to \$1.7b in costs in Victoria. There are many other similar examples in the access arrangement, underlining the importance of committing to electrification. Committing to electrification will also be necessary to enable clear communication and an adequate lead time for households, to allow them to minimise the cost of quitting gas.

Network and consumer risks should be considered in concert

As discussed, the AER allowed the networks to charge accelerated depreciation, to mitigate networks’ stranding risk (by charging customers more). However, many other critical questions regarding the migration off gas networks were left unanswered.

Managing the transition will require close coordination between the networks and other stakeholders – for example, to identify and respond to levels of usage that become unviable, and to coordinate migration away from assets approaching their end of life. A broad range of issues must be addressed, to minimise consumer risk and cost, and address equity – as part of any framework that also extends concessions such as accelerated depreciation to the networks.

Further information

Thank-you for the opportunity to make this submission. We would welcome any opportunity to discuss our work further. For further information or to discuss this submission, please contact:

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