Building Electrification Regulation Impact Statement consultation

Submission by the Gas Appliance Manufacturers Association of Australia

14 March 2025

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1. Executive Summary

The Gas Appliance Manufacturers Association of Australia (GAMAA) welcomes the opportunity to provide comment on proposed mandatory installation and replacement gas appliance bans under the Building Electrification Regulatory Impact Statement (RIS).

GAMAA supports progressive and sensibly paced cost-effective decarbonisation of Victoria's energy supply and end use activities as it moves towards the goal of net zero by 2045.

GAMAA also endorses recognition of the on-going role of natural, renewable and hydrogen gas in providing backup to the deployment of renewable energy generation and in providing clean, cost-effective and reliable energy to more than two million homes, commercial businesses and manufacturers across the state, both through distributed and LP Gas markets. We also believe that the principles of fairness and equity are paramount considerations in considering significant regulatory changes regarding the energy transition. These principles are also endorsed by the Victorian Government.

The proposal to ban the installation and replacement of gas space heating and water heating appliances and begin the process of winding down the natural gas market in Victoria has significant implications for consumers, business and for Victoria's energy supply security.

For this reason, GAMAA commissioned an independent review by Evaluate Consulting Pty Ltd. to review the RIS's options, methodology and overall conclusions to test for robustness and appropriateness. **It found that many of the benefits have been overstated, and numerous costs undervalued, rendering the results unreliable across all options.**

In bringing forward these proposals GAMAA notes that the Government has placed emphasis on reducing costs for consumers. However, when analysed on this basis the Evaluate report shows the proposals fail this essential test and would be highly inequitable in their impact.

Evaluate show that the preferred option would be likely to impose significant <u>direct</u> net costs on affected Victorian residential and commercial gas users of between $2.9 to $5.8 billion in net present value terms. It also shows that the benefit-cost ratios are also well below breakeven ranging from 0.62 down to 0.45. This does not include the over $1.55 billion of loss across the appliance manufacturing industry, nor the cost of the required extra augmentation of the electricity network estimated at up to an additional $22 billion.

GAMAA's analysis of the distribution of costs also show that one million Victorian homeowners and renters are likely to be left worse off either financially or through reduced amenity, many substantially, unfairly and without choice, from upfront additional replacement and installation costs of up to $30,000 for a house with gas ducted heating and hot water. These costs would not be recouped from running cost savings worth at best around $545 per year or $6,540 over the 12-year lifespan of the replacement electric appliances as assumed in the RIS. All Victorians would also face higher electricity and gas prices and higher costs and delays for key trades, notably electrical and building.

GAMAA stands by these numbers as they are based on independent real-world cost and performance information obtained from appliance providers and installers.

In addition, the proposals unambiguously fail to meet the government's other policy objectives.

- The relatively small amount of carbon savings generated come at an **average cost from ranging from $208 up to $525 per tonne of CO_2** which is between 2.1 and 5.4 times the accepted AEMC benchmark of $97 per tonne, which was agreed in 2024 by all Federal and State Energy Ministers (including the Victorian Energy minister)**.** It is an inefficient and inequitable carbon tax on Victorian gas users.
- **The proposal's modest gas savings will not make any difference to Victoria's short-, medium- or long-term gas supply challenges** with independent market experts projecting savings to be offset by increased gas power generation (GPG) requirements to meet the additional peak electricity demand. The fact is that the same measures to bring in new gas supply will be needed regardless of whether this measure proceeds or not, and many of these are already underway.

Finally, a survey of gas appliance manufacturers and suppliers show it would have devastating impacts on Victoria's gas appliance manufacturing sector with a revenue loss of more than 30 percent, a forecast of at least 440 direct job losses with the potential for more to be offshored to countries such as China. Further losses will occur in other parts of the supply chain that currently support Australian manufacturing.

Many in the industry are concerned that these losses would be of such magnitude that they call into question the future of domestic appliance manufacturing altogether for both gas and electric appliances. It would also thwart efforts in the transition to renewable gas compatible appliance manufacturing, and it will reduce spare parts availability for the remaining gas appliances.

Based on the findings from the independent analysis and that contained in this submission, none of the proposals put forward in the RIS should proceed.

The proposed mandatory bans are inflexible and economically inefficient. They would strip away choice and market competition and impose serious hardship on many struggling Victorian households, further driving them into debt at a time when they can least afford it. Many will be left with no choice other than to replace their existing multiroom heating systems with plug-in electric heaters which will cost much more than gas heaters to run.

But there is a better and lower cost way.

At a minimum the RIS should be revisited with refreshed real-world cost data and inputs and include options that more cost-effectively and equitably address the identified policy barriers to ensure outcomes stand up against real-world conditions.

Options should be based on the sensible and proven principle that consumers, provided with effective information, remain best placed to choose what is most appropriate for their individual circumstances based on their financial, amenity and other considerations, rather than government imposing an inflexible one-size fits all solution that pays scant regard to the direct costs imposed on individual households.

A much more cost-effective and equitable way forward would be to include high efficiency gas appliances as a replacement option for an existing gas appliance, given these will save around $200 in gas bills for little to no additional up-front cost to consumers and reduce emissions by 25%. It would also avoid flow-on negative impacts for manufacturers and energy markets.

In addition, information should be made available to consumers on 'real-life' installed costs, appliance efficiencies, and running costs/savings for gas and electrical appliances. This will enable them to make informed decisions on how to best manage their budgets and priorities and choose either gas or electric appliances suitable to their needs. Consideration should also be given to provide financial support for those households that cannot afford the additional upfront cost of appliance replacement.

More broadly, consideration should also be given to supporting efforts to deploy renewable gas and hydrogen into the gas network to drive additional medium-term decarbonisation for all gas users.

This should be done in consultation with industry which holds the real-world knowledge and data to support accurate and balanced analysis in line with standard economic principles.

GAMAA would also welcome the opportunity to further engage with the government on any aspect of its data or analysis, and to better understand the government's assumptions and modelling, particularly in areas where these have not been provided.

2. Comments on RIS

2.1 Introduction

On 13 December 2024 the Department of Government Services released the Building Electrification – Regulatory Impact Statement (RIS) prepared by the Department of Energy, Environment and Climate Action (DEECA) and the Department of Transport and Planning. Public comments were invited with a closing date of 28 February 2025 although a short extension was granted to GAMAA to complete its survey of members. GAMAA acknowledges and thanks both Departments for their flexibility.

The focus of the RIS is to consider options to accelerate the uptake of electrification across the residential and commercial sectors, with the preferred option (RIS option 3) being electrification of all new and existing residential buildings and all new commercial buildings achieved through a ban on new and end-of-life replacement of gas appliances. Gas cooking and LPG appliances are excluded from this ban.

Only a limited number of exemptions are proposed, seemingly confined to where the regulations would conflict with other legal or planning obligations. Despite references in the RIS to exemptions for high-cost situations, none are provided in the proposed regulations.

In this context we note that high efficiency gas appliances are a highly cost-effective solution. They will save Victorian households around $200 in gas bills and reduce emissions by 25% for little to no additional up-front cost and yet are excluded as an option purely on what seem to be ideological grounds. The regulations as proposed in the RIS will remove choice, increase costs, cause technical and practical problems and confusion as outlined in detail further below**.**

We welcome the opportunity to provide comments on the RIS and draft regulations and the preferred approach, noting concurrent and critical work underway on the VEU strategic review process.

2.1.1 About GAMAA

By way of background, the Gas Appliance Manufacturers Association Australia (GAMAA) was formed in 1957 and is the peak industry body representing the interests of Australian manufacturers and suppliers of domestic and commercial gas heating, hot water and cooking appliances and components.

Our 37 member companies currently employ a combined total of 4,000 workers in Australia. The vast majority of the 18 million domestic gas products enjoyed by Australian consumers are supplied by GAMAA members, with significant local design and manufacturing content.

Our primary activity is to work with our members, government agencies, political representatives and other industry stakeholders to develop and implement workable, equitable and practical initiatives, standards and regulations that result in better economic, social and environmental outcomes and address the unique role of domestic and commercial gas products in Australian homes, businesses and buildings in the economy wide transition to net zero.

More information and contact information on GAMAA is available at https://gamaa.asn.au/

2.1.2 Purpose and scope of this submission

This submission is intended to provide a sense check on the methodology, data and assumptions used to underpin the RIS analysis, as well as a practical testing of the likely impacts of the proposed changes.

In doing so, we have focussed heavily on the needs of Victorian energy consumers given the enormous financial stresses now evident in a sustained cost-of-living crisis. While reduction in energy bills can provide relief, this only holds true where all associated costs are considered and properly netted out. Other government approaches may also meet, or largely meet, the goals in more efficient, equitable and least cost ways.

GAMAA notes that this is the fourth in a set of interrelated consultation documents on aspects of gas policy - the minimum energy performance standards for rental and rooming house tenancies, the Victorian Energy Upgrade Scheme and the Renewable Gas Directions Paper - all of which have been developed on the presumption of forced electrification of Victoria's residential and commercial sectors, despite statements by the Premier and Energy Minister emphasising that no decisions have yet been taken to do so. The first Roadmap made clear that the policy framework was focussed on enabling choice and removing barriers and included the following commitment from the energy minister: ***"These changes are all about providing greater choice – there are no penalties for people who continue to use gas, just advice, options and support for those who want to make the change."***

This submission focuses primarily on the overall efficacy of the RIS proposals, particularly the consumer, industry and jobs impacts and should be read in conjunction with GAMAA's previous submissions to the other consultations outlined above. They are available at https://gamaa.asn.au.

Where alternative values to those in the RIS have been presented, GAMAA has cited the sources. GAMAA would be pleased to discuss further our approach and data with the Department.

2.2. Context for this submission

GAMAA supports progressive and sensibly paced cost-effective decarbonisation of Victoria's energy supply and end use activities as it moves towards the goal of net zero by 2045, at the same time maintaining consumer choice

GAMAA also endorses recognition of the on-going role of natural gas, renewable gases and hydrogen in providing reliable energy to more than two million homes, commercial businesses and manufacturers across the state.

The principles of fairness and equity are paramount in considering significant any regulatory change. These are long standing principles embedded in the Victorian Government decarbonisation, energy climate and social policies.

The unavoidable fact is that gas and electricity systems and markets are interlinked, and that significant changes or impacts in either system or market will flow into the other and directly onto consumers. In a period when households and businesses are experiencing considerable cost of living and other economic pressures, even comparatively modest cost increases can have serious consequences for those already struggling.

Thus, regulatory intervention which forces a rapid wind-down of a substantial part of the distributed gas network and shifts this energy load onto the struggling electricity network, will have potentially serious implications across the Victorian economy, all energy users, suppliers and puts at risk energy security more generally. Such proposals must be robustly tested and risks well understood before any regulatory intervention takes place.

The proposals in the RIS stand to have such consequences. For GAMAA members, more than 440- of their employees are likely to lose their jobs and the value of their businesses impaired or destroyed almost overnight. All gas and electricity consumers will incur significantly greater net costs as a result. Should the proposed regulatory intervention proceed, a suitable transition period is required to allow for business planning, supply chain and stock restructuring and worker transition. A start date of 2026 is too short notice and will simply drive affected business into an immediate shut-down response which will exacerbate the business and the human costs of this measure.

For all of these reasons, GAMAA commissioned an independent review of the RIS by Evaluate Consulting Pty Ltd. Its team of public policy and economic specialists, led by Adjunct Associate Professor Alastair Furnival and Mr Michael Schur, former Secretary of the New South Treasury and Ms Catherine McGowan, reviewed the RIS methodology, policy framing, chosen (and omitted) inputs and overall conclusions to test for robustness and appropriateness. The Evaluate report is attached to this submission and can found at www.gamaa.asn.au.

2.3. The analysis by Evaluate provides compelling reasons not to proceed

The Evaluate Report clearly highlights that the proposed mandatory gas appliance bans are very likely to be detrimental, both in terms of aggregate cost to benefit, and in their direct impact on the majority of Victoria's two million gas using households and businesses and indirect impacts on the Victorian community at large.

Importantly the Evaluate report raises serious concerns about the quality and balance of analysis in the RIS and shows that the RIS results are overly optimistic across all options.

In broad terms the concerns can be separated into seven sets. These are:

1. The assumptions in the RIS
2. The assertion that "unbounded rationality" is to the benefit of individual consumers
3. The asymmetry and inequity in the proposed solution designs
4. That the CBA inputs are both optimistic and inconsistent with respect to both standard public economics and other work undertaken in this field
5. That the full cost of avoided emissions is included in the CBA
6. The assumptions about future energy production and consumption; and,
7. That no consideration has been given to the impacts on both industry and employment from the proposed market intervention.

GAMAA fully endorses the Evaluate report and all concerns raised, specifically that they collectively bias the RIS analysis and recommendations and render it unfit for decision making.

In support of this conclusion GAMAA would like to highlight several of the most critical aspects Evaluate identify summarised under the following headings:

- Confusing mismatch between market barriers and options.
- The exclusion of lower cost options that could accelerate decarbonisation at a lower cost.
- A skewed (asymmetric) selection of costs and benefits and unrealistic data.

2.3.1. Confusing mismatch between market barriers and options

The RIS places a heavy reliance on the presence of "bounded rationality" as well as other largely informational deficit barriers to suggest that consumers are making less than optimal decisions when choosing gas appliances.

However, the RIS provides no evidence that this or the other listed market failures are materially preventing economically efficient take up of electrification in Victoria, or why they are unique to gas appliances but not prevalent in other more complex consumer decisions on long lived assets such as solar energy systems and the purchase of property and other investments.

As Evaluate point out, consumers do respond well to price signals and in fact this has driven the large uptake in household solar energy systems. That consumers are price responsive was also confirmed by the Government's own Infrastructure Victoria in research looking at consumer behaviour and electricity prices.[1]

It logically follows that with good information, consumers will do the same in relation to their heating and hot water appliances where this is cost-effective.

But, having assumed the presence of these barriers the RIS then dismisses out of hand these conventionally accepted solutions and moves straight to mandatory bans and removing the consumers' right to choose based on three other objectives: reducing energy bills, full decarbonisation of reticulated gas, and saving gas to improve energy security. It justifies this based on benefit-cost ratio (BCR) analysis - presumably to show that consumers will be better off overall, without testing each of these objectives individually for economic efficiency, effectiveness or equity.

This means that the options have been chosen to secure other policy goals rather than addressing the stated market barriers to uptake, thus rendering, in the words of Evaluate, the entire discussion of market barriers to little more than a narrative.

As Evaluate also note, the use of BCR is consistent with accepted practices for assessing public policy proposals. However, Evaluate also note the importance of testing results for robustness to reasonable variances in assumptions and data, and to ensure that the distribution of cost/benefit fall within equitable bounds. In this respect they note a range of fundamental flaws in the application of the RIS BCR analysis, some of which are inconsistent with standard principles of economic analysis as discussed below.

[1] Evaluate Pty Ltd, A review of the Victorian Government's *Building Electrification Regulatory Impact Statement* February 2025 p11

2.3.2. The exclusion of lower cost options that could more cost effectively accelerate decarbonisation

The Evaluate report highlights that behavioural economists have developed sophisticated tools and approaches to address the types of market barriers identified in the RIS. In the main these can be quite effective in empowering consumer decision making. While they may not achieve 100 per cent of the stated objectives (and are dismissed in the RIS accordingly), the Evaluate report notes that this is not in any case achieved under any of the proposed policy options.

It is therefore perplexing that options that may well achieve good results at little net cost to the Victorian community have been excluded out of hand.

In GAMAA's view the set of policy options exclusively framed around mandated bans do not seek to efficiently address identified market barriers – they are simply chosen to implement the government's pre-determined and ideological goal of phasing out gas from the residential and commercial sectors rather than promotion of consumer welfare. This smacks of an ideological rather than an economically efficient approach.

In this regard it is GAMAA's view that the exclusion of gas cooktops can only be seen as little more than an exercise in expediency to reduce public opposition to any proposed gas ban and, given the lack of legislative or regulatory questions to support the commitment, it leaves open the question of how long these exemptions will remain.

2.3.3. A skewed (asymmetric) selection of costs and benefits and unrealistic data define an approach that is inconsistent with standard economic analysis

The Evaluate report should be read in full to gauge how fundamental these issues are to the results presented and why the RIS is an unreliable tool for decision making.

In summary, the main concerns focus on the RIS's choice of inputs and the use of unrealistic data and assumptions. In terms of the input selection there are two fundamental flaws – the skewed and inappropriate mix of private and public cost and the skewed and inconsistent application of inputs.

Evaluate note that the principal focus of the RIS is on generating consumer benefit through lower running costs. It also observes that the overwhelming share of the costs of the measure fall on private gas users whom the measure is principally designed to benefit. This suggests that the efficacy of the measure should be assessed using a consistent application of private costs measured against private benefits.

As Evaluate note," In other words, the intervention should "stand up" without the need for the benefits assumed to flow from emissions reduction, but it patently does not."[2]

However, contrary to this, and possibly to influence a more favorable BCR ratio, the RIS includes the full value of a large social benefit in the form of avoided carbon emissions. Evaluate also note that the inclusion of avoided carbon emissions (which it believes is around 43 per cent overvalued – see below) is not appropriate given "it is not credible that any benefits that do flow would be captured by the broader Victorian economy, let alone the specific cohort of households who are being compelled to change their energy source."[3]

The full inclusion of this benefit as being wholly attributable to affected households is significant as it accounts around 30% of the overall reported benefit (~$3.2 billion) for the preferred option. It also has the consequence that a subset of individuals are forced to bear costs in return for benefits to others, which is patently inequitable.

The report also identifies other critical anomalies including that the deadweight losses associated with the forced switching of consumer investment away from their normal market behaviour should also be included as a cost.

More importantly, the RIS includes the cost of avoided gas network capex ($678 million) as a benefit but excludes any additional capital spend required for the electricity network which, in a separate discussion, it largely assumes away as a sunk cost.

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[2] Ibid p6

[3] Ibid p6

In GAMAA's view the resulting increase in peak electrical load from this measure is additional to the base case and not within it. The significance of this spend is enormous – Simshauser and Gordon estimate as much as $13 billion in electrical infrastructure will be required between now and 2035 and Energy Network Australia modelling shows a consistent value of $22 billion by 2045.[4,5]

The inclusion of even a part of these consequential costs dwarfs any possible combination of benefits under any scenario.

The report also highlights significant differences in both costs (undervalued) and benefits (overvalued). Comparing the RIS estimates, where available, to real-world costings obtained from equipment suppliers and installers and real-world appliance efficiencies, highlights a range of areas where the RIS has, in the words of Evaluate, been overly generous. These are summarised as follows.

Appliance upgrade and installation costs – the RIS has not only mispriced appliance costs but also crucially underestimated and omitted electrical upgrade and building rectification costs which can exceed $12,000 for some households.

Running costs – the RIS is inconsistent in the gas prices used in the analysis and has used a higher gas price than AEMO projections, underestimated gas appliance efficiencies, overestimated electrical appliance efficiencies and overestimated hot water consumption. For greater accuracy, electricity use and cost should be modelled against time of use tariffs, which would reduce benefits significantly.

Avoided capital cost of cooling appliances – This is another large component of the BCR calculation, valued at $2,664 million in benefits. The RIS assumption that households who replace their gas heating appliance with a combined electric heating and cooling (reverse cycle) appliance can avoid the future capital costs of replacing cooling appliances already installed is logical. However, the RIS contains no detail as to how this figure was calculated. Alternative calculations by GAMAA, based on the RIS assumptions of existing cooling appliance prevalence and lifespan, and recognizing that a proportion will reach end of life every year and not require replacement, shows the avoided capital costs to be considerably lower, ranging between $1,787 and $1,802 million.[6]

Avoided GHG emissions – The RIS uses a value for avoided carbon taken from the IPCC Sixth Assessment Report rather than an Australian cost of carbon as agreed by Australian Energy Ministers (including the Victorian Energy Minister) in March 2024. This overstates the value (or avoided marginal abatement cost) by an average of around 43 per cent.[7]

2.3.4. A corrected BCR shows gas appliance bans would likely result in net costs

Evaluate has revised the benefit-cost ratio (BCR) analysis to adjust for the factors above and tested for robustness against different assumptions and high and low capex scenarios. The results are shown in Figure Five of the Evaluate Report and are replicated below.[8]

Figure Five: Revised BCR calculations ($ million)

Element	RIS Option 3	Without GHG	Low Revision	High Revision	Low Ex-GHG	High Ex-GHG
Appliance upgrade and installation costs	4,766	4,766	6,673	9,579	6,673	9,579
Building upgrade costs	1,051	1,051	1,051	1,051	1,051	1,051
Administrative cost	53	53	53	53	53	53
Costs to government	11	11	11	11	11	11
Total costs	5,881	5,881	7,788	10,694	7,788	10,694
Avoided energy cost	4,226	4,226	2,377	2,377	2,377	2,377
Avoided GHG emissions cost	3,282	-	1,867	1,867	-	-
Avoided air pollution costs	49	-	49	49	-	-
Avoided capital cost of cooling appliances	2,664	2,664	1,787	1,802	1,787	1,802
Avoided gas network cost	678	678	678	678	678	678
Total benefits	10,899	7,568	6,758	6,773	4,842	4,857
NPV	5,018	1,687	-1,030	-3,921	-2,946	-5,837
BCR	1.85	1.29	0.87	0.63	0.62	0.45

[4] Simshauser, P. and Gilmore, J. (2024) 'Policy sequencing: on the electrification of gas loads in Australia's National Electricity Market', Centre for Applied Energy Economics and Policy Research: Working Paper Series, p. 11.
[5] Impacts of Forced Electrification on the Victorian Energy System, Costs and Emissions L.E.K. analytical report 18 February 2025
[6] Evaluate (2025) p19.
[7] Evaluate (2025) p19.
[8] Evaluate (2025) p20.

This shows that from the perspective of net impact on those directly affected, the regulation is likely to impose a significant overall net cost of between $2.95 billion to $5.84 billion with BCR's well below breakeven at between 0.62 to 0.45.

Moreover, it shows that even if avoided GHG costs are included (costed using AEMC carbon prices) the measure still does not show a net benefit (BCR of 0.87). As noted above if even just a portion of the additional electricity network costs were included ($13 billion to $22 billion) this would effectively demolish any case for considering this change – even under the RIS's most optimistic costings.

Evaluate also note that the RIS results are highly sensitive to cost and input assumptions. In conventional economic assessment practice this should be cause for caution as the conclusion of net present value benefits clearly lack any robustness. The Evaluate analysis also shows that where there are differences between RIS and alternative real-world data these clearly exceed the RIS's limited application of a 25% sensitivity test.

As noted by Evaluate , at a minimum the RIS should be refreshed using a recalibrated and balanced assessment framework and real-world data before any decision to proceed could be reliably taken.

GAMAA has full confidence in the robustness of its data and costings and the Evaluate analysis, both of which show the RIS options are costly and risky proposition both in aggregate impact and for many individual gas appliance owners who would be forced to electrify regardless of the cost to them.

2.4. Mandatory electrification also fails to deliver on other policy objectives

Flowing on from the BCR test for overall impact on affected consumers, it is also important to examine how the proposal and in particular the broader societal costs and benefits measure up against the government's stated policy objectives. The RIS defines these as:

- reducing energy bills for households and businesses.
- mitigating potential natural gas shortfalls.
- reducing GHG emissions.

The first objective clearly only makes sense if consumers are left better off in net terms after accounting for the full range of costs associated with securing the running cost (or energy bill) savings over the life of their investment. This should also include an examination of the distribution and equity impacts of costs using several typical case studies to consider individual impacts.

The second objective should be tested against the extent it avoids the need for additional investment to bring on needed gas supply and addresses Victoria's gas supply challenges.

The third objective should be tested against economic efficiency, that is, whether the carbon saved is higher than its assigned economic value.

The RIS also introduces a range of other untested secondary benefits such as health benefits and reducing pressure on gas intensive manufacturing.

As the Evaluate and GAMAA analyses show the proposals fail all these objectives on all counts.

2.4.1. It would leave one million gas using households (homeowners and renters) and businesses worse-off in terms of net cost and living amenity.

The revised BCR shows that the proposal will impose net overall costs on the owners of properties affected by the bans. For some, electrification is a net benefit but for most it will be a net cost. It is important to examine the relative balance of those who gain and lose to see how the measure distributes the overall costs.

With this in mind, GAMAA examined costs and benefits based on real-world appliance and installation costs from equipment suppliers and real-world appliance efficiencies and compared these to the RIS claims. The key findings are as follows:

RIS Claim	GAMAA Finding
Incremental cost of **$2,200** averaged across all gas households	Incremental cost of **$8,532** averaged across all gas households, based on typical costs for the appliances, installation and electrical power supply upgrades.
Incremental costs for individual households will range from approx. **$15,500** in additional costs to a net saving of **$4,800.**	Incremental costs for individual households will range from as high as **$25,214** for homes with secondary cooling appliances **($30,000** for homes without secondary cooling appliances) to a net saving of **$1,044**.
An existing Class 1 property could save almost **$1,000** in annual energy costs after going all electric	An existing Class 1 property could, at best, save **$545** in annual energy costs after going all electric
The estimated payback period based on the average upfront costs of replacing gas appliances with electric appliances may be as soon as **3 years** and as long as **13 years**.	The payback period of replacing gas appliances with electric appliances may be as soon as **0 years** and as long as 46 **years**, depending on the size and type of home, the appliance options selected and the cost of electrical power supply upgrades.

Below are some typical real-world examples which are based on typical appliance and upgrade costs:

Example 1: 4-bedroom freestanding home – typical of homes built as house and land packages over the last 30 years on greenfield sites in Melbourne's outer suburban growth areas.

Existing appliances	Replacement appliances when existing appliances reach end of life
Whole of home gas ducted heater	Whole of home ducted reverse cycle air conditioner (heating & cooling)
Whole of home evaporative cooler	
Gas instantaneous water heater	Heat pump water heater

Marginal capital cost of upgrades based on typical costs for appliances, installation and electrical power supply upgrades	$ 14,802
Annual running cost savings	$329
Payback period:	45 years

Example 2: 2-bedroom single storey freestanding unit or 2-bedroom apartment – typical of those in the inner and middle ring suburbs of Melbourne

Existing appliances	Replacement appliances when existing appliances reach end of life
Room gas heater	Nil
Reverse cycle air conditioner (heating/cooling)	Reverse cycle air conditioner (heating/cooling)
Gas storage water heater	Heat pump water heater

Marginal capital cost of upgrades	$130
Annual running cost savings	$265
Payback period:	6 months

GAMAA analysis shows that one million households are likely to face net costs under these proposals. Only a small subset of households are likely to experience net savings from electrification.

This underlines that a revised approach as recommended by Evaluate which captures cost-effective opportunities such as high efficiency gas appliances would have a much lower net cost impact compared to the proposed bans.

The RIS also acknowledges that there may be some impact on consumer amenity but fails to explore this in any detail. These may in fact be quite significant.

Faced with large upfront costs many homeowners and rental property providers may instead choose to downgrade their heating systems to cheaper single room electric plug-in heaters which are more expensive than gas to run. Others in small dwellings such as apartments may find they lose living space or visual amenity with bulky and noisy heat pump systems. These impacts have not been costed in the RIS analysis and would further degrade the BCR ratio.

2.4.2. It will increase final electricity and gas prices and place more stress on a struggling electricity system

Both the RIS and independent analysis show that the proposals will result in increased electricity prices largely because of the need for additional peak demand infrastructure. Evaluate note that Professor Paul Simshauser and John Gilmore from Griffith University estimate that this could be up to $13.3 billion by 2035, helping to make Victoria's electricity prices the highest in Australia.[9]

A report and supporting studies by highly respected engineering firms commissioned by Infrastructure Victoria also highlighted significant risks to Victorian electricity security and prices which could more than double by 2035. While it appears to have been completed in August 2024, none of risks identified are referenced in the RIS which paints an altogether different and more benign outlook.

Energy Networks Australia also commissioned analysis by LEK Consulting which shows a similarly large cost of $22 billion over 20 years. Both studies also show that forced electrification would place additional stress on an already struggling electricity network with a likely reduction in energy security.

The same sources note gas network tariffs would also increase as networks providers are required to recoup maintenance and supply costs over a declining customer base. Conversely, the potential small gas savings from RIS Option 3 (the option recommended in the RIS) are unlikely to have a material downward pressure on wholesale gas prices as other supply factors will set price in the Victorian market.

Analysis conducted by the Australian Energy Council shows that Green Schemes now impose an additional $188 per year onto Victorian energy bills or around 10 per cent of the consumer bill, some 50 per cent higher than the next highest jurisdiction[10] for little CO2 and energy savings benefit.

2.4.3. It makes no difference to Victoria's short-, medium- or long-term gas supply challenges.

The RIS places great emphasis on the need to reduce gas use in residential and commercial sectors due to the possibility of supply shortfalls in the Southern gas markets of New South Wales, Victoria, the ACT, South Australia and Tasmania. It illustrates this with the supply and demand projections from the 2024 AEMO Gas Statement of Opportunities and shows potential shortfalls of around 55PJ in 2030, growing to 157 PJ by 2035 and beyond.

However, as Evaluate note this projection does not include the potential contribution of a number of critical new supply initiatives that are underway and in an advanced state of construction or permitting and planning, including Port Kembla LNG (~130 PJ p.a.), Geelong LNG (~130 PJ p.a.), South West Queensland Pipelines Stage 3 (~37 PJ p.a.) and Narrabri (~73 PJ p.a.). Port Kembla could begin supplying into the Southern market as soon as 2026.

This does not include the LNG import proposal at Port Adelaide in South Australia or the new gas storage facility in offshore Victoria which will provide enough additional storage to balance Victorian gas needs over the winter months.

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9 Evaluate (2025) p23

[10] *Vinnies Tariff-Tracker Project report, 2023*

So, whilst it is a fact that Victorian indigenous gas supplies are falling rapidly due to depletion of existing reserves and long-standing exploration moratoriums, the interconnected market and LNG imports have the potential to bring in sufficient supply to meet reasonable projections of market needs although at this stage how these options might interplay and their impact on price are not clear.

What is clear is that the modest gas savings expected from this measure, 393 PJ over the RIS assumed lifespan for electric appliances of 12 years, will make no material difference to Victoria's short-, medium- or long-term gas supply challenges.

GAMAA also notes that the degree to which there are shortfalls is almost exclusively a decision for government through its licencing/permitting and broader gas policy settings. It can effectively either accelerate or block new supply. In this regard the GAMAA notes the various commitments from the energy minister made throughout 2024 that the government is committed to ensuring sufficient supply.

What this analysis shows is that this proposal makes no difference to the need or options for new gas supply and that the onerous costs it would impose cannot be justified on this basis.

2.4.4. Consumers are paying far more for the carbon saved than government says it is worth.

GAMAA analysis suggests that the proposal would generate only modest GHG savings, around 17.8 million tonnes of CO_2, it comes at a high average cost of between $208 and $525 per tonne in real terms.

This is based on the appliance cost, avoided capex for cooling and energy cost savings directly borne by consumers. It does not include gas or electrical network costs, which as previously discussed, would dramatically increase the effective cost. GAMAA notes this is consistent with Energy Network Australia analysis which estimated carbon costs of around $1,200 per tonne due to the extra network spend.

In contrast the RIS places the economic value of avoided carbon at an average of $155 per tonne of CO_2e saved for the period 2024 to 2036. This is around 43 per cent higher than the average of $97 which was agreed by all Federal and State Energy Ministers (including the Victorian Energy Minister) which is now used by the national energy market bodies as the benchmark.

This means that Victorian gas using households and businesses are being forced to pay between 1.3 and 3.3 times the Victorian government's own benchmark value and between 2.1 and 5.4 times the accepted AEMC benchmark.

This is both economically highly inefficient and very unfair to consumers and businesses.

2.4.5. Cost impacts are inequitable and do not support the government's broader "just transition" objectives

The RIS notes that direct and indirect cost imposts above will have a higher proportional impact on low-income households but then inexplicably fails to assess this in any meaningful way noting that the issue would be considered at a future unspecified point in time. This failure to properly consider the impact on the least-well off is a major deficiency in the RIS and in the flow-on decision-making process.

While the RIS has not sought data on this issue, it cannot be argued that a higher proportion of low-income households occupy older properties (owning or renting) and as such are likely to face more substantial electrification costs. With data showing households savings for 1 in 5 Australians is typically less than $1,000, and less than $10,000 for 1 in 2[11], it is likely that electrification is ether unaffordable leaving them to choose cheaper plug in electric heating appliances that are much more expensive to run than gas appliances or it will push struggling households further into debt.

In addition, while the RIS may dismiss projected energy cost impacts as small to moderate, they are material cost increases for the many households and businesses already struggling under cost of living and competitiveness pressures.

In 2019, ACOSS and the Brotherhood of St Lawrence estimated that the lowest 20 per cent of households now spend on average 6.4 per cent of their income on energy. In comparison, the middle and upper 20 per cent spend considerably less at 2.8 per cent and 1.5 per cent respectively.[12] Given the substantial inflation and cost-of-living increases since then, this disparity will have increased and any gas and electricity prices rises will be at least twice as heavy for low income households.

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11 University of Melbourne, How Australians feel about their finances and financial service providers 2019.
[12] ACOSS and Brotherhood of St Lawrence Energy Stressed in Australia report October 2018

Given the very serious risks of entrenching further hardship the RIS should not proceed until these impacts are properly understood. They also underline the importance of following a cost-effective rather than cost-blind approach.

2.4.6. It does not improve health outcomes

The RIS suggests a link between gas appliances and various negative health outcomes. GAMAA notes the claims that relate to gas cook tops stem from a single originating study which has been comprehensively debunked by one the most respected environmental firms in the United States (Catalyst Consulting)[13].

Catalyst undertook an in-depth review of peer reviewed studies and government assessments and concluded that there was no observable link between gas cook tops and NO_2 linked asthma. It found that claims often were not matched to studies quoted.

The report also reveals the International Study of Asthma and Allergies in Childhood (ISAAC) found that for a cohort of 512,707 primary and secondary school children from 47 countries there was "no evidence of an association between the use of gas as a cooking fuel and either asthma symptoms or asthma diagnosis. ISAAC is the largest collaborative worldwide epidemiologic project ever undertaken, focused on the possible association between gas stove use and asthma.

The RIS also fails to acknowledge that Australia has world leading emission requirements for gas cookers which are far more stringent than the US and other jurisdictions.

Similarly, the RIS claims there are health issues related to open-flued gas space heaters. However, these claims are based on a study of unflued gas space heaters which is therefore completely irrelevant. This RIS claim is therefore also debunked. Moreover, there are no unflued gas space heaters operating on reticulated gas in Victoria.

2.5. Bans will devastate Victoria's gas appliance manufacturing industry and offshore jobs

The RIS has acknowledged that these proposals would have a negative impact on the gas appliance manufacturing and supply industry but notes it lacked the data to understand their scale and nature.

In GAMAA's view the failure to collect essential information on a major impact during an extended RIS development process is inexcusable. GAMAA has been proactive in fostering open and honest dialogue with the Department regarding energy policy matters for many years. GAMAA has offered to provide any information required for the development of policies but was not approached for such information for the development of this RIS. It is extremely disappointing that this aspect was considered only as an afterthought during a compressed public consultation period.

Nevertheless, GAMAA has undertaken a survey of members and other non-member businesses within the time allowed to provide a clearer insight. 30 members and 16 non-members were approached with 15 responses. While the response rate is about 31 per cent overall, it represents around 50 per cent of GAMAA members of around 75 per cent of the industry by turnover and employment. Many of the non-respondents are small family-run businesses which are very exposed to a potential loss of market and have little ability to adapt. Impacts on those businesses can readily be inferred in addition to the reported results.

For this reason, GAMAA believe the results provide a representative although understated picture of the likely impacts.

Overall respondents reported total turnover of around $1.6 billion with nearly 2300 full time employees. Of this gas appliance manufacturing and supply accounted for approximately $672.3 million or 42 per cent of their business. All 15 respondents operate in Victoria with gas appliance manufacturing and sales accounting for 86 per cent of their business.

[13] https://www.calrest.org/sites/main/files/file-attachments/ucla_study_-_natural_gas_stoves_-_tormey_critical_review.pdf

2.5.1. Victorian gas policies have already damaged the industry

Even before reporting on future impacts, it is important to note that the government's various anti- gas measures for the residential and commercial sector enacted to date, notably the new connection ban, have already significantly impacted the industry with up to 400 lost jobs in Victoria and reported revenue losses of between 19 per cent to 66 per cent in half of the respondents. This reflects the fact that on average new connections accounted for up to 50 per cent of gas appliance sales. Thirty per cent of the businesses which have not shed staff, indicated that this was under close review due to policy uncertainty.

The scaremongering and demonising of gas as a viable energy source has already resulted in consumers fearing how they will cope if any gas bans were to be imposed on them.

2.5.2. These proposals will have immediate negative impacts on businesses and workers

Based on an extensive GAMAA survey, it is evident that these proposals will have a devastating impact on the Victorian and more widely the Australian gas appliance industry. The overwhelming majority of respondents report expectation of further turnovers loss of nearly 30 per cent or around $1.55 billion in NPV terms over the next ten years. In addition, respondents forecast around 440 job losses in addition to those already lost.

Three small to medium Victorian companies exclusively focused on gas appliance manufacturing indicated they would be forced to close if bans were to be enacted. GAMAA is aware of one major business that is already undergoing closure because of the policy announcements and on-going policy uncertainty around the future of residential and commercial gas.

Impacts are not exclusively confined to gas heating and gas hot water appliance manufacturing. Almost all respondents, indicated that they feared for the near-term viability of their businesses and hold fears for their staff given the challenging local business environment they already find themselves in. For those that already supply and/or manufacture electrical appliances, such fears are exacerbated by government subsidies that favour lower cost and lower quality electrical appliance imports.

The apparent willingness of the government to destroy an entire industry to meet ideological objectives raises serious sovereign risk issues that make it more challenging to consider taking on further investment risk in developing new products even for electrical appliance manufacturers

These estimates represent a minimum impact which is likely to be more severe across the entire sector. GAMAA fully expects a high percentage of smaller non-respondents which built up businesses in Victoria over the past decades would very likely close given they lack the ability to absorb large losses in revenue and simultaneously invest significant resources into developing alternative products.

It is notable that respondents were also asked if bans might benefit other aspects of their businesses. Manufacturers and suppliers of both gas and electrical appliances did not indicate an expected significant increase in their electrical appliance business, most likely reflecting an expectation that the prime beneficiaries would be importers. This scenario suggests a potential loss of critical mass in terms of business capability and skills which places the broader appliance manufacturing base in Australia at risk.

2.5.3. It will also have other flow on impacts that harm consumers and decarbonisation goals

Impacts from this measure are not confined to loss in business value and staff. Eighty-five per cent of respondents stated that the bans would impact their ability to manufacture and supply spare parts impacting the cost and timing of repairs. They raised concerns around supply chains, sharp cost increases and a decreased viability to keep remaining manufacturing in Australia.

The measure will also harm the plans of the 80 per cent of businesses which are in the process of developing and transitioning to renewable gas appliances (such as biomethane and hydrogen) to support longer term decarbonisation of the gas supply and end use. The majority of these indicated they are revising their plans to see if they remain viable under the proposed gas policy settings, including the government proposal to restrict renewable gas only to industrial and GPG use.

In addition, the loss of most gas manufacturing jobs will erode the skilled workforce needed to support a clean energy transition. These jobs will not simply transfer into electrical appliance manufacturing in Victoria and Australia more broadly but offshore to countries suppling lower cost and lower quality products which will increasingly dominate Victoria's hot water and heating/cooling markets placing further risk on any remaining domestic appliance manufacturing.

GAMAA believes these outcomes run completely counter to commonsense and efforts to cost effectively decarbonise the economy and to the Federal Government 'A future made in Australia' initiative.

2.5.4. Both the nature and timing of the proposals determine scale and shape of impact

In pursuing its goal of electrification, the government has it's the power to shape the nature of any consequential impacts through flexible policy design based around cost-effectiveness and the inclusion of a sensible and fair transition period for any regulatory changes.

GAMAA notes that the proposed 1 January 2026 commencement date which would follow a decision made in the second half of 2025 does not provide any ability for industry and workers to plan and transition – it simply drives affected business into an immediate shut-down response which exacerbates the business and the human costs of this measure.

Retaining critical manufacturing capability requires the forging of new supply chains, managing stock and contract wind-down, worker retraining and planning and retooling to transition to new products and business models over a preferably three-year period to affect a smooth transition. This cannot be done if those parts of the businesses are shuttered and not generating revenue.

Given the cliff-face nature of the proposed implementation, around 90 per cent of GAMAA survey respondents believe a support package should be provided to compensate for government-inflicted losses and worker retraining. Should a reasonable (extended) transition period be agreed then such a package could be focussed on business and worker transition and capability retention.

It has been suggested to GAMAA that the industry should have been prepared for the bans and planning for transition given the government had included a policy of encouraging electrification in the first Gas Substitution Roadmap in 2022. This displays a naive understanding of how business works.

The first Roadmap made clear that the policy framework was focussed on enabling choice and removing barriers and included the following commitment from the Minister: ***"These changes are all about providing greater choice – there are no penalties for people who continue to use gas, just advice, options and support for those who want to make the change."*** Until the release of this RIS there was no indication that regulatory appliance bans would be contemplated at the exclusion of any other approach.

GAMAA has always supported sensible cost-effective action to decarbonise and for some consumers electrification is an appropriate option. However, as uptake rates historically have shown, for most of the consumers electrification is unlikely to be a preferred option, all things considered.

It is incumbent on manufacturers to respond to the needs of the market, this has always been a part of rational business planning and product development. However, it is unreasonable and unrealistic to expect industry to have begun planning for a ban when the government, as late as December 2024, gave public assurances that no decisions had yet been taken to implement such bans.

To summarise and reiterate – GAMAA does not believe these proposals should proceed given the overwhelming evidence of net consumer cost and damage to industry.

However, if despite the evidence presented the government still proceeds then it should allow for a least cost transition period of three years with a strategy and support package aimed at ensuring a smooth transition and retaining critical sovereign manufacturing capabilities.

2.6 The proposed regulations will increase costs and cause technical and practical problems and confusion

2.6.1 Unreasonable cost provisions are inadequate

GAMAA note that the Proposed Minimum Rental Standards Regulations included an exemption from upgrading an existing reticulated gas appliance to an appliance that is not a reticulated gas appliance if the cost of doing so would be "significantly higher than the average cost" of installing a new gas appliance.

We consider that, should the proposed regulations proceed, a similar exemption should be added to capture circumstances where other exemptions do not apply, but where replacing or installing a reticulated gas appliance with an electric appliance would nevertheless be cost prohibitive for households.

In this context we note that high efficiency gas appliances are a highly cost-effective solution. They will save around $200 in gas bills and reduce emissions by 25% for little to no additional up-front cost to households and yet are excluded as an option.

2.6.2 No definition for 'end of life' and no exemptions for appliances 'in good working order'

The RIS states that the preferred option (Option 3) is geared towards the replacement of reticulated gas appliances at "end of life", however the bans contemplated in sections 45C(1) and (2) of the Proposed Regulations are silent about this. This limitation should be expressly included in the Regulations and a definition of 'end of life' included. In the GAMAA submission to the Residential Tenancy Act Amendments and RIS consultation, GAMAA suggested a definition of 'end of life' to the effect of *'Appliance no longer in good working order and when the owner considers repair is no longer economical based on competent advice from an attending service technician'*.

We note that the Exposure Draft – *Residential Tenancies and Residential (Rooming House Standards) Amendment (Minimum Energy Efficiency and Safety Standards) Regulations 2004* (Vic) released in June 2024 includes exemptions from the requirement to replace an existing heater or water heater with an energy efficient heater or water heater if the existing heater or water heater were still in "good working order". Such exemptions are absent from the RIS and should be included.

As such, should the proposed regulations proceed, definitions for 'end of life' and exemptions relating to 'in good working order' should be included.

2.6.3 No definitions for Insufficient space and occupiable outdoor area

Section 45C(3)(a) of the Proposed Regulations contains the main exemption from the ban, being where there is "insufficient space available in the building or any occupiable outdoor area that relates to the building to install or replace the reticulated gas appliance" with an appliance that is not a reticulated gas appliance".

The concepts of "insufficient space" and "occupiable outdoor area" are not defined in the Proposed Regulations and are inherently subjective.

As a practical example, existing Class 1 buildings typically have gas water heaters installed externally on the blind side and gas heaters inside the building. In contrast, electrical water heaters and heaters are all installed externally and typically take up considerably more space than gas appliances and are therefore more likely to adversely impact access to and around the building. Further, electrical appliances typically emit more noise during operation and given that bedrooms and their windows are typically also located on the blind side of the building, as are any bedrooms and windows from neighbouring properties, noise problems are likely.

As a further practical example, many existing Class 2 buildings have a gas continuous flow water heaters on balconies. If these were to be replaced with an electric heat pump storage water heater, in many cases there would be considerable loss of 'occupiable outdoor area' and visual aesthetics and noise problems. As such it is our view that gas continuous flow water heaters installed on balconies in Class 2 buildings should be exempted from the regulations altogether (see also further below regarding weight concerns).

As such, should the proposed regulations proceed, definitions for 'insufficient space' and 'occupiable outdoor area' should be included and examples / guidance developed by the Department in consultation with industry.

2.6.4 Failure to consider Owners Corporation rules

The proposed regulations quite rightly provide exemptions to the requirement to install an appliance that is not a reticulated gas appliance if doing so would be unlawful due to the operation of a provision of any Act, regulation or other law.

We note that the Proposed Minimum Rental Standards Regulations included exemptions from upgrading existing gas appliances to energy efficient (electric) appliances if owners corporation rules prohibit the installation of energy efficient appliances.

Accordingly, should the proposed Regulations proceed, they should be expanded to expressly include exemptions where owners corporations prohibits the installation or replacement of a reticulated gas appliance with an appliance that is not a reticulated gas appliance, providing that such owners corporation prohibition is not, itself, unlawful.

2.6.5 Lack of clarity around the repair and maintenance of reticulated gas appliances

The proposed Regulations suggest that the repair and maintenance of reticulated gas appliances is not prevented by the ban. Should the proposed regulations proceed, this should be expressly stated.

Further to this, reticulated gas appliances are often but one of the components or part in a broader and more complex system such as, for example, gas boosted solar hot water systems or combined ducted gas heating and electrical heat pump cooling systems. In cases where the other (non-reticulated gas) components or parts of the system remain in good working order, the regulations should allow for the repair or replacement of the reticulated gas component of the broader system to avoid needless replacement and associated expenses for households. Should the proposed regulations proceed, this should also be expressly stated.

2.6.6 Additional exemptions necessary to avoid safety concerns and unnecessary costs

(i) Insufficient load bearing capacity

The replacement of reticulated gas appliances with electrical appliances must not result in the weight-bearing capacities related to the building being exceeded as this could result in serious safety concerns.

A typical example would be balconies in Class 2 buildings which may not be structurally designed to support the weight of certain storage water heaters. To provide practical perspective:

- a fully filled electric storage water heater can weigh in excess of 280kg (for a 280L tank) and 400kg (for a 400L tank);
- a fully filled integrated (i.e. all-in-one) heat pump water heater can weigh around 400kg for a product with a 280L tank; and
- a fully filled split system (i.e. monobloc) heat pump water heater can weigh around 450kg for a product with a 400L tank.

It is common for electric heating/cooling systems to also be located on balconies which further exacerbates load bearing concerns (as well as noise and loss of occupiable space concerns).

As such, should the proposed regulations proceed, there should be specific exemptions relating to load bearing capacity.

(ii) Reticulated gas appliance replaced under warranty:

Should the proposed regulations proceed, reticulated gas appliances replaced by a supplier or manufacturer under either the supplier's or manufacturer's warranty, or under the Australian Consumer Law (“ACL”) should be permitted to be replaced like for like, otherwise suppliers and manufacturers would be forced to replace reticulated gas appliances with electric appliances, even only a few weeks or months into the appliance lifecycle if it fails early, and may also be required to foot the bill for expensive electrical and plumbing upgrades depending on the type of electric appliance that would be installed as a replacement both of which would be unreasonable.

2.6.7. Plumbers will require guidance and support

The RIS states that plumbers will need to determine whether or not a household’s individual circumstances meet any of the exemptions in the proposed Regulations and note the reasoning any exemption was applied on the certificate of compliance. Should the proposed regulations proceed; to avoid uncertainty and to assist plumbers and households we recommend the addition of a tick box template to the certificate of compliance form so plumbers can select the exemption they are relying upon. Consideration should also be given to require plumbers to upload supporting materials to justify their exemptions.

Should the regulations proceed, we suspect compliance would be enforced through audits by inspectors from the Victorian Building & Plumbing Commission. Given the potential for uncertainty and even disciplinary action, it is critical that the Department and Commission works with the plumbing trade and industry groups to ensure plumbers understand when exemptions apply, including through the development of guidance notes and training.

2.7. RIS shortcomings should have been avoided through earlier consultation.

This submission has highlighted the numerous data gaps, errors, methodological biases and inconsistences in the RIS which render it an unreliable and inaccurate tool for impact analysis and major decision making.

The treatment of critical issues such as the impact on households, cost of living and impact on jobs and businesses are manifestly inadequate due to what can only be a conscious choice not to address key data gaps. Perhaps coincidentally, GAMAA notes that the areas where key gaps are observed would all add to the estimated costs or exacerbate negative impacts on all Victorians.

Whilst the RIS includes a significant amount of data and numerous assumptions, modeling details are patently absent on all fronts including appliances, CGE and energy sector modelling. The RIS therefore lacks the transparency needed for stakeholders to validate and verify the results.

What is most disappointing and inexplicable is that basic costing and performance data suffers the same inaccuracies identified in the earlier Residential Tenancies RIS, despite considerable feedback by industry groups which appears to have been ignored. It is also disappointing the Residential Tenancies RIS submissions have yet to be made public despite being submitted in July 2024, and the government's responses have yet to be released. Again, these would be invaluable in producing a higher quality RIS and stakeholder response.

It did not have to be this way. Most of the shortcomings were easily avoidable by early engagement with stakeholder groups who hold the real-world data and knowledge, as per the Victorian Guide to Better Regulation.

Instead, repeated offers by industry to engage during the development of this RIS, were ignored even though GAMAA was advised by DEECA that other groups, including pro-electrification and green NGOs, financial lenders and even a foreign government were consulted. Given that the RIS process was underway for at least 10 months, leaving ample time for industry consultation and data collection, this leads to the unavoidable conclusion that the exclusion of the local gas appliance industry has been deliberate.