

# **APGA Submission**

**Minimum Standards for Rental  
Properties and Rooming Houses**

**1 July 2024**

## Contents

Executive summary .....	4
1 Introduction .....	9
2 Exclusion of electrical costs from cost protections.....	10
2.1 Recommendation .....	12
2.2 Implications of contemporary industry analysis.....	12
3 Rental provider liability protection for urgent repairs.....	13
3.1 Protections for rental providers and tenants .....	13
3.2 Extended repair times due to electrical rectification .....	13
3.3 Eviction of tenant to complete repairs.....	14
3.4 Recommendation .....	14
3.5 Implications of contemporary industry analysis.....	14
4 Differences between RIS and adjacent analyses requires action .....	15
4.1 ACT Regulatory Impact Statement – Minimum standards for residential rental properties .....	15
4.2 Electrification advocate studies of residential bill savings.....	18
4.3 Cost of switching from gas to electric appliances in the home .....	19
4.4 Renewable Gas Target: Delivering lower cost decarbonisation for gas customers and the Australian economy .....	24
4.5 Recommendation .....	27
5 Inconsistent retention of LPG appliances .....	28
5.1 Cost .....	28
5.2 Emissions.....	29
5.3 Recommendation .....	30

## List of Tables

Table 1: Illustration of the effect of excluding electrical rectification costs.....	5
Table 2: Electrical upgrade costs as a percentage of hot water system costs .....	10
Table 3: Electrical upgrade costs as a percentage of heating costs.....	11
Table 4: Illustration of the effect of excluding electrical rectification costs.....	11

## List of Figures

Figure 1: Table 5.1 from the ACT RIS.....	16
Figure 2: Victorian RIS statement on cost passthrough to tenants via rent increases .....	17
Figure 3: Landlord survey outcomes from Victorian RIS.....	17
Figure 4: Upfront costs for different appliance options by cost type (Class 1 residence).....	19
Figure 5: BCG comparison of Victorian household appliance and energy cost ranges .....	21
Figure 6: New build home cost comparison only considering average or minimum costs (Interpretation of part of the data) .....	22
Figure 7: New build home cost comparison considering cost ranges (Interpretation of all of the data) .....	22
Figure 8: Cost comparison for electricity, green hydrogen and biomethane .....	23
Figure 9: Least cost pathway to net zero direct use gas emissions by 2050 .....	24
Figure 10: Industrial demand across input assumption sensitivities .....	25
Figure 11: Residential fuel mix across key sensitivities (National) .....	26
Figure 12: Residential fuel mix across key sensitivities (Victoria).....	26
Figure 13: Victorian biomethane consumption and production.....	27
Figure 14: Natural gas and LPG quotes from Origin Energy website .....	28

## Executive summary

Maintaining energy affordability and reliability while accelerating the energy transition is one of the greatest challenges facing Victoria and Australia as a whole. The Australian Pipelines and Gas Association (APGA) and its members have been investigating least cost gas use decarbonisation since the 2009 Energy Pipelines CRC. On the basis of this research, APGA opposes a one size fits all approach to gas use decarbonisation and energy supply in general. Putting all of Victoria's gas decarbonisation eggs in one basket risks unintended consequences – for rental providers, for tenants, and for the State.

APGA agrees with the importance of ensuring Victorian renters are afforded safe, comfortable, and affordable homes to rent. This is why it is critical to get the set of reforms proposed within the *Minimum Standards for Rental Properties and Rooming Houses* consultation right. Reforms proposed by the Department of Government Services (DGS) to improve ceiling insulation, draught sealing, and reduce hot water consumption are long overdue and echo long-term industry sentiment.

Beyond these valuable aspects, review of the draft legislation has uncovered two aspects which risk adverse outcomes for tenants and rental providers. This submission explores these aspects alongside contemporary analysis of household energy use, cost, and decarbonisation. This exploration forms a reasonable basis for minor amendments to draft legislation which are recommended in the best interests of Victorian tenants and rental providers.

## Exclusion of electrical costs from cost protections

**APGA appreciates recognition by the Victorian Government that it is possible for electrification costs to be unreasonable.** Draft legislation provides important protections for tenants and rental providers from possible unreasonable costs of electric hot water and heating appliances. Relevant protections kick in if compliant hot water or heating appliance installation cost is *significantly higher than the average cost* of equivalent installation. Unfortunately, clauses relating to these protections exclude electrical rectification costs from the cost of installation when considering whether installation cost is unreasonable.

This is reasonable where electrical rectification costs are likely to be low, such as for a dishwasher. However, comparing the RIS assumption for *cost of [electricity] supply upgrades* (\$3,500) to appliance cost assumptions (Table 2), it is possible that electrical rectification costs could be equal to or greater than the cost of compliant appliance installation. This possibility increases when considering the full range of electrical rectification costs demonstrated in *Frontier Economics, 2022* referenced within the RIS (\$2,150 - \$12,250).

APGA questions whether it is reasonable to exclude electrical rectification costs from appliance installation costs when a) *significantly higher than the average cost* is an accepted basis for it being *unreasonable to install* an appliance, and b) electrical rectification costs could be equal to or greater than the cost of compliant appliance installation.

Current draft legislation could lead to unintended consequences as illustrated in Table 1. While understandably pertinent for impacts on rental providers, this is also pertinent for impacts to tenants considering analysis of cost pass through to rents included in Section 4.

**Table 1: Illustration of the effect of excluding electrical rectification costs**

<b>Cost considered significantly higher than average</b>	<b>Appliance Cost</b>	<b>Electrical Cost</b>	<b>Combined Cost</b>	<b>Draft Legislation Determination</b>
\$5,000	\$5,500	\$0	\$5,500	Unreasonable
\$5,000	\$4,500	\$3,500*	\$8,000	Reasonable

\*Figure provided by Deloitte in Appendix A of the RIS.

## Recommendation

Removing clauses with similar wording to the following from draft legislation would address this risk to rental providers and tenants. A full list of clauses is included within Section 2.

For the purposes of subregulation (2A), the cost of electrical rectification work is not considered part of the cost of installation of an air conditioner or heat pump.

For the purposes of subregulation (2C), the cost of electrical rectification work is not part of the cost of installation of an efficient hot water system.

## Rental provider liability protection for urgent repairs

### **Current draft legislation risks tenants being without hot water or heating for up to 8 weeks.**

Draft legislation will in many cases lead to non-like-for-like replacement of appliances requiring urgent repairs which the RIS acknowledges may require electrical connection upgrades. Market research indicates that it is possible for electrical connection upgrades which include electrical pit installations to take 4 to 8 weeks to complete.<sup>1</sup>

If this were to occur, the rental property would be left without hot water or heating for an extended period. To comply with their obligations to address urgent repairs, the rental provider may be required to provide alternative accommodation for the tenant during this period – or end the lease early to undertake the work. These options represent additional risk as a result of draft legislation, potentially acting as a disincentive for tenants to pursue their rights under the Residential Tenancies Act. Premature ending of leases to allow for installations would result in properties temporarily being withdrawn from the rental market and tenants returning to the market, both foreseeably increasing pressure on rental prices.

While not representative of every case, the above scenarios will be representative of some cases. Even if rare, exposing rental providers to additional tenant action and liability risk requires some form of mitigation to avoid increasing pressure on rental prices. The RIS referenced a study determining that changes to legislation would not impact the rental market - however the impact of these liabilities was not considered in this research. As such, the impact of leaving this risk unmitigated is uncertain within the analysis of this RIS.

---

<sup>1</sup> See Section 3 for more detail

## Recommendation

APGA proposes expansion of RIS analysis to consider this risk alongside one of two actions to mitigate this risk for rental providers:

- Indemnify rental providers from tenant action or any other liability that may arise from urgent hot water or heating repairs taking an extended period complete.
- Remove those clauses with Part 2, Section 10 of the draft legislations which relate to hot water or heating, including clause (1)(d) through clause (1)(f), clause (3), and reference to 'water heater' in clause (1)(a).

## Differences between RIS and adjacent analyses requires action

### **RIS analysis is inconsistent with contemporary analysis of gas customer outcomes.**

Beyond the direct consequences of legislation drafting addressed above, APGA flags the risk of greater cost impacts for tenants and rental providers than identified in the RIS. The RIS deviates from the wealth of contemporary analysis on residential gas customer impacts by being less robust than contemporary analysis and delivering contradictory results.

A snapshot of the most impactful contradictions between the RIS and contemporary gas customer analysis can be seen below and are explored in greater detail in Section 4. Note that all following information has been provided to the Victorian Government via the Victorian Department of Energy, Environment and Climate Action (DEECA).

- **Similar RIS determined alternate outcomes for heating standards**  
A similar RIS in the ACT found the NPV and CBR of a similar uplift in heating standards to be negative and below 1. The ACT RIS surveyed landlords finding the majority would pass on 100% (or more) of additional appliance costs to tenants.
- **Household bill saving analysis by other trusted advisors and governments is lower**  
CSIRO analysis identifies \$290 per annum savings from residential gas electrification in 2030<sup>2</sup> and the ACT Government identifies \$735<sup>3</sup>. Sustainability Victoria also indicates Solar Boosted Gas hot water is the cheapest hot water option<sup>4</sup>. These sit alongside DEECA analysis showing \$1,700 bill savings per annum contrary to CSIRO and ACT<sup>5</sup>.
- **Analysis of quotes demonstrates there is no one appliance conversion cost**  
Analysis of real-world quotes shows households are exposed to a range of appliance replacement costs. Deloitte and prior DEECA analysis do not align with this real-world experience, only considering minimum or average appliance costs.

---

<sup>2</sup> CSIRO, 2023, *Consumer impacts of the energy transition: modelling report*, Report for Energy Consumers Australia, p9, <https://energyconsumersaustralia.com.au/wp-content/uploads/CSIRO-Technical-Report-Stepping-Up.pdf>

<sup>3</sup> ACT Government, 2024, *The Integrated Energy Plan – our pathway to electrification*, p24, [https://www.climatechoices.act.gov.au/\\_data/assets/pdf\\_file/0006/2509458/integrated-energy-plan-2024-2030.pdf](https://www.climatechoices.act.gov.au/_data/assets/pdf_file/0006/2509458/integrated-energy-plan-2024-2030.pdf)

<sup>4</sup> Sustainability VIC, 2024, <https://www.sustainability.vic.gov.au/energy-efficiency-and-reducing-emissions/save-energy-in-the-home/water-heating/calculate-water-heating-running-costs>

<sup>5</sup> DEECA, 2023, *Embracing electricity to cut your bills at home*, [https://www.energy.vic.gov.au/\\_data/assets/pdf\\_file/0039/579882/Victorias-Gas-Substitution-Roadmap-Embracing-electricity-to-cut-your-bills-at-home..pdf](https://www.energy.vic.gov.au/_data/assets/pdf_file/0039/579882/Victorias-Gas-Substitution-Roadmap-Embracing-electricity-to-cut-your-bills-at-home..pdf)

- **A Boston Consulting Group study analysing cost ranges changes the outcomes from preferring electrification to supporting a combined electric + gas approach**  
Analysis of cost ranges for energy and appliances shows that the same input data can produce minimum or average cost outcomes in favour of electrification while also show overlap in combined cost ranges. This analysis indicates cost competitiveness between electric and gas options today, and between electric and renewable gas tomorrow.
- **ACIL Allen analysis indicates household gas use decarbonisation will be cheaper when combining both electrification and renewable gas, especially in Victoria**  
Analysis of achieving net zero gas emissions by 2050 shows Victorian household gas users achieve least cost gas use decarbonisation through a combination of electrification and renewable gas in all cases with one exception – the highest cost scenario where options other than electrification were prohibited as is done in this RIS.

These contradict the findings of the RIS and indicate that it is possible that the draft legislation could be based upon incomplete analysis. If so, passing this legislation unamended could impose unintended consequences. **The range of alternate conclusions indicates that a one size fits all approach to home heating and hot water appliances may lead to worse outcomes for Victorian tenants and rental providers, and risk the ability for Victoria to achieve its world leading decarbonisation targets.**

## Recommendation

APGA recommends the Victorian Government commission a reputable firm to consider the impact of integrating the above forms of analysis into RIS analysis. Proceeding with draft legislation based on current RIS analysis while being aware of conflicting analysis does not align with acting in the best interests of all Victorian tenants and rental providers.

## Inconsistent exemption of appliances using more costly LPG

**Exempting rental providers from compliance with new standards if appliances are fuelled by LPG rather than natural gas is inconsistent with reducing cost and emissions.** While critical for energy security and reliability in the regional Victoria, LPG is demonstrably higher cost and higher emissions than natural gas in Victoria<sup>6</sup>. Analysis of one retail provider of both LPG and natural gas in Victoria shows that a suburban Melbourne residence could expect to pay \$1,250 (or 77 per cent) more per annum for LPG than for natural gas. Using LPG would also emit an additional 319kg carbon dioxide equivalent per annum on average per household when used in place of natural gas.

The draft legislation exempts LPG appliances replacements from new requirements imposed upon natural gas appliances. The RIS does not analyse LPG appliances, nor does it provide a cost-based or emissions-based reason for excluding LPG appliances.

This raises questions around the intent of the RIS, and whether the RIS is missing further important analysis which, in its absence, would indicate that the draft legislation risks driving higher cost and higher emission outcomes for Victorian tenants and rental providers.

---

<sup>6</sup> See Section 5 demonstrating LPG is higher cost and higher emissions compared to natural gas.



## Recommendation

APGA recommends the Victorian Government seeks complimentary analysis to consider:

- The cost and emissions impact of excluding LPG appliances from new obligations under draft legislation;
- To consider what other analysis missing from the RIS risks higher cost, higher emissions outcomes for Victorian tenants and landlords in its absence; and
- Subsequently introduce impactful yet missing analysis into a more robust RIS.

To discuss any of the details within this submission further, please contact APGA's National Policy Manager, Jordan McCollum, on +61 422 057 856 or [jmccollum@apga.org.au](mailto:jmccollum@apga.org.au).

## About

The APGA represents the owners, operators, designers, constructors and service providers of Australia's pipeline infrastructure, connecting natural and renewable gas production to demand centres in cities and other locations across Australia. Offering a wide range of services to gas users, retailers and producers, APGA members ensure the safe and reliable delivery of 28 per cent of the end-use energy consumed in Australia and are at the forefront of Australia's renewable gas industry, helping achieve net-zero as quickly and affordably as possible.

APGA supports a net zero emission future for Australia by 2050<sup>7</sup>. Renewable gases represent a real, technically viable approach to lowest-cost energy decarbonisation in Australia. As set out in Gas Vision 2050<sup>8</sup>, APGA sees renewable gases such as hydrogen and biomethane playing a critical role in decarbonising gas use for both wholesale and retail customers. APGA is the largest industry contributor to the Future Fuels CRC<sup>9</sup>, which has over 80 research projects dedicated to leveraging the value of Australia's gas infrastructure to deliver decarbonised energy to homes, businesses, and industry throughout Australia.

---

<sup>7</sup> APGA, *Climate Statement*, available at: <https://www.apga.org.au/apga-climate-statement>

<sup>8</sup> APGA, 2020, *Gas Vision 2050*, <https://apga.org.au/gas-vision-2050>

<sup>9</sup> Future Fuels CRC: <https://www.futurefuelscrc.com/>



# 1 Introduction

APGA represents the owners, operators, designers, constructors and service providers of Australia's pipeline infrastructure, connecting natural and renewable gas production to demand centres in cities and other locations across Australia. Offering a wide range of services to gas users, retailers and producers, APGA members ensure the safe and reliable delivery of 28 per cent of the end-use energy consumed in Australia and are at the forefront of Australia's renewable gas industry, helping achieve net-zero as quickly and affordably as possible.

APGA supports a net zero emission future for Australia by 2050<sup>10</sup>. Renewable gases represent a real, technically viable approach to lowest-cost energy decarbonisation in Australia. As set out in Gas Vision 2050<sup>11</sup>, APGA sees renewable gases such as hydrogen and biomethane playing a critical role in decarbonising gas use for both wholesale and retail customers. APGA is the largest industry contributor to the Future Fuels CRC<sup>12</sup>, which has over 80 research projects dedicated to leveraging the value of Australia's gas infrastructure to deliver decarbonised energy to homes, businesses, and industry throughout Australia.

Through the Energy Pipelines CRC over a decade ago, the Australian pipeline industry began to ask itself whether it was possible for renewable energy in the form of renewable gases (hydrogen, biomethane) to be transported through new or existing pipeline infrastructure. Having answered this question with a resounding 'yes', this led the industry to the next important question – whether or not renewable gases were the right economic choice for gas customers to decarbonise.

It is this question that has brought Australia's peak body for pipeline infrastructure into the household energy debate. The majority of transmission gas pipelines in Australia operate within a contract carriage form of market, meaning that pipelines only exist if they are the right economic choice for the customer. Understanding whether natural or renewable gas will continue to be cost competitive for household customers is a big piece of understanding whether pipelines will continue to be the right economic choice for wholesale energy transport into the future.

APGA has sought to understand this through analysis by a range of recognised economic and resources experts including Boston Consulting Group (BCG) and ACIL Allen. Through this analysis, APGA is confident that least cost gas use decarbonisation comes from a combination of electrification and transitioning customers to renewable gas supply. This submission demonstrates that this outcome holds across all customer bases, including households, and especially including Victorian households.

APGA does not expect this analysis to be taken on face value. Throughout this submission, our recommendations focus on an expansion of analysis of tenant and rental provider impacts through the options selected (and omitted) through proposed draft legislation, alongside draft legislation amendments which minimise risk of unintended consequences.

---

<sup>10</sup> APGA, *Climate Statement*, available at: <https://www.apga.org.au/apga-climate-statement>

<sup>11</sup> APGA, 2020, *Gas Vision 2050*, <https://apga.org.au/gas-vision-2050>

<sup>12</sup> Future Fuels CRC: <https://www.futurefuelscrc.com/>

## 2 Exclusion of electrical costs from cost protections

The Victorian Government’s acknowledgement that it is possible for electric appliance upgrade costs to be unreasonable is a very positive development for Victorian households. APGA has consistently flagged the risk that gas electrification costs can outweigh energy bill savings, and supports the Victorian Government in recognising this risk. Protecting Victorian rental providers and tenants from the possibility of unreasonably high appliance costs is consistent with acting in their best interests.

Unfortunately, the current draft legislation specifically excludes consideration of electrical rectification costs in considering whether appliance upgrade costs are unreasonably high. Electrical rectification costs may be a reasonable exclusion for smaller appliances such as dishwashers, as the scale of electricity rectification for these appliances may be low. For appliances such as heaters and hot water systems however, the potential magnitude of electrical upgrades required can be much higher in complexity and cost.

### APGA questions whether it is reasonable for the Victorian Government to exclude electrical rectification cost when this could cost as much or more than appliance cost alone.

The relationship between appliance and electrical rectification cost is shown in Table 2 and Table 3. These tables include comparisons between electric appliance costs and the cost of *supply upgrades*, both identified in Appendix A of the Regulatory Impact Assessment. APGA also notes that Appendix A misquotes the content of the reference *Frontier Economics, 2022*, so these tables also include the maximum and minimum cost found in this study for potential electrical rectification works.

**Table 2 and Table 3 show that the cost of electrical rectification works can be similar to or greater than the cost of electric appliances alone in a range of circumstances.**

**Table 2: Electrical upgrade costs as a percentage of hot water system costs**

Appliance Type	Appliance Cost	RIS Cost of supply upgrade	Frontier Economics Cost of supply upgrade	
		\$3,500	Lower Bound	Upper Bound
			\$2,150	\$12,250
Statistics	Maximum	241%	148%	843%
	Average	111%	68%	389%
	Minimum	52%	32%	181%
<b>Class 1 properties</b>				
Electric off peak storage (controlled)	\$ 2,197	159%	98%	558%
Electric peak storage (continuous)	\$ 1,777	197%	121%	689%
Solar electric boost (continuous)	\$ 6,751	52%	32%	181%
Solar electric boost (controlled)	\$ 6,751	52%	32%	181%
Heat Pump (continuous)	\$ 4,518	77%	48%	271%
Heat Pump (controlled)	\$ 4,518	77%	48%	271%
<b>Class 2 properties</b>				
Electric off peak storage (controlled)	\$ 1,917	183%	112%	639%
Electric peak storage (continuous)	\$ 1,454	241%	148%	843%
Solar electric boost (continuous)	\$ 5,353	65%	40%	229%
Solar electric boost (controlled)	\$ 5,653	62%	38%	217%
Heat Pump (continuous)	\$ 4,167	84%	52%	294%
Heat Pump (controlled)	\$ 4,167	84%	52%	294%

Note: Orange = Electric rectification cost > 50% appliance cost, red = Electric rectification cost > 100% appliance cost

**Table 3: Electrical upgrade costs as a percentage of heating costs**

Appliance Type	Appliance Cost	RIS Cost of supply upgrade	Frontier Economics Cost of supply upgrade	
		\$3,500	Lower Bound	Upper Bound
Statistics	Maximum	312%	191%	1091%
	Average	108%	66%	377%
	Minimum	23%	14%	79%
<b>Class 1 properties</b>				
Room RCAC/ Room cooling 1 Star	\$ 1,870	187%	115%	655%
Room RCAC/ Room cooling 2 Star	\$ 2,190	160%	98%	559%
Room RCAC/ Room cooling 3 Star	\$ 2,563	137%	84%	478%
Room RCAC/ Room cooling 4 Star	\$ 3,002	117%	72%	408%
Room RCAC/ Room cooling 5 Star	\$ 3,515	100%	61%	349%
Ducted RCAC 1 Star	\$ 7,656	46%	28%	160%
Ducted RCAC 2 Star	\$ 9,120	38%	24%	134%
Ducted RCAC 3 Star	\$ 10,863	32%	20%	113%
Ducted RCAC 4 Star	\$ 12,939	27%	17%	95%
Ducted RCAC 5 Star	\$ 15,413	23%	14%	79%
Multi-split 2 Star	\$ 6,531	54%	33%	188%
Multi-split: 3 Star	\$ 7,644	46%	28%	160%
<b>Class 2 properties</b>				
Room RCAC/ Room cooling 1 Star	\$ 1,123	312%	191%	1091%
Room RCAC/ Room cooling 2 Star	\$ 1,314	266%	164%	932%
Room RCAC/ Room cooling 3 Star	\$ 1,538	228%	140%	796%
Room RCAC/ Room cooling 4 Star	\$ 1,801	194%	119%	680%
Room RCAC/ Room cooling 5 Star	\$ 2,109	166%	102%	581%
Ducted RCAC 1 Star	\$ 4,288	82%	50%	286%
Ducted RCAC 2 Star	\$ 5,107	69%	42%	240%
Ducted RCAC 3 Star	\$ 6,083	58%	35%	201%
Ducted RCAC 4 Star	\$ 7,246	48%	30%	169%
Ducted RCAC 5 Star	\$ 8,631	41%	25%	142%
Multi-split 2 Star	\$ 4,199	83%	51%	292%
Multi-split: 3 Star	\$ 4,913	71%	44%	249%

Note: Orange = Electric rectification cost > 50% appliance cost, red = Electric rectification cost > 100% appliance cost

It is reasonable to consider the possibility that appliance costs can be unreasonably high. Excluding a substantial portion of costs associated with appliance upgrades, such as required electric rectification costs, risks unintended consequences for tenants and rental providers.

An illustration of an unintended consequence can be seen in Table 4. This table shows a generic example of a higher total cost appliance replacement can be considered reasonable alongside a lower total cost replacement due to the exclusions of electric rectification costs from consideration of unreasonable cost.

**Table 4: Illustration of the effect of excluding electrical rectification costs**

Cost considered significantly higher than average	Appliance Cost	Electrical Cost	Combined Cost	Draft Legislation Determination
\$5,000	\$5,500	\$0	\$5,500	Unreasonable
\$5,000	\$4,500	\$3,500*	\$8,000	Reasonable

\*Figure provided by Deloitte in Appendix A of the RIS.

## 2.1 Recommendation

APGA recommends removing clauses with similar wording to the following from draft legislation. This would allow electrical rectification costs to be considered in combination with appliance cost when consideration whether the cost of compliance is unreasonable.

For the purposes of subregulation (2A), the cost of electrical rectification work is not considered part of the cost of installation of an air conditioner or heat pump.

For the purposes of subregulation (2C), the cost of electrical rectification work is not part of the cost of installation of an efficient hot water system.

A full list of clauses which would need to be removed from draft legislation include:

- Part 2, Section 7, pages 15 – 17
  - (3)(2A); (3)(2A)(a); (3)(2B)
  - (3)(2C); (3)(2C)(a); (3)(2D)
- Part 2, Section 9, pages 21 – 23
  - (3)(2A); (3)(2A)(a); (3)(2B)
  - (3)(2C); (3)(2C)(a); (3)(2D)
- Part 2, Section 10, pages 27 – 28
  - (3)(2A); (3)(2A)(a); (3)(2B)
  - (3)(2C); (3)(2C)(a); (3)(2D)
- Part 2, Section 13, pages 32 – 33
  - (7)(a); (8)

## 2.2 Implications of contemporary industry analysis

Section 4 of this submission identifies inconsistencies between outcomes found via the RIS and outcomes found through contemporary analysis of residential gas customer impacts. If contemporary analysis provides a more robust view of gas customer outcomes, the following implications arise from the exclusion of electrical rectification costs in draft legislation:

- Cross cutting implications of the ACT RIS rental provider surveys include the strong possibility of electrical rectification costs being passed through to higher rents and potentially leading to residences being withdrawn from the market.
- Cross cutting implications of the Frontier Economics appliance cost study include the possibility that electrical rectification costs may be as low as \$2,150 and as high as \$12,250, exacerbating cross cutting implications of the ACT RIS.
- Cross cutting implications of the BCG decarbonisation study include the possibility that some tenants may be exposed to higher combined appliance, electrical rectification, and energy costs than if like for like gas appliances were installed.
- Cross cutting implications of the ACIL Allen renewable gas study indicate that residences exposed to unreasonably high electrical rectification costs may also be prevented from pursuing their least cost gas use decarbonisation pathway.

The risk of unintended consequences is highlighted through these crosscutting implications. This support APGA's recommendation to remove clauses excluding electrical rectification costs from unreasonable cost consideration in the draft legislation.

### 3 Rental provider liability protection for urgent repairs

Heating, cooling and hot water services are considered essential services under the *Residential Tenancies Act 1997* (the RTA) and must be repaired urgently if broken. The proposed legislation will in many cases lead to non-like-for-like replacement in these circumstances. It is necessary to consider the implications of non-like-for-like replacement for rental providers and tenants.

Under the RTA, rental providers must arrange for these repairs of essential services to be actioned in a timely fashion. If not, the rental provider can be ordered to do so by the Victorian Civil and Administrative Tribunal. There is no specific timeframe for rental providers to complete the repairs.

#### 3.1 Protections for rental providers and tenants

The Act provides protections for tenants in these circumstances, but not for rental providers. Should tenants exercise their rights under the RTA, rental providers may be liable for compensation relating to an extended period of essential service outage. Rental providers may also be liable for the cost of providing alternative accommodation to the tenant while repairs take place. In reality, the more likely scenario for tenants is enduring weeks of cold showers or low residential temperatures.

While this may ultimately result in higher rents or unrenewed leases, the proposed legislation also does not consider the timeliness of repairs which include electrical rectification. This can be a significant barrier, both for the rental provider and the tenant, and ultimately could lead to poorer outcomes for the tenants.

#### 3.2 Extended repair times due to electrical rectification

Particularly for older houses, the additional electrical load required by electrical hot water or heating/cooling appliances may trigger electrical rectification works. While the RIS identifies – and excludes from unreasonable costs – the possibility of switchboard upgrades, more extensive work may be required.

Upgrading to three phase supply, undergrounding the supply to the property, or both may be required. Recent changes to regulations prohibit mid-span connections, raiser brackets larger than 900mm, and overhead cables that significantly cross neighbouring properties, necessitating underground supply. These supply upgrades involve coordination between the rental provider, an electrician, and the local electrical supply authority, and according to market research, can take 4-8 weeks to complete.<sup>13</sup>

**Draft legislation risks leaving tenants without heating or hot water for up to 8 weeks.** Rental providers may be liable for compensation or alternative accommodation for the tenant during this period.

---

<sup>13</sup> The process, and potential regulatory necessity for undergrounding supply is described by Kennar Electrics in Melbourne - <https://www.kennarelectrics.com.au/residential/supply-upgrades-melbourne>

### 3.3 Eviction of tenant to complete repairs

Section 91ZL of the RTA provides for rental providers to end a lease immediately if the property “unfit” or “unsafe” for habitation. This is intended to be used following natural disasters, but lack of essential services could be considered “dangerous or detrimental to life or health”<sup>14</sup>. A lack of hot water, heating in winter, cooling in summer, or non-compliant wiring could all fit this description.

This is an unlikely but possible outcome where appliance and electrical upgrades are required to make a property compliant with new standards introduced through the draft legislation. Once the works are complete the rental provider would then be able to re-let at a higher rent, which is not a small incentive to utilise this end-lease provision.

APGA notes that provisions for temporary hot water installations which last no longer than 60 days could be perceived to mitigate this risk for hot water. However, the combined cost of installing and removing a temporary hot water system on top of appliance replacement could foreseeably be unreasonable if the total cost of replacement is beyond the threshold for *significantly higher than the average cost* (refer to Section 2). There is no perceivable mitigation for tenants being left without heating for up to eight weeks.

### 3.4 Recommendation

APGA proposes expansion of RIS analysis to consider this risk alongside one of two actions to mitigate this risk for rental providers:

- Indemnify rental providers from tenant action or any other liability that may arise from extended hot water or heating repair timelines.
- Remove those clauses within the Urgent Repair section (Part 2, Section 10) of the draft legislations which relate to hot water or heating, including clause (1)(d) through clause (1)(f), clause (3), and reference to ‘water heater’ in clause (1)(a).

### 3.5 Implications of contemporary industry analysis

Section 4 of this submission identifies inconsistencies between outcomes found via the RIS and outcomes found through contemporary analysis of residential gas customer impacts. If contemporary analysis provides a more robust view of gas customer outcomes, this implies that the issues raised within this section are being introduced completely unnecessarily.

Contemporary analysis indicates a substantial proportion of tenants using gas heating and hot water experience lower combined appliance and energy costs today and may continue to do so if they choose to use renewable gas tomorrow. As such, any circumstance where draft legislation leads to consequences from extended appliance replacement timelines is completely avoidable by not restricting rental providers to electric only appliances.

---

<sup>14</sup> In notable UK case law relevant to the application of this clause in Victoria, a tenant was evicted due to a broken sash window cord presenting an unacceptable hazard. See *Summers v Salford Corporation* [1943] AC 283 at 289, <https://vlex.co.uk/vid/summers-v-salford-corporation-793967805>

## 4 Differences between RIS and adjacent analyses requires action

Seeking to understand whether the pipeline industry can support the least cost decarbonisation pathway for gas customers, APGA have been at the forefront of analysing contemporary gas use and gas use decarbonisation over the past 5 years. A number of lessons have been learned throughout recent years of analysis; however these learnings appear to be absent from analysis within the RIS.

Inconsistencies between contemporary gas use and gas use decarbonisation analysis can be explored through the lens of four key studies:

- A similar RIS considering rental heating standards in the Australian Capital Territory (ACT) by ACIL Allen.
- Analysis by electrification advocates considering residential bill savings.
- A study of real-world appliance conversion cost quotes by Frontier Economics.
- A study analysing the implication of energy and appliance cost ranges by BCG.
- Whole of economy analysis of the least cost pathway to net zero domestic gas consumption by 2050 by ACIL Allen.

Outcomes of these studies indicates how differences in analysis methodology, while still being based upon publicly available data, can resolve very different tenant and rental provider impacts. In doing so, different outcomes from different analyses indicate that it is possible the conclusions of the RIS may be based on a misrepresentation of the real impacts upon tenants and rental providers.

**Misrepresentation of the real impacts upon tenants and rental providers could lead to unintended consequences through implementation of the draft legislation.**

The overarching recommendation from this section is to act upon the possibility that RIS analysis may be misrepresenting the real impacts upon tenants and landlords. This possibility and the impact that it could have upon the people and businesses of Victorian represent a reasonable basis on which to seek further analysis before committing to proposed legislation.

### 4.1 ACT Regulatory Impact Statement – Minimum standards for residential rental properties<sup>15</sup>

The ACT Government commissioned ACIL Allen to produce a Regulatory Impact Statement on minimum standards for rental properties, delivered in September 2021 (the ACT RIS).

Three key observations relevant to this process include:

- Opposite net economic impact outcome for residential heating

---

<sup>15</sup> ACIL Allen, 2021, *Minimum standards for residential rental properties – Regulation Impact Statement*, report to the Report to the ACT Environment, Planning and Sustainable Development Directorate, [https://acilallen.com.au/uploads/projects/416/ACILAllen\\_MinimumStandardsRIS\\_2021\\_2.pdf](https://acilallen.com.au/uploads/projects/416/ACILAllen_MinimumStandardsRIS_2021_2.pdf)



- Analysis of a survey on landlord intentions to pass on costs to tenants
- Differences in the level of working shown in each RIS

It would not be reasonable to assume that outcomes would differ based on inherent differences between the ACT and Victoria. Therefore, it is more likely that there is a difference in how each analysis was performed. Understanding these differences before implementing draft legislation would be consistent with acting in the best interests of Victorian tenants and rental providers, as would ensuring that working in arriving at RIS conclusions was shown.

#### 4.1.1 Net Economic Impact outcomes

Section 5.2 of the ACT RIS, ACIL Allen include headline results in Table 5.1, reproduced below (Figure 1). Comparing ACT RIS and Victorian RIS outcome directions shows:

- Positive Net Present Value (NPV) and a greater-than-one Benefit Cost Ratio (BCR) for insulation upgrades **consistent** with this Victorian RIS; and
- Negative NPV and less-than-one BCR for heating upgrades **inconsistent** with Victorian RIS.

Consistent outcomes for insulation upgrades indicate that the inherent circumstances impacting RIS economics between the ACT and Victorian likely do not differ. As such, the difference between ACT RIS and Victorian RIS heating upgrade NPV and BCR direction is unexpected.

While it is reasonable to consider dollar values will differ between states, seeing the direction of NPV (positive or negative) and BCR (less than or greater than one) differing between states is unexpected. It is further unexpected for differences to be seen for only one item within the analysis, rather than all items.

There are key differences between the two RIS including different cost of capital and cost of energy environments, however these do not automatically represent misalignment in conclusions. APGA considers that investigating this would be consistent with acting in the best interests of Victorian tenants and rental providers.

**Figure 1: Table 5.1 from the ACT RIS**

**Table 5.1** Headline results, economy-wide analysis

Option modelled	Benefit-cost ratio (BCR)	Net present value (\$m)
a) Insulation R3 - 2 year	1.19	\$10.44
b) Insulation R3 - 4 year	1.21	\$11.08
c) Insulation R5 - 2 year	1.29	\$17.42
d) Insulation R5 - 4 year	1.30	\$18.01
e) Heater - 2 year	0.59	-\$15.56
f) Heater - 4 year	0.59	-\$15.56
g) Performance 2-stars - 2 year	0.46	-\$12.95
h) Performance 2-stars - 4 year	0.47	-\$12.76
i) Performance 3-stars - 2 year	0.49	-\$119.66
j) Performance 3-stars - 4 year	0.50	-\$116.41

*Note: All impacts are calculated in present value (using a three per cent discount rate) over the life of the upgrades.  
Source: ACIL Allen*

## 4.1.2 Landlord cost passthrough survey outcomes

Section 5.2 of the ACT RIS also presents results of a survey considering whether or not landlords would pass through increased appliance costs to tenant rental costs. Figure 3 includes results from this survey. Survey results show that in the case of the ACT RIS:

- Almost 60% of landlords surveyed would increase rent.
- Of those which would increase rent, four out of five landlords would seek to recover a value equal to or greater than the cost of the appliance through increased rents.
- Around 20% would remove the property from the market.

In contrast, the Victorian RIS did not attempt to analyse landlord responses to the RIS within the RIS itself. Instead, the RIS simply states costs would not be passed onto tenants (Figure 2). APGA notes that of the references provided to support these statements, one does not provide analysis relating to increases in rent due to increased appliance costs, one is a news article hosted on realestate.com.au, and one relates to rooming houses.

### Figure 2: Victorian RIS statement on cost passthrough to tenants via rent increases

#### Potential impact on the rental market and rooming houses

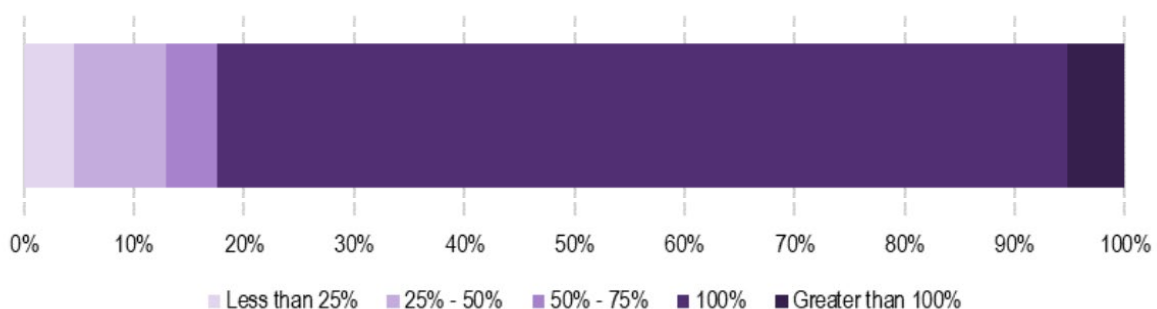
Evidence from similar reforms suggests rental providers may raise concerns around the impost of minimum rental standards, but that the actual impact on the rental market is likely minimal.<sup>16</sup> While some rent increases might occur, these will be offset to some extent by energy savings for renters. Recent quantitative research did not identify a strong observable link between tenancy law reforms and higher exits from the rental property market<sup>17</sup> or increases in rents.<sup>18</sup>

### Figure 3: Landlord survey outcomes from Victorian RIS

Figure 5.14 Reported response of rental providers



Figure 5.15 Rental passthrough for rental properties



Considering the outcomes of the survey of landlords in the ACT RIS in comparison to the Victorian RIS, the exclusion of such analysis in the Victorian RIS is a substantial oversight in the development of the RIS. Undertaking further analysis into the likelihood and magnitude of possible rental increases following implementation of draft legislation in Victorian would be consistent with acting in the best interests of Victorian tenants.

### 4.1.3 The ACT RIS demonstrates working

Appendices A through F of the ACT RIS provides considerable detail the methods and underlying assumptions used in undertaking RIS analysis. This provides a level of robustness to the RIS process ensuring that anyone with concerns about RIS outcomes would have the necessary information to reproduce RIS results.

In contrast, while there is some level of description of how Deloitte undertook analysis including some of their costing assumptions within the Victorian RIS, this information is basic. As such, it is unclear to APGA and other stakeholders how Deloitte have produced the figures seen within the RIS, and no opportunity for third parties to be able to verify the analysis or provide feedback.

At minimum, APGA proposes that it would be reasonable for the Victorian Government ask Deloitte to expose their working behind the RIS so that it may be examined by third parties. To not allow RIS analysis to be able to be scrutinised by third parties would be inconsistent with acting in the best interests of Victorian tenants and rental providers.

## 4.2 Electrification advocate studies of residential bill savings

A range of electrification advocates have analysed the bill savings achievable through electrification of residential gas demand across recent years. An important observation between these analyses and DEECA's analysis is that the latter shows much higher savings than those of other electrification advocates. This is important to consider noting Deloitte's analysis relies on data and modelling from DEECA. If the approach taken by DEECA in calculating residential bills is flawed, then there is a risk that these flaws were replicated in Deloitte's analysis.

Analyses to consider includes:

- DEECA analysis – demonstrated in the factsheet *Embracing electricity to cut your bills at home* including a savings figure of \$1,700 per annum.<sup>16</sup>
- CSIRO analysis for Energy Consumers Australia showing savings of \$290 per annum from electrification of residential gas demand.<sup>17</sup>

---

<sup>16</sup> DEECA, 2023, *Embracing electricity to cut your bills at home*, [https://www.energy.vic.gov.au/\\_data/assets/pdf\\_file/0039/579882/Victorias-Gas-Substitution-Roadmap-Embracing-electricity-to-cut-your-bills-at-home..pdf](https://www.energy.vic.gov.au/_data/assets/pdf_file/0039/579882/Victorias-Gas-Substitution-Roadmap-Embracing-electricity-to-cut-your-bills-at-home..pdf)

<sup>17</sup> CSIRO, 2023, *Consumer impacts of the energy transition: modelling report*, Report for Energy Consumers Australia, p9, <https://energyconsumersaustralia.com.au/wp-content/uploads/CSIRO-Technical-Report-Stepping-Up.pdf>

- ACT Government analysis showing \$735 per annum bill savings.<sup>18</sup>
- Sustainability Victoria analysis indicating that Solar Boosted Gas is the lowest cost hot water option.<sup>19</sup>

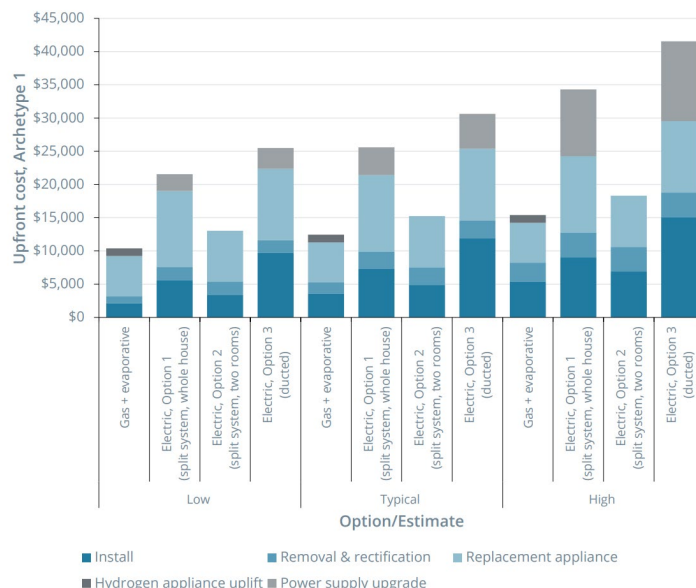
The differences seen between these three analyses are unlikely to be a result of jurisdictional differences alone. Understanding differences in assumptions being used between these sets of analysis is worthwhile in understanding whether or not the most reasonable assumptions are being used within RIS analysis.

Further, APGA notes that none of the above studies consider the cost of appliances to achieve these savings, nor the opportunity for residential gas use to be decarbonised through renewable gas uptake.

### 4.3 Cost of switching from gas to electric appliances in the home<sup>20</sup>

Frontier Economics undertook a study into the cost of switching from gas to electric appliances in the home (the Frontier Economics appliance cost study). This study analysed real-world quotes for electrification of Victorian homes. The most important observation from the Frontier Economics appliance cost study is that there is no one single cost for electrification of a residence. Instead, there is a broad range of costs relating to the unique circumstances of every individual home (Figure 4).

**Figure 4: Upfront costs for different appliance options by cost type (Class 1 residence)**



<sup>18</sup> ACT Government, 2024, *The Integrated Energy Plan – our pathway to electrification*, p24, [https://www.climatechoices.act.gov.au/\\_data/assets/pdf\\_file/0006/2509458/integrated-energy-plan-2024-2030.pdf](https://www.climatechoices.act.gov.au/_data/assets/pdf_file/0006/2509458/integrated-energy-plan-2024-2030.pdf)

<sup>19</sup> Sustainability VIC, 2024, <https://www.sustainability.vic.gov.au/energy-efficiency-and-reducing-emissions/save-energy-in-the-home/water-heating/calculate-water-heating-running-costs>

<sup>20</sup> Frontier Economics, 2022, *Cost of switching from gas to electric appliances in the home: a report for the Gas Appliance Manufacturer's Association of Australia*, <https://gamaa.asn.au/wp-content/uploads/2022/07/Frontier-Economics-Report-GAMAA.pdf>

This study demonstrates the lived reality of residential appliance electrification. Rather than there being a single cost figure for all residences, there are a range of costs which are so broad as to not be reasonably represented by an average. This indicates that analysis simply based on average or minimum costs fails to reflect the real-world cost impacts of electrification. Any legislation based on such analysis risks unintended consequences for customers who may be exposed to unreasonably high electrification costs.

The Frontier Economics appliance cost study is referenced within the RIS as *Frontier Economics, 2022* as the basis for the assumption that the *Cost of supply upgrades* is \$3,500. However, this figure is not actually stated within the Frontier Economics study. Instead it indicates a range of potential electrical rectification costs of \$2,150 - \$12,250. These figures were sourced from real-world quotes for electrifying Victorian homes.

APGA is uncertain how the RIS derived a single number of \$3,500 from this study, though by doing so it confirms that the study is sufficiently valid to reference within the RIS. Unfortunately, the RIS does not incorporate the actual finding, that electrification costs can vary substantially between residences.

The RIS and draft legislation do recognise the possibility of gas appliance electrification being unreasonably costly for some residences. However, in excluding electrical rectification costs, the draft legislation fails to consider the total cost exposure for all residences. The Role of Gas Infrastructure in Australia's Energy Transition<sup>21</sup>

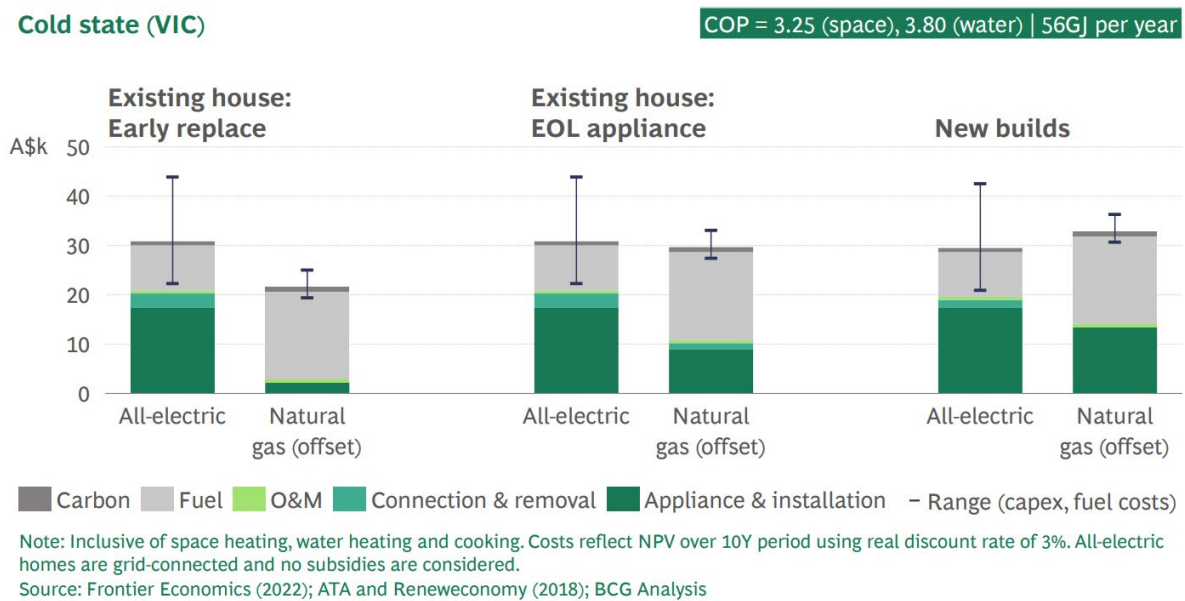
In 2023 Boston Consulting Group (BCG) produced the Role of Gas Infrastructure in Australia's Energy Transition report (the BCG gas decarbonisation study). Part of this study considered cost to gas-using homes in a way which had not been done up to this point – BCG considered appliance and energy costs as cost ranges, rather than average or minimum costs. The outcomes of this analysis can be seen in Figure 5 and Figure 6 which considered energy use costs for existing and new homes using natural gas, electricity, hydrogen or biomethane.

---

<sup>21</sup> Boston Consulting Group, 2023, *The role of gas infrastructure in Australia's energy transition*, <https://39713956.fs1.hubspotusercontent-na1.net/hubfs/39713956/The-Role-of-Gas-Infrastructure-in-Australia-s-Energy-Transition.pdf>

**Figure 5: BCG comparison of Victorian household appliance and energy cost ranges**

**Exhibit 5a: Natural gas and electricity cost comparison (excl. subsidies) for residential users today**



Analysing household cost ranges, rather than simply minimum and average cost, had a profound impact. As drawn out in Figure 6 below, focusing on the minimum and average cost comparisons alone favours a conclusion that all-electric new build homes were cheaper than new build homes which used natural gas.

However, consideration of the cost ranges tells a very different story (Figure 7). Where the all-electric cost range stretches below the gas cost range, there is the same conclusion – all-electric is cheaper than natural gas. But where the natural gas cost range overlaps with the all-electric cost range, households could achieve equal cost outcomes with either option.

More important still is the result where the electric cost range extends above the gas cost range. Households in this range will experience higher combined appliance and energy costs by choosing to go all-electric. **This directly contradicts result of considering average or minimum appliance and energy costs alone.**

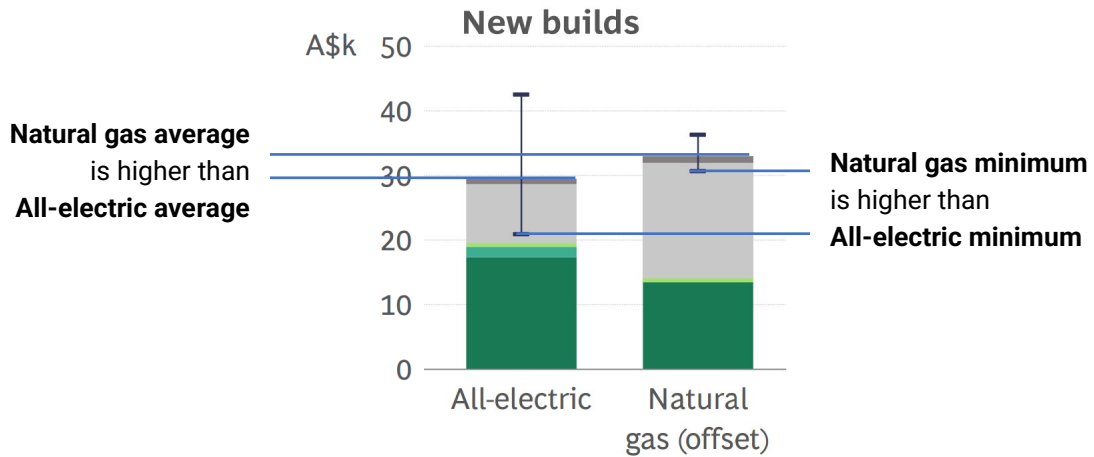
The data presented in the RIS does not demonstrate a process which has considered the cost ranges for appliances or energy. By modelling single figures for option costs, RIS results indicate that single figures are used within analysis rather than ranges.

If this is the case, it is possible that analysis undertaken within the RIS does not accurately represent the economic outcomes for households for which electrification costs are actually greater than natural gas costs. Proceeding with draft legislation on the basis of a RIS which may misrepresent electrification costs is not consistent with acting in the best interests of Victorian tenants and rental providers.

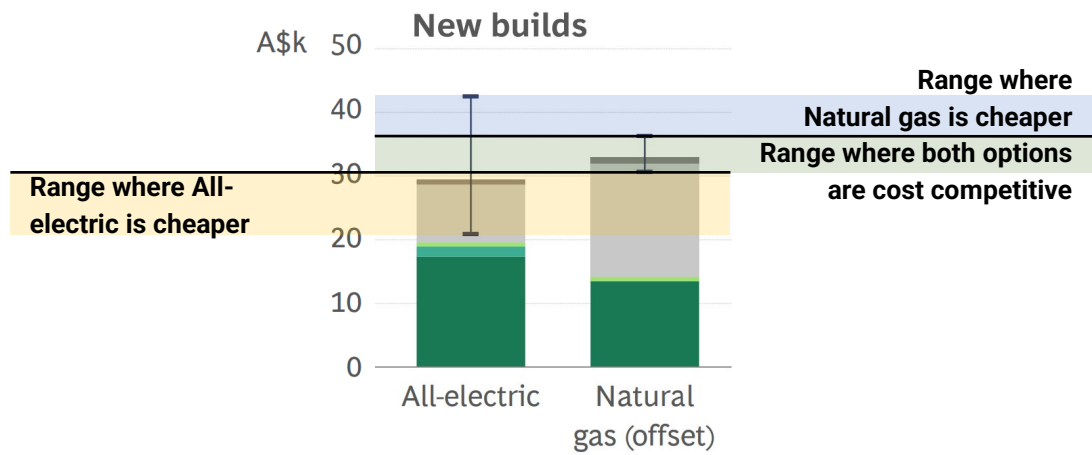
Lastly, BCG also analysed a net-zero emissions future (Figure 8). This analysis shows similar overlapping cost ranges for all-electric, hydrogen and biomethane fuelled homes in a net zero emission future. This possible future has also not been considered within the

environment impact options throughout the RIS. DEECA has previously been briefed on this analysis, but the RIS did not appear to take this analysis into account.

**Figure 6: New build home cost comparison only considering average or minimum costs**  
(Interpretation of part of the data)



**Figure 7: New build home cost comparison considering cost ranges**  
(Interpretation of all of the data)



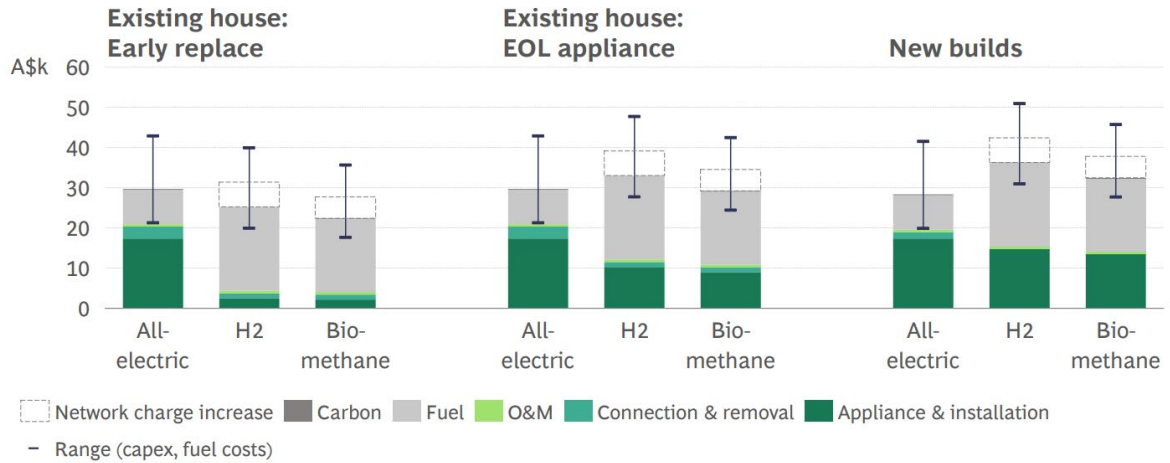


**Figure 8: Cost comparison for electricity, green hydrogen and biomethane**

**Exhibit 8: Cost comparison for electricity, green hydrogen and biomethane for residential users in 2040**

Cold state (VIC)

COP = 3.25 (space), 3.80 (water) | 56GJ per year



Note: Inclusive of space heating, water heating and cooking. Costs reflect NPV over 10Y period using real discount rate of 3%. All-electric homes are grid-connected and no subsidies are considered. Network charge increase (dotted box) reflects 50% distribution-connected customers, per GSOO OSC scenario in 2040 for biomethane and hydrogen.

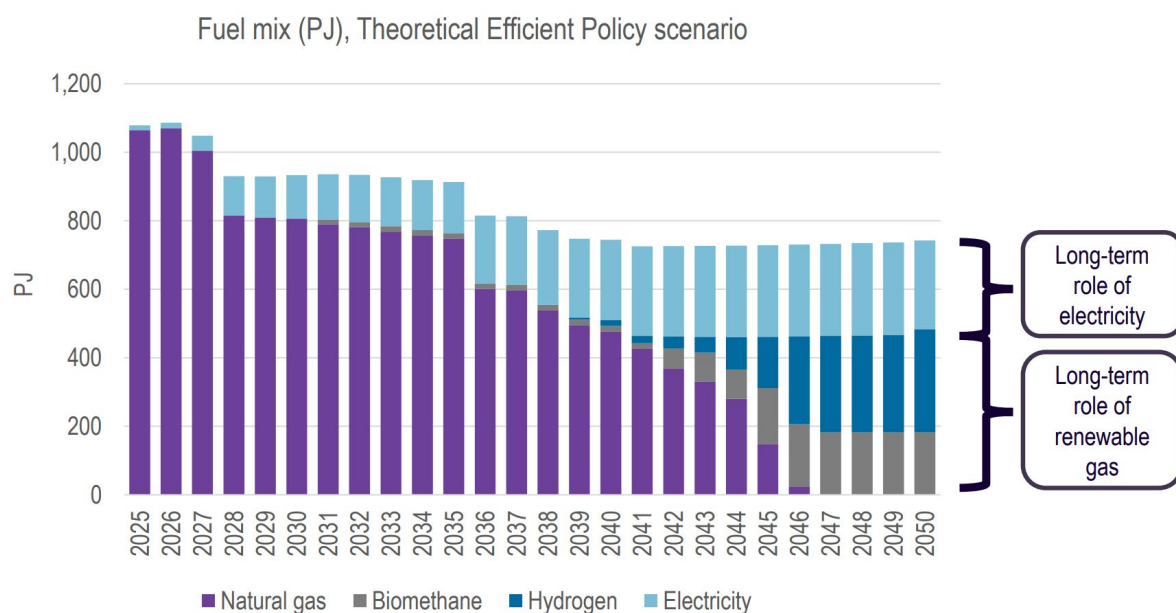
Source: Frontier Economics (2022); ATA and Reneweconomy (2018); Advisian, CEFC (2021), IEA and Deloitte; BCG Analysis

## 4.4 Renewable Gas Target: Delivering lower cost decarbonisation for gas customers and the Australian economy<sup>22</sup>

In 2024 ACIL Allen published a study considering the least cost pathway to net zero for all direct gas directly consumed in Australia including industrial, commercial, and residential demand (the RGT study).

While this analysis was used to explore policy options such as a renewable gas target, its foundational analysis of the least cost net zero pathway demonstrated that a combination of electrification and renewable gases can deliver decarbonisation at least cost (Figure 9).

**Figure 9: Least cost pathway to net zero direct use gas emissions by 2050**



Other observations available through this study include:

- Across all scenarios, industrial gas demand forms a foundation of at least 250PJpa of renewable gas demand in 2050 (Figure 10).
- The least cost pathway sees over 80% of potential residential natural gas demand being supplied by renewable gas nationally (Figure 11) – over 95% in Victoria (Figure 12).
- In all scenarios (except where residences are forced to electrify) at least 40% of potential residential gas demand is supplied by a combination of renewable gas or offset natural gas (Figure 11) – at least 50% in Victoria (Figure 12).

Biomethane from interstate accounts for the majority of gas supplied to residential gas customers throughout the least cost transition. (Figure 13).

DEECA used the same ACIL Allen model in its analysis for the Victorian Gas Substitution Roadmap (VGSR) and did not publicly release its results. APGA reiterates its request for

<sup>22</sup> ACIL Allen, 2024, *Renewable Gas Target: Delivering lower cost decarbonisation for gas customers and the Australian economy*, available at <https://apga.org.au/renewable-gas-target>

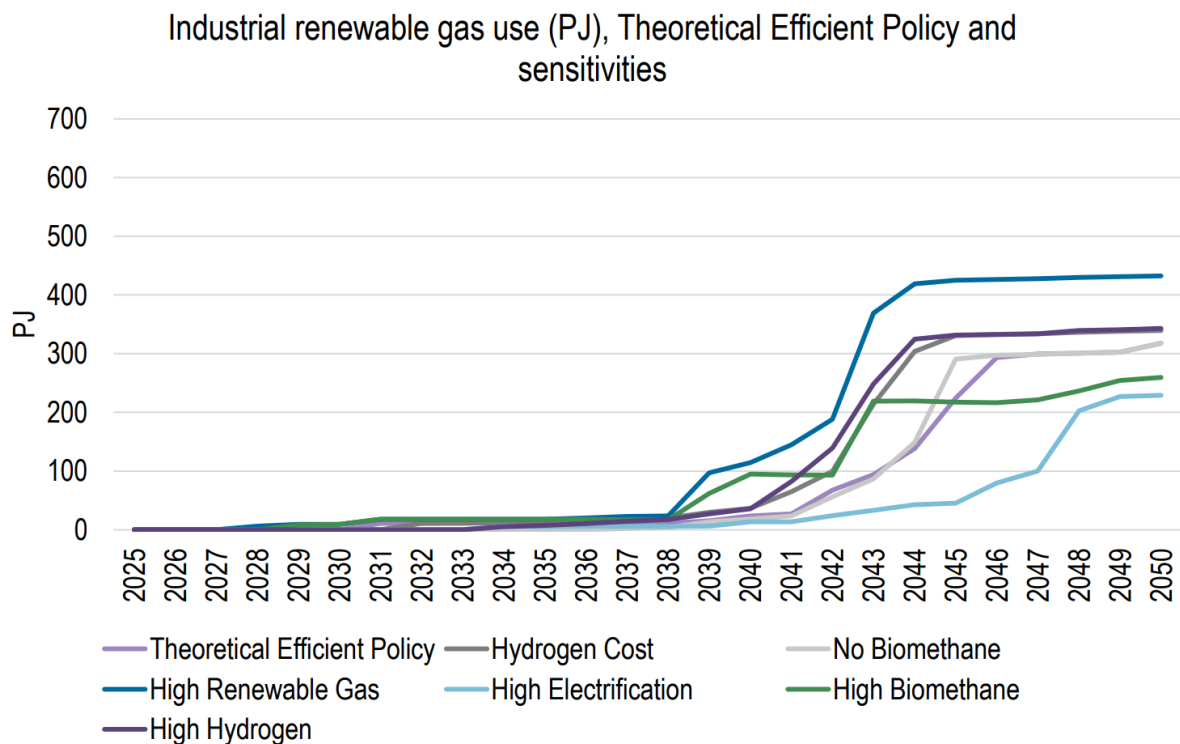
DEECA to release its VGSR modelling results. It would be surprising if ACIL Allen’s modelling for DEECA did not indicate that Victorian households would be better off through a combination of electrification and renewable gas uptake.

There are two notable differences between the ACIL Allen model as it was used for DEECA and as it was used for the RGT study, which likely make an important difference in its outcomes:

This study considered gas use decarbonisation on a national basis, meaning that Victorian residences and other gas users had access to greater volumes of biomethane produced interstate (Figure 13). This study used appliance cost data from public references.

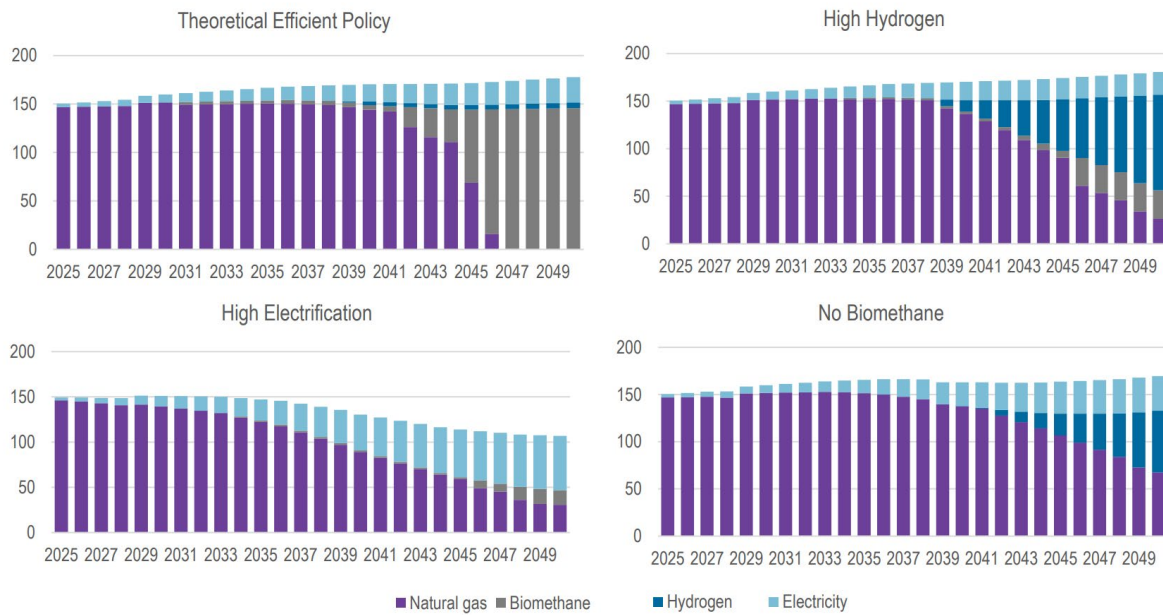
The ACIL Allen RGT study suggests that there is a lower cost gas use decarbonisation pathway for Victorian households than electrification alone. The RIS and draft legislation risk preventing this pathway for Victorian renters. DEECA have been briefed on this analysis and the RIS had the opportunity to undertake analysis similar to this but did not.

**Figure 10: Industrial demand across input assumption sensitivities**



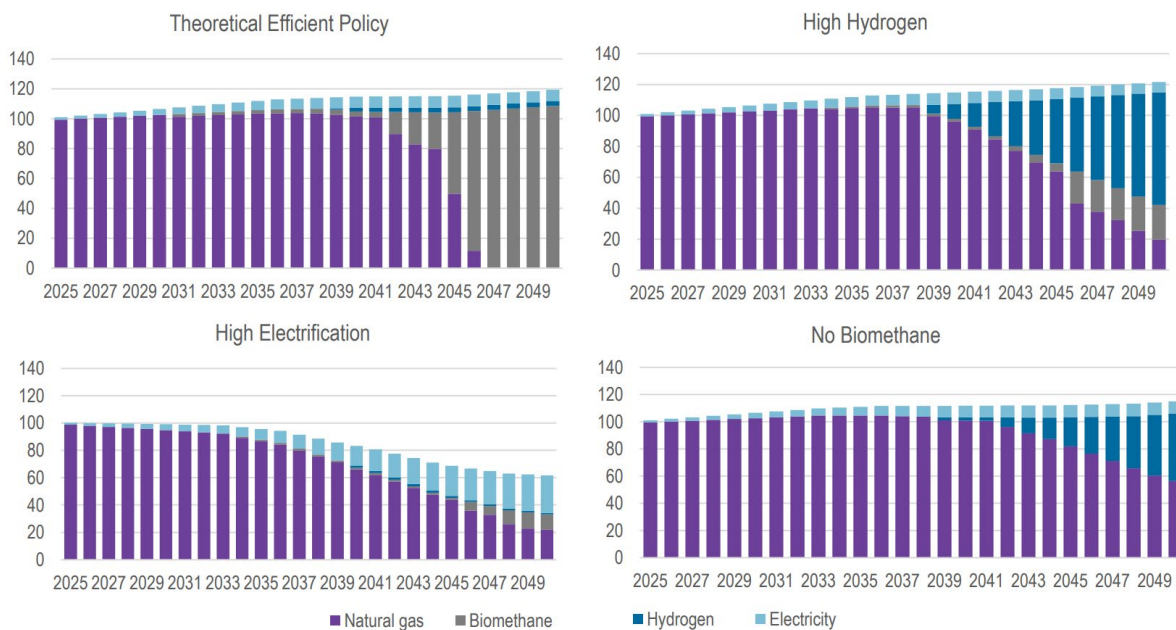
**Figure 11: Residential fuel mix across key sensitivities (National)**

Residential fuel mix (PJ), Theoretical Efficient Policy scenario and selected sensitivities

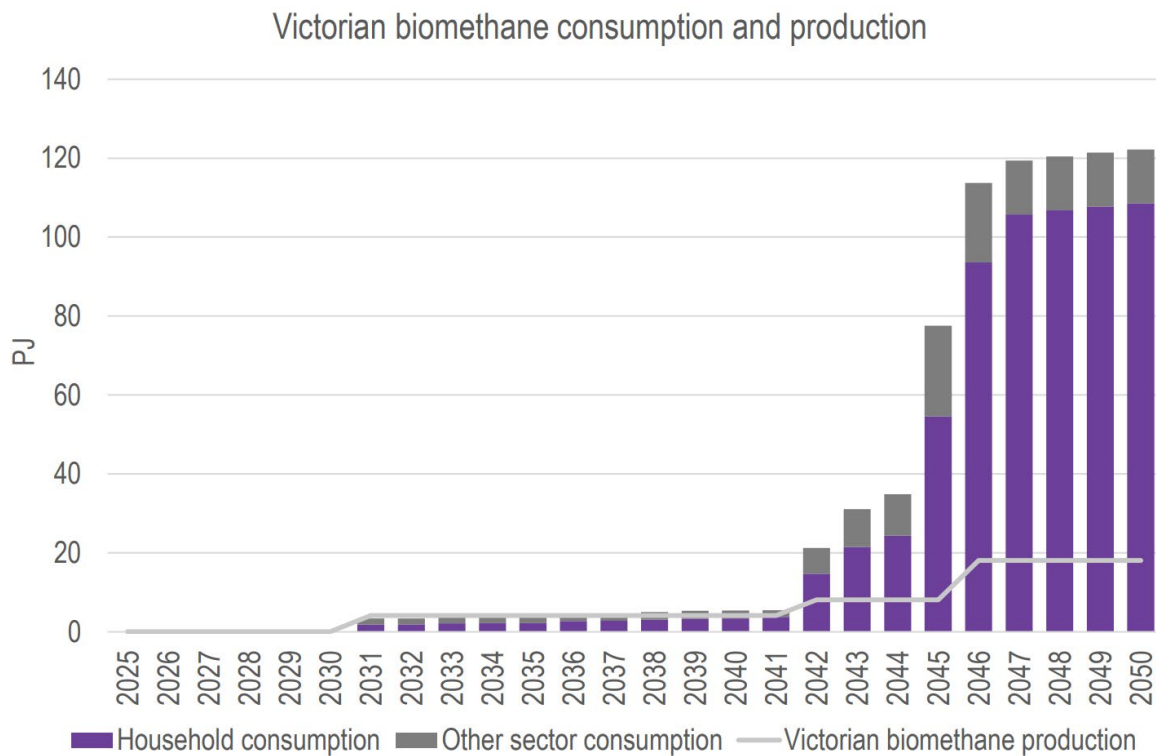


**Figure 12: Residential fuel mix across key sensitivities (Victoria)**

Residential fuel mix (PJ), Theoretical Efficient Policy scenario and selected sensitivities - Victoria



**Figure 13: Victorian biomethane consumption and production**



## 4.5 Recommendation

**APGA recommends the Victorian Government seeks complimentary analysis to consider the outcomes of the above referenced analysis by a reputable firm.**

The content of this section demonstrates substantial differences in analysis outcomes achievable through the use of publicly available information and more robust analysis methods. These outcomes are in conflict with RIS analysis outcomes, indicating that proceeding with draft legislation as it is currently written is not in the best interests of Victorian tenants and rental providers.

It is not reasonable for the Victorian Government to base its course of action upon information referenced by APGA alone. In light of this information however, it is also no longer reasonable for the Victorian Government to proceed on the basis of outcomes seen within the RIS alone. Undertaking further analysis to ensure that the consequences of draft legislation are fully understood is in the best interests of Victorian tenants and rental providers.

## 5 Inconsistent retention of LPG appliances

The RIS recommendations and draft legislation are framed as being based upon the assertion that moving from gas to electric appliances will result in lower cost and lower emissions. At the same time, the RIS draft legislation excludes LPG appliances, allowing rental providers to retain these appliances. However, LPG is widely understood to be more costly and emissions intensive than natural gas, while LPG and natural gas appliances are widely understood to be of equivalent cost.

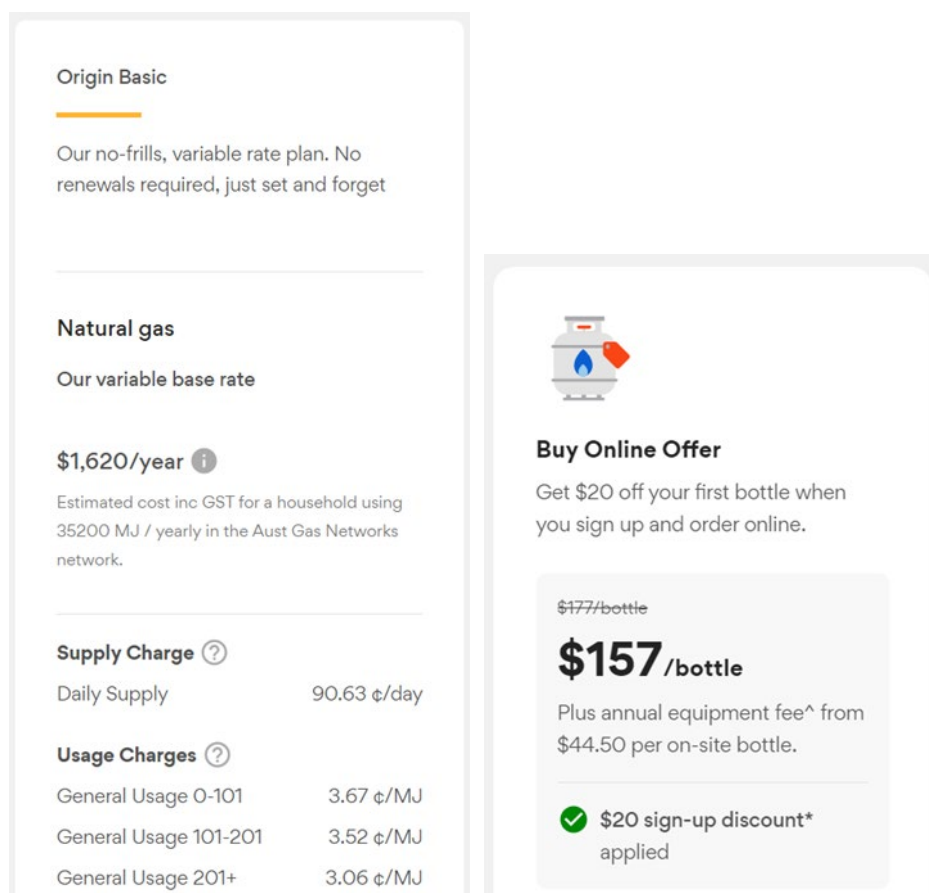
**Excluding LPG appliances from the draft standards that ban natural gas appliances is inconsistent with the cost- and emissions-reduction goals of the RIS and draft legislation.**

The following sections indicate the cost and emissions differences between natural gas and LPG, leading to a recommendation of reconsidering RIS analysis and intent.

### 5.1 Cost

The cost difference between natural gas and LPG varies by retail provider and available discounts. A general comparison can be considered relative to standard offerings from a single provider. Figure 14 demonstrates gas and LPG quotes available on the Origin Energy website for a random property in Northcote, Victoria on 28 June 2024.

**Figure 14: Natural gas and LPG quotes from Origin Energy website**



Compared to the Origin Basic natural gas cost estimate of \$1,620 per annum, equivalent use of LPG would result in a cost of \$2,870 per annum<sup>23</sup> or a 77% cost premium. Noting that LPG and natural gas appliances are essentially different tuning of the same appliances, the retail cost difference indicates the overall cost difference between natural gas and LPG. This clearly demonstrates that LPG is more expensive than natural gas.

### 5.1.1 Per annum estimate for LPG

The per annum estimate for LPG use is based on the following analysis:

- Energy cost
  - 1kg of LPG = 49MJ
  - 1 LPG bottle = 45kg of LPG = 2,205MJ
  - At \$177 per bottle, LPG energy cost is 8.03c/MJ
- Like-for-like annual LPG cost estimate
  - Natural gas estimate annual use assumption = 35,200MJ
  - Annual cost estimate = Annual Fee + Annual Use x Cost per MJ
  - Annual cost estimate = \$44.50 + 35,200 x 8.03c/MJ
  - Annual cost estimate = \$2,870 per annum

## 5.2 Emissions

Natural gas and LPG emissions intensities are a matter of public record. The Federal National Greenhouse and Energy Reporting (Measurement) Determination 2008<sup>24</sup> Schedule 2 includes emissions intensity for *Natural Gas transmitted or distributed in a pipeline* and *Liquid petroleum gas* showing that LPG is clearly more emissions intensive than natural gas.

- Natural Gas transmitted or distributed in a pipeline:
  - 51.4 kg CO<sub>2</sub>-e/GJ
  - 0.1 kg CO<sub>2</sub>-e/GJ
  - 0.03 kg CO<sub>2</sub>-e/GJ
- Liquid petroleum gas:
  - 60.2 kg CO<sub>2</sub>-e/GJ
  - 0.2 kg CO<sub>2</sub>-e/GJ
  - 0.2 kg CO<sub>2</sub>-e/GJ
- Per annum emissions increase per average residence
  - Estimate annual natural gas or LPG use assumption = 35,200 MJ = 35.2 GJ
  - Emissions increase per GJ = (60.2 + 0.2 + 0.2) – (51.4 + 0.1 + 0.03)  
= 9.07 kg CO<sub>2</sub>-e/GJ
  - Per annum emissions increase = 35.2 GJ x 9.07 kg CO<sub>2</sub>-e/GJ  
= 319 kg CO<sub>2</sub>-e/GJ per annum

<sup>23</sup> Analysis included in Section 5.1.1

<sup>24</sup> *National Greenhouse and Energy Reporting (Measurement) Determination 2008*, accessed June 2024, <https://www.legislation.gov.au/F2008L02309/latest/text>



### **5.3 Recommendation**

To be consistent with the RIS intent of reducing energy bill cost and emissions, draft legislation would need to include LPG appliance replacement within new energy efficient appliance replacement requirements.

Alternatively, APGA recommends revisiting the conclusions of the RIS if keeping LPG appliances is understood to be in the best interests of tenants and rental providers.