14 February 2022

Victorian community organisations' submission to the Australian Energy Regulator (AER) 'Regulating Gas Pipelines Under Uncertainty' Information Paper

We thank the Australian Energy Regulator (AER) for the chance to respond to the Regulating Gas Pipelines Under Uncertainty Information Paper (the Information Paper), released by the AER in November 2021. We welcome the opportunity to contribute to developing a regulatory approach that can address the challenges of managing network assets through the transition to a decarbonised energy sector.

This joint submission has been prepared by the Renew and Brotherhood of St. Laurence (BSL), with consultation with other community organisations. We represent residential, and particularly vulnerable, consumers.

For households facing financial stress and other forms of disadvantage, ensuring that energy remains affordable while we transition to a zero-carbon economy is crucial. Regulators must ensure that the risks to households are mitigated while facilitating a transition away from fossil gas in line with Australia's international commitments, including by coordinating with governments and rejecting proposals by energy businesses that increase risk.

Although the AER has invited responses to the Information Paper as part of the current Victorian gas network access arrangements, this submission also comments on the general principles raised by the paper, relating to both the Victorian access arrangements and future processes.

Given the paper's indication of a preliminary view that accelerated depreciation 'would be appropriate if there is sufficient evidence to demonstrate and quantify the pricing risk and stranded asset risk arising from demand uncertainty', the main focus of this submission is on accelerated depreciation. Our views on the other potential options put forward in the paper are summarised in the Appendix.

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The views expressed in this document do not necessarily reflect the views of Energy Consumers Australia.

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Summary

Our community organisations do not support the proposal for accelerated depreciation of gas infrastructure

Our community organisations – the Brotherhood of St. Laurence and Renew – do not support the proposal to allow network businesses to apply accelerated depreciation schedules as a way to mitigate their exposure to the risk of asset stranding. We are especially concerned about the proposal to continually adjust depreciation schedules as a way to accommodate uncertainty.

Securing a fast, fair and effective energy transition to a sustainable climate future is a complex problem – and the use of any individual regulatory mechanism (such as in the specific context of revenue setting) to manage future risks should be approached carefully and holistically.

Residential gas users currently rely on this fuel to provide essential heating, hot-water and cooking services.

The AER's Information Paper addresses critical concerns for consumers regarding the regulation of gas network assets through the decarbonisation of the energy sector. These include the risks for remaining gas consumers through the process of electrification of loads that are currently served by gas, and the potential that parts of the network could become underutilised or wound down. Further consumer risks relate to recent proposals to redevelop the existing networks to transport hydrogen or bio-methane.

Allowing accelerated depreciation would mitigate the network businesses' risk of asset stranding without addressing the range of risks facing consumers. Accelerated depreciation may also increase consumer risks.

We welcome the development of a regulatory approach to address the challenges of managing network services through the upcoming transition.

An adequate regulatory framework should establish a fair and efficient allocation of costs and risks between consumers, networks and other key stakeholders. It should ensure that vulnerable consumers are not disadvantaged or excluded from a transition, and it should safeguard access to affordable essential energy services throughout the transition process.

We recommend that the AER should exercise significant caution in providing incremental concessions to network businesses, and suggest that there is a need to coordinate with government in areas requiring a broader policy response.

An adequate response will include a revision of current regulation, and coordination with stakeholders including government

We agree with the Information Paper's recommendation that the current regulatory framework will need to be revised in order to manage the networks through a transition away from fossil gas.

The challenges of managing shared assets through this transition will require coordination with government to develop policies to address the full range of risks to energy users that may emerge.

Networks are not entitled to full risk mitigation

We agree with the Information Paper's finding that the rules do not entitle the networks to the mitigation of the potential risk of asset stranding –neither with respect to the Revenue and Pricing Principles, which do not guarantee full recovery of all capital, nor the method for calculation of the Rate of Return.

We reject the claim made by some businesses that the risk of stranding is primarily driven by government policy. Key drivers include falling electricity prices, improved electric appliance efficiency and a growing awareness among energy users of the positive NPV (and climate benefits) that electrification offers many households.

State and federal climate targets have been established in line with the global response to the threat of climate change – a risk to which the practices of the gas networks have contributed. It is imperative that governments act on climate, andthe even tual need to transition away from fossil gas should be considered predictable.

Electrification represents a beneficial decarbonisation pathway for residential consumers; however an unmanaged electrification scenario has associated risks

Recent interim results presented by the Victorian Government's Gas Substitution Roadmap demonstrate the cost savings for residential households in switching from gas to efficient electric appliances, even where network costs are considered. An electrification scenario is likely to deliver a net benefit for consumers; however an unmanaged transition poses risks for consumers.

These risks include unaffordable gas tariffs for customers remaining on a gas network that becomes underutilised, as well as the need to replace appliances quickly if part of the network is wound down with short notice. These are particularly high for vulnerable consumers, who may not be able to access funds to replace their appliances, and renters, who are unable to make decisions about the fixed appliances in their homes.

We do not consider these risks to be addressed by applying accelerated depreciation, as discussed below.

Accelerated depreciation does not address these risks, and may increase them

Network businesses suggest that early depreciation will reduce customers' stranded asset risk, by paying off the network while customer numbers are still high. However, it is also possible that higher gas tariffs caused by accelerated depreciation will make voluntary electrification more attractive to those who can switch, bringing consumer exits forward and cancelling any benefits in paying down network assets.

The potential to bring forward voluntary disconnections may increase the chance of an unmanaged disconnection 'spiral'.

Safeguarding affordable energy services through a transition from a shared network will require policies to manage these risks. For example, a managed process might include policies to enable all customers (including vulnerable consumers and renters) to access appliance upgrades, schedules for asset wind-downs that provide consumers with adequate notice, and policies to avoid unaffordable prices in the event that assets become underutilised. This may require networks to agree to asset write-downs in some circumstances.

An adequate framework will also avoid increasing an asset base at risk of stranding, and ensure that risk mitigation does not encourage imprudent investment.

Where assets don't become stranded, accelerated depreciation threatens the financial viability of network service providers

Accelerated depreciation also introduces new risks for consumers if pipelines remain useful.

If assets are significantly depreciated before the end of their useful life, then networks will have to maintain services and fund essential repex with a reduced income (return on/of capital from an undersized RAB). This raises the possibility that consumers will be asked to contribute again, to allow continued services.

The proposal to continually adjust depreciation is particularly high risk for consumers

The businesses' proposal to continually revise depreciation schedules to adjust to changing expectations of the network is a particularly high-risk approach for consumers.

This approach would allow businesses to continue to augment the networks, and to invest in speculative hydrogen research and development, while being protected from the risks of these investments by transferring them on to consumers.

At the same time, this approach would transfer the full risk of stranded assets on to consumers. If voluntary consumer electrification increases, depreciation schedules will be shortened in response. This would further raise tariffs and add fuel to a disconnection spiral.

Although continually adjusting depreciation schedules would allow the retention of 'optionality' between a future gas and an electrification scenario, it would transfer the costs and risks of maintaining optionality to consumers, who are least able to evaluate and respond to these costs.

The rules should be revised to manage emerging risks

We agree that the National Gas Objective should be revised to clarify that decarbonisation is a core objective. Additional consultation is needed on this issue.

We also agree that it is critical that those aspects of the current regulations promoting higher gas consumption are revised.

We also agree with the AER's conclusion that the Objectives should be revised to promote optimal energy outcomes, rather than considering gas and electricity outcomes in isolation.

Accelerated depreciation should not be allowed where networks continue to augment, connect new customers, or invest in hydrogen (or other alternative gas) readiness

Accelerated depreciation should not be considered where networks continue to augment to access new sources of supply, or connect new customers. Similarly, it should not be allowed where regulated revenue is being spent on research, development or readiness for hydrogen or other alternative gases.

An adequate framework must also consider decommissioning assets at the end of life, and the transfer of ownership of assets that may be repurposed. Networks may need to agree to write down assets in some circumstances, especially where prices become unaffordable on an underutilised network - and they must agree to maintain services through a wind-down process.

1 Network businesses do not have a regulatory entitlement to accelerated depreciation (or other measures) to resolve the risks of uncertainty

1.1 The stranding risk facing the gas network businesses is not primarily caused by policy decisions

Network businesses have argued that regulators should mitigate their stranding risk because government policy has changed their operating environment.[1] However, policy is not the primary driver of the potential stranding risk.

We agree with the Information Paper's summary of factors impacting the future planning of the gas industry:

- deployment of renewables driving lower electricity prices, especially rooftop solar
- improved energy efficiency of electrical appliances, especially heat pump home space heating and hot water systems
- the growing awareness that electrification offers favourable economics (positive NPV) for many households (as well as climate benefits)[2]
- rapidly declining flexible gas supply from Victoria's traditional Bass Strait reserves in the near term and increasing supply uncertainty in the long term
- state and federal carbon commitments, and Victoria's Gas Substitution Roadmap.

Most of those drivers are facets of the broad market environment, that have been foreseeable for decades. Many also drive disruption for many non-regulated businesses, and should not be considered to be primarily the result of government decisions.

Government policy should not be considered to have created the stranded asset risk. We disagree with the claim that a changed regulatory environment warrants the networks' proposal for accelerated depreciation.

1.2 The level of the regulated Rate of Return does not entitle networks to accelerated depreciation

Network businesses have argued that the calculation of the Rate of Return does not provide a high enough return on capital to compensate for the potential long-term risks that electrification might pose to the asset base. [3]

We agree with the Information Paper's finding that the type of risks raised by uncertainty regarding different decarbonisation pathways are not systemic, so that the current Rate of Return does not warrant the mitigation of the networks' potential stranding risks.

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[1] APA 2021, *First look at proposal for VTS 2023-27access arrangement*, https://www.apa.com.au/globalassets/about-apa/our-projects/victorian-transmission-system-access-arrangement/first-look-at-vts-2023-27-access-arrangement-proposal.pdf

[2] Renew. June 2018. *Household fuel choice in the National Energy Market*, https://renew.org.au/wp-content/uploads/2018/08/Household_fuel_choice_in_the_NEM_Revised_June_2018.pdf

[3] APA. 2021, op. cit.

The AER's method for calculating the Rate of Return does incorporate metrics that reflect network businesses' real cost of debt. Financiers place a significant emphasis on demand and asset stranding risks when setting the rates of return on debt. When this risk emerges it will be expressed in the Rate of Return as currently calculated.

It is also useful to consider the situation facing businesses in fully commercial environments that are similarly disrupted by electrification – such as service stations (given that cars are expected to electrify). These businesses are not yet failing to attract investment capital, as reflected in the share prices such as that of Waypoint REIT[4] [5]; service station numbers are not falling in Australia, and they are required to operate at the same level of competition as before.

While network businesses have suggested that in the absence of accelerated depreciation, the Rate of Return should be calculated differently (so that it is higher) to reflect increased risks, the opposite is true. If accelerated depreciation is extended to the networks, the Rate of Return should be revised downwards, because any stranding risks, will be reflected in the metrics used to calculate the cost of debt.

1.3 The Revenue and Pricing Principles do not guarantee a return of capital

We agree with the AER's interpretation of the National Gas Laws' (NGL) Revenue and Pricing Principles (The Principles), in that the principle to provide networks a 'reasonable opportunity to recover at least the efficient costs', does not imply that all risks potentially facing the networks should be mitigated or resolved.[6] The Principles should not be interpreted as guaranteeing return of all capital invested, or even all efficient capital, given their reference to 'efficient costs', and the inclusion of 'reasonable' as a qualifying term.

The fact that NGL includes a provision for writing-down redundant assets in certain circumstances (exercised for the Wilton to Wollongong pipeline, as mentioned in the Information Paper) underlines the limits of the networks' entitlement to cost recovery[7], as do the Rules' provisions for speculative investments funded outside regulated revenue.

Where assets become stranded, this will usually indicate that spending has been proven to be inefficient.

New augmentation (i.e. assets proposed in current and future access arrangements) is particularly likely to prove to be inefficient and imprudent, given the emerging stranding risk flagged by the businesses. Therefore, the Principles do not guarantee entitle networks a guarantee of full investment recovery.

The Principles' restriction to 'efficient' investment supports the case made in Section 4.3 – that accelerated depreciation should not be allowed where networks are still allowed to augment. It also supports the case

[4] Tamblyn. 2021. *Savvy property investors are filling up on service stations* Australian Financial Review https://www.afr.com/wealth/investing/savvy-property-investors-are-filling-up-on-service-stations-20210322-p57czn
[5] Google Finance. 2022. Waypoint REIT 5-year share price https://www.google.com/finance/quote/WPR:ASX?window=5Y
[6] AER. 2021. *Regulating gas pipelines under uncertainty information paper* https://www.aer.gov.au/system/files/AER%20Information%20Paper%20-%20Regulating%20gas%20pipelines%20under%20uncertainty%20-%2015%20November%202021.pdf
[7] AER. 2021.

made in Section 4.4, to disallow accelerated depreciation where regulated revenue is funding hydrogen/biogas development, which is also at 'high risk' of proving to be inefficient.

1.4 Consumers bear demand risk through take-or-pay tariff structures

Other elements of the total revenue and tariff setting process already provide the networks some management of stranded asset risk.

This includes take-or-pay tariff structures, that transfer demand risk to consumers, not service providers.

Even without accelerated depreciation, the risk of under-recovery of capital costs for a service provider is limited. By accelerating the capital recovery profile, that risk to the service provider becomes almost non-existent.

2 Accelerated depreciation does not manage the risks for consumers associated with electrification, and may increase them

2.1 An electrification scenario poses potential risks, as well as benefits, to residential energy consumers

Accelerated depreciation would manage the asset stranding risk that electrification would pose to the networks.

An electrification scenario is likely to deliver a net benefit for consumers. Recent interim results presented by the Victorian Government's Gas Substitution Roadmap demonstrate the cost savings for residential households in switching from gas to efficient electric appliances, even where network costs are considered. An unmanaged transition, however, poses risks for consumers. These will need to be addressed in order to safeguard affordable energy services to all customers.

The risks that an unmanaged electrification pathway could pose to gas consumers include:

- Gas network tariffs could increase for remaining gas customers if parts of the network became underutilised. Gas prices may become unaffordable if disconnections 'spiral'.
- This risk is increased for customers unable to fund the upfront cost of appliance replacement, such as low-income households, or those with other barriers to electrification, like renters.
- If parts of the gas network are wound down earlier than expected, or in an unmanaged way, customers may be required to fund appliance replacement (for heating, hot water and/or cooking) over a short timeframe
- Electrification may increase electricity network costs (although this should not be overestimated, and may be mitigated).

2.2 Accelerated depreciation does not address the risk of electrification for consumers

The consumer risks listed in Section 3.1 will not be addressed by accelerated depreciation for the following reasons:

2.2.1 Accelerated depreciation may accelerate disconnection from the gas network, so that early depreciation does not recover contribution from a larger customer base

Higher gas prices, relative to electricity, should be expected to accelerate the rate at which customers disconnect from the gas network.

Networks cite Crew and Kleindorfer's WOOPS theory to suggest that if accelerated depreciation is implemented early – within the 'window of opportunity' – then assets can be fully depreciated by the time the network needs to be wound down.[8] Network businesses suggest that this will alleviate risks for consumers, as well as networks, by paying off more of the network while there are still high numbers of gas consumers.

However, the fact that electrification already offers a positive NPV for many households[9], suggests we are likely to be already past the 'window of opportunity', and that faster depreciation will only bring electrification forward. (Also, the large proportion of the bill stack attributable to gas market costs will limit the extent to which the early depreciation will mitigate future gas costs).

As discussed in Section 2.6 and mentioned in the Information Paper, voluntary electrification has emerged as a consumer trend, and needs to be better understood (see Section 2.6). Absolute numbers may be small, but the rate of growth, and the sensitivity to the difference in gas and electricity prices, are important considerations.

KPMG's initial modelling for the networks' 'Future of Gas' project applied the assumption, under their 'electrify everything' scenario, that customers will disconnect from gas after two appliance replacement cycles – and found that with this assumption, the window has already passed. Where this is the case, the WOOPS model says that accelerated depreciation is more likely to bring forward the disconnection trend, than deliver advantages in paying off assets early.

Given that electrification already offers a positive NPV for many households, KPMG's assumptions may prove to be conservative.

2.2.2 Measures to enable all customers to access electric appliances will be required

Accelerated depreciation does not address the barriers to electrification for many customers, including vulnerable households and renters.

Policies will be required to ensure that vulnerable customers are able to meet the upfront costs of electrification – this may include subsidy programs or no-interest loans. (It will also be assisted by managed electrification schedules as per Section 2.2.3).

Enabling renters to access electrification is likely to require amendments to rental standards.

2.2.3 Measures will be needed to establish a transition schedule for network assets, and to safeguard affordability as the gas network becomes underutilised

A framework will be required to manage the process of winding down a shared asset.

Development of an adequate framework is likely to require active participation from the network operator, and coordination with other key stakeholders.

[8] APA. 2021.
[9] Renew. 2018.

Consumers will benefit from a schedule that provides advance notice of an asset shutdown. (A long period of notice will allow appliances to be replaced by attrition, or when it is otherwise beneficial and cost-effective for the users).

As the network becomes underutilised, affordable access to essential energy services must be maintained for remaining customers. This will require a clarification of the network operators' responsibility to maintain services in these circumstances, and an appropriate allocation of costs between all stakeholders to avoid unaffordable costs for consumers.

2.2.4 Other measures will be needed to mitigate the potential impact of electrification on the electricity network

The impact of a winter heating peak on the electricity network should be carefully evaluated. Available technologies, such as energy efficiency, DER and demand control, should be deployed to mitigate this risk.

2.3 Accelerated depreciation may increase risks for consumers

2.3.1 Accelerated depreciation will increase consumer gas tariffs

Accelerated depreciation will raise gas costs in the short term. This will increase the risk of energy stress for residential, and especially vulnerable, consumers.

Accelerated depreciation would 'multiply' the cost-impact of new types of proposed network spending, such as augmentation to access new gas supplies, and investment in hydrogen and other alternative gases.

In the near term, it is likely that higher network costs would also add to rising gas market prices. (Rising gas market prices are also likely in the long-term, given the expected reliance on less-viable reserves).[10]

Higher gas prices will increase energy stress for vulnerable consumers.

2.3.2 An accelerated unplanned consumer exit from the gas network is more likely to be unmanaged

As discussed above, accelerated depreciation will increase the difference between gas and electricity prices, and it has the potential to accelerate the rate of customers exiting the network.

A faster unmanaged exit from the network may increase associated risks for remaining gas customers, if there is no framework in place to manage underutilisation and asset wind-downs.

The Information Paper notes the Regulator's broad aim to replicate commercial conditions.[11] However accelerated depreciation allows network businesses to raise prices in response to increased competition from an alternative technology (electricity), whereas the commercial imperative would be to reduce prices.

2.3.3 Risk mitigation may make networks more likely to propose inefficient investment

Where network businesses are able to mitigate the risk of asset stranding, they may be more likely to propose new investment that is at high risk of proving to be inefficient over its lifetime.

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[10] Lewis and Gray. 2021. *2021 Gas price projections for the 2021 GSOO* https://aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/inputs-assumptions-methodologies/2021/gas-price-projections-for-the-2021-gsoo-public-final-13-12-20.pdf?la=en

[11] AER. 2021.

This is a particular concern given that gas consumers face increased uncertainty regarding the source of future gas supply, so that network augmentation may be proposed to access new sources. (For example, the Victorian transmission business APA has proposed significant new augmentation to make up for a short-term shortfall that may result if NSW's Port Kembla gas import terminal is not built to schedule.

Investment in future gas research and development is another high-risk category of investment that networks may be more likely to pursue if the stranding risk is transferred to consumers.

2.4 Where assets don't become stranded, accelerated depreciation will risk the financial viability of network service providers

Accelerated depreciation increases the risk that value of the asset base will be artificially low before the end of its useful operational life.

This situation is incompatible with the current business case for network businesses, which relies on revenue from depreciation and return on capital to fund capex requirements, including essential ongoing repex.

Especially where accelerated depreciation is applied for a long time before gas networks are then discovered to be useful, network businesses may be left with inadequate access to capital to maintain services. They might then request additional funds to maintain operations, with the effect that customers might be asked to pay twice for the same assets.

An example of a similar cash-flow shortfall was observed with Victorian water businesses, stemming from a RAB that some claimed had been initially undervalued.

2.5 A continual adjustment of depreciation time frames would be particularly high-risk for customers

Networks have proposed that the uncertainty regarding alternative decarbonisation paths can be accommodated by continually adjusting depreciation schedules (for example, at access arrangements) to reflect the changing perceived risk of stranding.

However, the proposal to continually adjust the parameters of depreciation is a particularly disadvantageous approach for consumers for the following reasons:

- This approach allows networks to continue to augment the network, increasing the stranding risk for consumers. (This is because the proposal to continually adjust depreciation schedules could potentially accommodate a theoretical 'future gas' scenario, as well as an electrification scenario). Accelerated depreciation would shield networks from the high-risks of both augmentation and hydrogen spending.
- If voluntary disconnections increase, this approach would allow networks to further shorten their depreciation schedules in response. This would be the opposite of the reaction required in a commercial market in response to increased competition. It has the potential to increase the rate of a disconnections 'spiral',' should this scenario emerge.

- It will also create tariff instability for consumers if the depreciation schedule is significantly adjusted at the commencement of each access arrangement period. Tariff stability is just as important as maintaining sutainably low tariffs when there are increasing pressures on consumers' budgets.

2.6 Voluntarily exit from the gas network must be better understood, and accounted for

As the Information Paper acknowledges, improved electrical appliances and other factors (Section 1.1) mean that electricity is an increasingly competitive energy source for residential cooking, heating and hot water.[12]

The Paper cites the results of an Energy Consumers Australia (ECA) survey that shows a significant proportion of gas customers are seriously considering or have considered exiting the network.[13]

While the numbers of customers to have exited the gas networks may currently be low, the trend has the potential to grow quickly.

Given its relevance to infrastructure planning, more needs to be understood about this emerging pattern, , including:

- the rate at which awareness about electrification is growing, and the rate at which households planning to upgrade is growing
- the number of customers considering electrifying at the end of appliance life
- any geographical concentration of households planning to electrify – and any relationship to early solar PV adoption
- the likely sensitivity of electrification rates to relative gas and electricity costs

Voluntary electrification is a factor to be considered when evaluating the viability of all potential decarbonisation scenarios, including those that include a high dependence on 'future gas'. While the consumer risks of electrification may be mitigated as part of a committed electrification program, voluntary electrification should also be expected to emerge as part of alternative, high-gas decarbonisation pathways, and its impact should be accounted for.

3 Addressing uncertainty will require changes to regulations and coordination with government

3.1 Government support will be needed to manage consumer risks in an electrification scenario, and especially if parts of the network are wound down

To address the risks facing consumers in an electrification/gas network wind-down scenario (Section 2.1), it is likely that government leadership will be required to manage:

- development of a wind-down schedule, with a long enough lead time to minimise the appliance replacement burden for consumers.

[12] ECA. 2021. *Consumer Sentiment Survey* https://ecss.energyconsumersaustralia.com.au/sentiment-survey-june-2021/featured-content/
[13] AER. 2021.

- policies and support for vulnerable consumers, and those with other barriers, like renters, to access appliance replacement.
- development, working with stakeholders, of a responsive program to support transition and wind-down as independent parts of the gas network become underutilised.
- policies to minimise additional gas asset stranding risks (for example, a ban on new gas connections, or electrifying loads to avoid the need for transmission augmentation).
- potentially, an agreement to meet a proportion of remaining asset values on underutilised assets to avoid unaffordable prices for remaining customers (these may be accompanied by an agreement from networks for asset write-downs).
- research and development into decarbonisation technologies for those current fossil gas loads for which a viable commercial alternative does not already exist.

3.2 The NGO should be revised to include decarbonisation as a core objective

Australia has made a commitment to pursuing a net-zero economy by 2050, as part of a global effort to combat the existential threat of climate change. All states/territories have adopted their own net-zero-by-2050 targets.

It is important that regulations allow the AER to make decisions that are consistent with Australia's climate commitments, and the broader imperative to decarbonise the energy sector. We support revising the National Energy Objectives to clarify that decarbonisation is a core objective. However, we also advocate an interpretation of the current law that allows decarbonisation to be considered as an implicit objective.

The regulations should reflect the importance of achieving a transition in line with limiting global temperature rises to less than 1.5 °C. Further consultation should be made on the way in which the objectives should be revised.

3.2.1 The AER should optimise investment to support efficient decarbonisation even without revision to the NGO and NEO (National Electricity Objectives)

As per Section 3.2, we believe the NGO should be updated to clarify the objective of network investment to support efficient decarbonisation.

However, we also recommend that the AER should consider the climate implications of proposed network spending even before a revision of the explicit objectives.

We believe that this interpretation is justified given the imperative of decarbonising the energy sector. Climate targets have been adopted at the state and federal level, and AEMO has described Australia as in the midst of the 'world's fastest energy transition'.[14] If proposed investment is not consistent with this ongoing transition, then it is likely to prove to be inefficient investment.

We also believe that a pragmatic application of the objective to pursue 'long-term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas', requires a recognition of the impact of its emissions on the environment in terms of 'safety' (the harm of climate

[14] AEMO. 2020. *Integrated System Plan* https://aemo.com.au/en/energy-systems/major-publications/integrated-system-plan-isp/2020-integrated-system-plan-isp

change to health and life), 'price' (the inevitability of a future price on carbon), and 'security' (given the finite nature of fossil gas reserves) – which does prescribe a consideration of climate.

In line with this interpretation, applying the NEO would prioritise cost-effective, proven and efficient decarbonisation pathways over high-cost, uncertain alternatives.

3.3 The NGL should facilitate optimal energy objectives, not consider gas in isolation

We agree with the AER's observation that 'it is becoming increasingly important that the AER considers the interdependencies between electricity and gas in this energy transition, and targets economically efficient outcomes in the energy sector as a whole'.

This objective should be clarified in the National Gas Law and the National Electricity Law.

3.4 The NGL should not encourage growth in gas connections or consumption

It is particularly important that aspects of the National Gas Framework do not continue to encourage growth in consumption level, customer numbers or the asset base.

The Information Paper references three instances where the current Framework encourages growth:

- Reference tariffs are varied over time in a way that promotes efficient growth in the market for reference services.
- Declining block tariffs are used to encourage growth in the gas market.
- Market expansion capital expenditure proposals are favoured, on the assumption that new customers will lower prices for all gas consumers.

This aspect of the existing framework is incompatible with decarbonisation objectives. It is also counterproductive, given a declining affordable gas supply.

4 Risk mitigation for network businesses should only be considered where consumer risks are also addressed

4.1 Adequately addressing consumer risks may require negotiation with the networks

As the Information Paper acknowledges, network businesses are not entitled to the full mitigation of stranding risks, so the prospect of accelerating depreciation should be recognised as a concession for them.

It is also likely that co-operation will be required from the network businesses to adequately manage potential outcomes of decarbonisation, such as a wind-down of shared network assets.

This might include (but not be limited to):

- cooperation to identify sections of the network, or groups of assets, that could be decommissioned independently/sequentially
- a commitment to continue service provision as assets become underutilised, and are wound down

- a commitment to avoid, as far as possible, augmentation of assets at risk of stranding, contribution to finding alternative such as demand management – (and agreement on 'future gas readiness' should not be included in regulated revenue).
- an agreement to write-down the value of assets under certain circumstances, so that risk and cost of, for example, a spiral of disconnections, are allocated in a fair and optimal way
- appropriate consideration given to (a) decommissioning costs and (b) transfer of the ownership of any -useful assets when fully depreciated

Granting the networks risk mitigation measures without consideration of the range of changes that may need to be negotiated by all parties would increase the risks facing consumers.

4.2 The expected timeline for decarbonisation is not a reason to overlook consumer rights in a transition process

Although some of the consumer risks listed in Section 2.1 may seem unlikely to emerge in the near term, there are important reasons that they should be addressed at the same time as any consideration for accelerated depreciation:

- As discussed, electrification could lead to a disconnections 'spiral', which could emerge quickly. This would be most effectively managed if a framework is in place before disconnections increase.
- in an electrification scenario, customers will benefit from advance notice of any need to wind down an asset.
- As discussed in 4.1, developing an adequate framework to manage transition on a shared asset may require negotiation, and concessions from all parties. Consumers will be disadvantaged if network businesses' risks are mitigated without consideration of consumer risks.

4.3 Accelerated depreciation should not be considered where networks are being augmented, or new customers are being connected

Some east-coast gas transmission networks have proposed significant augmentation to boost their access to new sources of gas, as traditional supplies (especially the flexible supply from Longford in Victoria) are exhausted. Most gas distribution buisnesses are continuing to expand their networks to new housing developmentson major city fringes and around regional centres.

Augmenting the network increases the size of the asset base at risk of stranding. Newly built parts of the network have the highest proportion of their design-life at risk of being stranded.

The AER states 'In general, the AER approves a network business's capital expenditure to connect new customers to its network if it is demonstrated that the incremental revenue to be recovered from the new customers over a certain period will outweigh the incremental costs (i.e. it is net present value positive).[15]

However, in conditions of high uncertainty, this test can't be applied with confidence.

[15] AER. 2021.

Given that electrification offers much better NPV to new-build homes[16], it is not in consumers' financial interest to allow new residential connections to the gas network.

As discussed in Section 2.3.3, network businesses may be more inclined to propose imprudent augmentation if their stranding risk is mitigated.

Accelerated depreciation should not be granted to the networks where they continue to increase customers' exposure to stranding asset risk through continued augmentation.

4.4 Accelerated depreciation should not be considered where revenue is being invested in future gas projects

Similarly, accelerated depreciation would allow networks to mitigate their exposure to the high risk of research and development investment in 'future of gas' readiness, by passing it on to consumers. Therefore, accelerated depreciation should not be considered where networks have proposed spending for readiness for hydrogen (or other alternative gases).

The renewable hydrogen sector is at an early research phase in Australia. There is significant uncertainty about how hydrogen may be used in a decarbonised economy, and whether there will be a role for pipeline transportation.[17]

There is also uncertainty about hydrogen's safety and suitability as a replacement fuel for reticulated gas, the future costs for green hydrogen, and the climate impact of pursuing a hydrogen scenario. Many studies suggest that hydrogen is unlikely to be a competitive decarbonisation option for loads that can be easily electrified, such as residential heating, hot water and cooking.[18]

Although the Information Paper states that 'to prevent or delay network investments that optimise the potential to carry hydrogen in existing gas networks may foreclose the opportunity of using hydrogen as reticulated gas realistically in the future', we disagree that it is necessary or appropriate to develop capacity to transport hydrogen through existing networks at this early stage of industry development. If there is a compelling future business case for a given application of reticulated hydrogen, then this will provide appropriate incentive to make an informed investment into investigating the potential to reuse existing pipeline assets.

Passing the risk of 'future gas' research, development or readiness funding onto consumers is an inefficient allocation of risk. Consumers are least able to evaluate and respond to the risk associated with this spending.

[16] Renew. 2018.
[17] Advisian. 2021. *Australian hydrogen market study Sector analysis summary* https://www.cefc.com.au/media/nhnhwlxu/australian-hydrogen-market-study.pdf
[18] Advisian. 2021.

4.5 Accelerated depreciation should not be considered without a framework that establishes appropriate ownership of assets, management of early depreciation payments and decommissioningat the end of the depreciation timeframe

As stated above, accelerated depreciation should not be considered without an adequate framework established to address consumer risks in a transition process from shared network assets.

Accelerated depreciation implies that assets will have time remaining on their design life when they are fully depreciated. Section 2.4 describes the risk for consumers in these conditions, where the income from return on/of capital on the RAB may be insufficient to fund ongoing services.

Where there is no possibility that assets may be reused at the end of their life, provisions for decommissioning should be established in this negotiation.

Where there is the potential that assets may be reused, it may be appropriate to require network businesses to agree to transfer ownership of assets after they are fully depreciated. For example, it may be appropriate to transfer asset ownership to jurisdictional governments for the benefit of the community.

Given the many uncertainties about the potential deployment of future gas, it's possible that network assets may be repurposed in ways that would not be consistent with the networks' business cases. For example, a distribution pipeline may be found to be viable to transport hydrogen across a small local network around an electrolyser, serving an industrial area.

Asset management and ownership at end-of-depreciation may need to be negotiated, as part of an adequate response to transition risks.

It may also be important to consider adequate measures to manage the additional revenue raised through accelerated depreciation to ensure that it is available to support service provision when the RAB is over-depreciated – for example, through the creation of a dedicated fund.

4.6 An adequate framework may also require asset revaluation

The Information Paper notes that 'rather than changing network prices in response to changes in demand, which may create a destructive price spiral, it may make sense to reflect changing demand conditions in the regulatory asset base in the form of periodic revaluation'.[19]

If customers electrify, it is likely that services will have to continue to be supplied to parts of a network after they become underutilised, as customers continue to disconnect. It is foreseeable, to ensure that customers can continue to access essential heating and hot water services, that gas network prices will need to be limited to an affordable level.

Although networks have suggested that accelerated depreciation may avoid this scenario, this is not certain. As discussed in Section 2.2, it is likely (given the positive NPV that electrification already offers households) that the WOOPS model window of opportunity has passed – which would mean that accelerated depreciation might instead bring this scenario (of disconnections and undertutilisation) forward.

[19] AER. 2021.

It is also unlikely – even where accelerated depreciation is continually adjusted – that a schedule would neatly align to an asset wind-down, without a period of underutilisation (noting that as per Section 2.4 there are also risks associated with depreciating assets before they are disused).

While the AER states that 'Compensation would need to be provided for bearing this risk, so that the regulated business can expect to earn (on average) a normal return commensurate with the regulatory and commercial risks it faces', we feel that this compensation should not be complete, but should be established to represent a fair allocation of risks and costs between relevant parties.

Managing this scenario is likely to require an allocation of costs between networks, customers and government.

Given that recent access arrangements include proposals for ongoing and increased augmentation, as well as requesting accelerated depreciation, it is also likely to be important that networks retain a proportion of stranding risk, to incentivise measures to avoid augmentation (such as demand management).

5 Appendix – Other proposed measures

Table 1 Victorian Consumer Organisations input to other proposed options

Option	Support	Considerations
Option 2: Compensating for stranded asset risk	No	We agree with the negatives identified by the AER for this option. This approach favours the network businesses, rather than other parties, and does not constitute a fair distribution of cost and risk.
Option 3: Removing capital base indexation	No	This option is associated with the same shortcomings as those discussed for accelerated depreciation in the main document.
Option 4: Sharing costs under capital redundancy provisions	Yes	Network businesses may be required to write down assets so as to fairly distribute costs and risks between all parties. This may be especially important in the context of spiralling disconnections from the gas network, to ensure that energy prices remain affordable for remaining customers, or through a transition period. This option may also important to ensure that network businesses retain an appropriate portion of stranding risk, especially with respect to new augmentation they proposed.
Option 5: Revaluation of asset base	Yes	As for option 4
Option 6: Introducing exit fees	No	We agree with the negatives identified by the AER for this option. We oppose measures to prevent or discourage gas customers from pursuing options that will reduce their costs and their environmental footprint. Instead, we advocate policies that extend these opportunities to all customers. Rather than allowing exit fees, network businesses should be prevented from charging for disconnections beyond direct marginal cost recovery. We note that there are also many social benefits delivered by customers who electrify, especially while the electricity network still has a summer peak load. While this is the case, electrification will improve the productivity of the electricity network, without driving augmentation.
Option 7: Increasing fixed charges	No	This policy would not be effective, given that gas customers have started to disconnect from the gas network altogether. This policy also disadvantages small gas users, who include many vulnerable customers.
Option 8: Maintaining status quo	No	Network businesses have flagged stranded asset risk as a real emerging phenomenon. Risks associated with electrification will impact customers as well as businesses. Identification of this emerging issue should encourage the development of an adequate framework to manage consumer risks.

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