GREYMOUTH GAS

Matthew Clark
Transpower and Gas Manager
Commerce Commission
By email: infrastructure.regulation@comcom.govt.nz

27 July 2025

Dear Matthew

Re: Gas DPP4 2026 – Views in response to issues paper

1. This letter is Greymouth Gas' submission on the Commission's 'Gas DPP4 – Issues Paper – 26 June 2025'. Nothing in this submission is confidential and it may be published in full.

2. The next regulatory period will be of critical importance to mitigate demand destruction, encourage growth, and manage the long-term gas transition in the NZ gas market.

3. This submission is in three parts. First, the DPP4 context is summarised. Second, the Commission – and the gas industry generally – are invited to consider a new solution aimed at addressing the regulatory dilemmas posed by that context. This is of such significance that Greymouth considers a solution based on analysis of a forthcoming paper should be considered now (even though Input Methodology re-openers may be required) as the new solution should be materially better at achieving the Part 4 objectives than the current IMs.

4. Finally, Greymouth discusses systematic risk, and the inequitableness of allowing further acceleration of depreciation when weighing where network stranding risk should sit.

Part 1 – 2025 Context and Drivers

5. The only context for the Commission's DPP3 decision were demand-side factors driven largely by climate change policies[1] (an asymmetric[2] non-systematic[3] risk).

6. The context in 2025 is materially different. There are now supply-side factors which introduce systematic risk for all parties. Supply is forecast to reduce materially faster than prior years.[4] Gas producers face systematic risk because of a feedback loop jeopardising

[1] https://comcom.govt.nz/__data/assets/pdf_file/0025/284524/DPPs-for-gas-pipeline-businesses-from-1-October-2022-Final-Reasons-Paper-31-May-2022.pdf ('DPP3 Final Reasons Paper') at X7 – 8.
[2] DPP3 Final Reasons Paper at 2.53.
[3] DPP3 Final Reasons Paper at C38.
[4] https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/petroleum-reserves-data

capital recovery, creating investment incentive headwinds.[5] Gas users face systematic risk as demand will need to reduce dramatically to keep in-step with supply reductions, e.g. GIC's 2024 supply and demand paper shows most demand will 'destroy' rather than switch to alternative fuels.[6] GPBs face systematic risk as supply shocks will further jeopardise their ability to recover their capital.

7. These are highly relevant considerations for the DPP4 decision making process and determination.

Part 2 – Proposed Solution

8. A May 2025 paper by Dr Ron Ben-David of Monash University presents a potential way forwards for the dilemma facing gas industry regulators in the context of materially reducing supply (and demand). Dr Ben-David has given permission for Greymouth to refer to and annex his paper (which is also publicly available).[7] Greymouth thanks Dr Ben-David.

9. In the following section, Greymouth attempts to develop the concept proposed in the Ben-David paper into a proposed solution for practical use in a New Zealand context. The proposed solution is 10-steps as follows (paralleling the steps in the Ben-David paper):

Step 1. Revalue RAB in DPP4 to its market value to reflect forecast throughput.

Step 2. Determine a pre- and post- RAB revaluation delta.[8]

Step 3. Recognise the delta as a standalone RAB in the Commission's models where $RAB_{status\ quo}$[9] = $RAB_{revalued}$ + RAB_{delta}.

Step 4. Move to Step 5.[10]

Step 5. Move to Step 6.[11]

Step 6. Recognise that $RAB_{revalued}$ is for cost recovery from gas pipeline consumers, and RAB_{delta} is for cost recovery from electricity consumers.

Step 7. Apply normal cost recovery on both $RAB_{[subset]}$ pathways above without accelerating depreciation.

Step 8. Repeat steps 1-7 in DPP5 and subsequent DPPs.

Step 9. If required, amend electricity and gas IMs, e.g. to enable RAB_{delta} recovery from electricity consumers via normal revenue recovery methods.[12]

---

[5] https://www.rnz.co.nz/news/on-the-inside/524994/nz-is-running-out-of-gas-literally-that-s-good-for-the-climate-but-it-s-bad-news-for-the-economy

[6] https://www.gasindustry.co.nz/our-work/work-programmes/supply-and-demand-2024/#gas-supply-and-demand-study-2024 at page 26.

[7] https://www.monash.edu/__data/assets/pdf_file/0006/4025589/Ron-Ben-David-The-500lb-gorilla-of-the-gas-transition-May-2025.pdf ('Ben-David paper').

[8] The Commissions' economic stranding risk modelling can feed into this.

[9] As may be amended for the discussion in part 3 of this letter, and/or WACC with no, or no new, uplift for systematic or asymmetric risk.

[10] While possible to create a financial instrument with $RAB_{delta,}$ that seems unnecessary without an auction which would be complicated and difficult to encourage competition for.

[11] There will be no upfront cash to distribute, mimicking status quo GPB capital recovery arrangements.

[12] NB – this combines Steps 9-10 of the Ben-David concept.

Step 10. [new] Create a new legislative or contractual tool requiring Transpower for example to pass through recovery of RAB_{delta} capital to GPBs, and create a Commission monitoring tool.

10. The Ben-David concept upon which this solution is based distinguishes between the financial and physical asset, and between gas pipeline consumers and those in general. These differentiations can also be made by the Commission under s52A(1) of the Act.

11. Greymouth considers this proposed solution is dynamically efficient. It manages a currently unmanaged negative externality. It upholds Part 4 integrity. It builds on the past and makes future arrangements sustainable. It develops ex-ante FCM using systems thinking. It sends the right investment signals to continue minimal viable orderly effective service delivery. It maximises the ability for GPBs to recover capital over the physical life of assets irrespective of the economic life of assets. It balances stranding risk between GPBs, gas pipeline consumers *and* consumers in general. It best manages systematic risks for all. It stops the death spiral argument, making forward pipeline costs and risks affordable and palatable for gas pipeline consumers. It moves other costs onto many electricity consumers who are best placed to bear them[13][14][15] and who benefit most from the gas transition.

12. All consumers (of whom electricity consumers are the best proxy)[16] should benefit from (a) decarbonised consumption, (b) having decarbonisation pathway optionality preserved, (c) resilience from a smooth gas transition,[17] and (d) having the widest sense of the 'market' mitigate against systematic market failure that would occur from 'disorganised failure'[18] adversely affecting all. Electricity consumers also include ex-gas pipeline consumers who could be said to have not paid their share of unpaid future gas pipeline RAB rental when they switched fuels earlier than ex-ante FCM assumed. Electricity consumers (thus all consumers) also benefit from natural gas used for power generation, and they would also avoid paying for their share of RAB rental as thermal fuel generation reduced over time.

13. The proposed solution is a lower cost approach because it involves the already-in-progress network stranding model, builds on existing frameworks, and hopefully avoids court costs. It just needs to be made to work – even *if* minimal changes to IMs / legislation are required.

14. Greymouth considers an approach based on the Ben-David paper, such as that proposed above, is materially better than further accelerated depreciation which would be a race to the bottom[19] or a lose-lose-lose for those facing systematic risk.

Part 3 – Systematic Risk

15. This part has two sub-parts. First, accelerated depreciation is considered in the context of systematic *and* asymmetric risk. Second, systematic risk is analysed from the start of gas pipeline regulation, suggesting consumers should win this time *if* it were to be a wrestle.

---

[13] If $100 Million p.a. of RAB_{delta} revenue had to be recovered from 40,000,000 MWh p.a., that would cost about one block of cheese and butter for each household each year during the gas transition.
[14] https://www.ceicdata.com/en/new-zealand/electricity-consumption
[15] https://figure.nz/chart/OO85CulTuE2TRnsE
[16] As almost all consumers consume electricity directly and/or indirectly.
[17] https://www.beehive.govt.nz/release/next-steps-electrifying-new-zealand
[18] Ben-David paper at page 14.
[19] https://www.wallstreetmojo.com/race-to-the-bottom/

Accelerating Depreciation

16. Accelerating depreciation will not work. DPP3 accelerated depreciation was meant to decrease price shocks from otherwise larger future adjustments. If depreciation keeps accelerating, then price shocks from future adjustments will keep increasing and the price shocks that were meant to be avoided at the last reset will be realised.

17. It is accepted that gas consumers would not benefit from the unpredictable realisation of network stranding risk. However, nor would they benefit from paying a penalty to lose access to a service, being forced to destroy, decarbonising before ready to do so, or having capital (for future decarbonisation) eroded by paying for higher gas pipeline rental costs.

18. On top of consumer equity issues, there are also investor risks. E.g. if a GPB were to argue for further accelerated depreciation they arguably would break their own ex-ante FCM expectation of recovering their capital because repeatedly accelerating depreciation would limit their ability to, and would be an admission that they could not, recover all capital.

19. Accelerated depreciation is unsustainable. First Gas argued that 'accelerated depreciation is increasingly being advocated for and adopted … in other jurisdictions and in academic literature'.[20] However, of the few examples such as Germany,[21] Australia,[22] and the UK[23] they appear to have taken a tentative step like New Zealand and appear to, or likely to, face context similar to New Zealand. As observed by Dr Ben-David:[24]

> *Accelerated depreciation, and the accelerating prices it implies, is an unsustainable and therefore unrealistic way forward. Neither the political system nor the commercial environment will be able to tolerate the consequences of the death spiral for too long. Put bluntly, the political system will accept neither a spiralling impost on consumers nor increasing challenges to maintaining the physical integrity of the network. Indeed, just the anticipation of spiralling costs or diminishing network integrity will eventually put at risk ongoing community acceptance of – and therefore political support for – the gas transition.*

Systematic Risk

20. Accelerating depreciation in DPP4 will be highly problematic. First, unlike DPP3 where the risk was non-systematic, the risk heading into DPP4 is systematic. Second, systematic risk has historically been dealt with in the WACC.[25] Third, the Commission has already given GPBs an asset beta uplift for systematic risk.[26] Fourth, legislation never contemplated that

---

[20] https://comcom.govt.nz/__data/assets/pdf_file/0025/365038/Firstgas-Submission-on-Gas-DPP4-Open-Letter-13-March-2025.pdf at page 2

[21] https://www.bundesnetzagentur.de/SharedDocs/Pressemitteilungen/EN/2024/20240925_KANU.html

[22] https://www.abc.net.au/news/2025-04-09/gas-networks-make-customers-pay-for-stranded-asset-risk/105125824

[23] https://www.ofgem.gov.uk/sites/default/files/2024-07/RIIO_3_SSMD_Overview.pdf

[24] Ben-David paper at pages 5-6.

[25] Wellington International Airport Ltd v Commerce Commission [2013] NZHC 3289 at [256].

[26] https://comcom.govt.nz/__data/assets/pdf_file/0015/62106/EDB-GPB-Input-Methodologies-Reasons-Paper-Dec-2.pdf ('2010 Reasons Paper') at [6.5.29].

services could radically decline,[27] thus it is highly debatable how systematic risk should be managed if that does not mitigate risk but asymmetrically spreads its adverse effects.

21. Further, there has already been other material ex-ante RAB consideration in favour of GPBs for systematic risk. Despite recognising the 'lottery' nature of the optimised depreciation replacement method ('ODRV') and its scope to generate inflated values of up to 30% or more,[28] the Commission opted in 2010 to allow GPBs to use existing ODRVs for their initial RAB valuations. The effect of that was to lock-in inflated asset values rather than claw-back or adjust for $2.3 Billion of historical wealth transfers from consumers to GPBs.[29]

22. The context in 2010 was an expectation that GPBs would be in a position to recover *at least* the RAB value (meaning the above wealth transfer was not compensation for an asymmetric risk), and the idea that demand might fall away entirely was merely hypothetical.[30] Consumers have therefore been continuing to over-compensate GPBs since the inception of the current regulatory settings, likely by many multiple millions of dollars. While no 2010 consumer suggested it would suffer because of that, the voiceless consumer of the distant gas transition DPP4 future would have argued in 2010 the opposite.

23. The proposed solution as outlined earlier would rectify the above inequity directly (by revising the initial RAB or by reallocating splits amongst the $\text{RAB}_{[\text{subsets}]}$) and/*or* indirectly (by acknowledging that forward relief for DPP4+ gas pipeline consumers compared to the status quo pathway could approximately reverse historical wealth transfer compensation provided to GPBs for systematic risk above and beyond WACC). If the proposed solution is not progressed *and* there is no revaluation of the initial RAB, the size of the historic and ongoing wealth transfer from gas pipeline consumers to GPBs because of how initial RAB values were set should be recognised and taken into account when the Commission assesses who should bear the systematic risk of asset stranding in DPP4.

Conclusion

24. The natural gas market continues to present the Commission with a significant dilemma never before faced in a regulatory context. All parties face systematic risk and disorganised failure without a materially better solution than has existed to date.

25. The Commission should remain agile and dynamic in the face of the dilemma and potential solutions. All parties and the Commission are invited to evaluate whether the proposed solution advocated for in this submission presents an opportunity to develop and implement a materially better and sustainable solution for all in DPP4 and beyond.

Yours sincerely,

Chris Boxall

Chris Boxall
Commercial Manager

[27] Wellington International Airport Ltd v Commerce Commission [2013] NZHC 3289 at [18].
[28] 2010 Reasons Paper at [4.3.32-4.3.33].
[29] https://geoffbertram.com/wp-content/uploads/2021/12/fabians-book-chapter-2014.pdf at page 54.
[30] 2010 Reasons Paper at [4.3.75].

MONASH ENERGY INSTITUTE

MONASH BUSINESS SCHOOL

The 500lb gorilla of the gas transition

or

Confronting the regulatory asset base (RAB) problem

Dr Ron Ben-David[1]

Professorial Fellow

Monash University

[redacted]

May 2025

Presented at the Energy Efficiency Council National Conference 2025

[1] Dr Ron Ben-David is a Professorial Fellow with the Monash Business School and the principal of Solrose Consulting. He is a board member at ClimateWorks Australia and the Consumer Policy and Research Centre. Ron served as Chair of the Essential Services Commission (Vic) between 2008-2019 and has since served in advisory roles with the Centre for Market Design (University of Melbourne), Infrastructure Victoria and the Australian Energy Regulator. Ron was recently a member of an Independent Pricing Committee for the National Disability Insurance Agency. In 2022, he was appointed to the Victorian Gambling and Casino Control Commission as deputy chair. Ron has written and presented extensively on energy markets and regulation.

ABSTRACT

The gas networks' regulatory asset base (RAB) represents a profound obstacle to the energy transition. Under current regulatory and policy settings, networks and consumers face a death spiral. Networks will plead for ever more accelerated depreciation, which really means *accelerating* prices for consumers. Political and commercial reality will not be able to tolerate the death spiral for too long. Even so, no attempt is being made to identify an enduring solution to the RAB problem.

This paper proposes a ten step 'concept plan' for solving the RAB problem by recognising the RAB is a financial asset which can be decoupled from the physical gas network, and securitised. As the throughput of the reticulated gas network declines over coming decades, the financial and physical assets are increasingly separated. Nonetheless, significant political decisions are still required about the acceptable sharing of risk (and subsequent wealth transfers) between investors, consumers and potentially taxpayers. The paper identifies five key policy questions.

TABLE OF CONTENTS

1. A regulatory framework designed for another time

This paper does not question the inevitability of the gas transition. It is taken as given regardless of whether that transition is driven by government policy, shifting consumer preferences, or just the economics of the domestic gas market.

The gas transition presents two broad challenges: physical and financial. The physical challenge refers to the coordination problems that come with the gas network servicing fewer and fewer customers, resulting in diminishing throughput. This presents engineering, maintenance, reliability and safety challenges.[2] The second challenge is financial, commercial and regulatory in nature. In short, it's a debate about who-pays-for-what during the gas transition. This is where the economic regulation of the gas networks becomes not only relevant, but centrally important. This paper focusses only on the second of these two broad challenges.

The regulatory framework within which gas networks operate was created in the mid-1990s with the objective of promoting growth in gas use.[3] It was expected that doing so would lower customer prices by sharing the fixed (or sunk) costs that come with operating the network across a larger and growing customer base. The regulatory framework is established by the AEMC and administered by the AER.[4]

This paper delves into the technical innards of that regulatory framework.

2. The 500lb gorilla threatening the gas transition

The core of the financial and commercial problem facing the gas transition lies in what is sometimes called a 'death spiral'.

As customers choose to use less gas and disconnect from the gas network, it leaves fewer customers to share the ongoing costs associated with servicing the network. In response, regulated network prices need to increase. These higher prices, in turn, motivate more customers to reduce their reliance on reticulated gas thereby driving regulated network prices even higher. And so on. The cycle repeats itself. Higher prices leading to fewer customers, leading to even higher prices, leading to even fewer customers.

---

[2] On the other side of the energy transition lies the physical capacity and readiness of the electricity network to service consumers who abandon gas as an energy source.
[3] In fact, it is only explicitly mentioned in one place in the National Gas Rules, Rule 89(1)(a) which deals with regulatory deprecation: "The depreciation schedule should be designed…so that reference tariffs will vary, over time, in a way that promotes efficient growth in the market for reference services…"
[4] Australian Energy Market Commission (AEMC) and Australian Energy Regulator (AER).

This positive feedback loop or ‘death spiral’ is probably good for reducing emissions, but it puts at risk the ongoing financial viability of operating the gas network.

The risks associated with the ‘death spiral’ are well-recognised by networks, regulators and governments. These risks are not in question. What remains in question is who bears these risks. Should fewer and fewer gas customers face ever-increasing prices? Should investors be forced to write-off the value of their investments in the networks as their assets gradually strand? Should governments commit taxpayer funds to compensate investors for the stranding of their assets?

In late 2021, the AER opened the door to network service providers applying for something known as “accelerated depreciation”.[5]

> *Our preliminary view is that some form of 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 effect of accelerated depreciation is to bring forward consumers’ repayment of a gas network’s **regulated asset base (RAB)**. In effect, the RAB is an IOU written by the regulators to investors in gas network infrastructure. In return for those investors funding billions of dollars in new network assets, the regulators write an IOU committing consumers to repaying those investors for the funds they invest. The IOU works just like a mortgage. Each year consumers pay investors, through their energy bills, interest on the IOU as well as repaying some of the principal. In regulatory-speak, that principal repayment is known as “regulatory depreciation”.

The effect of accelerated depreciation is to bring forward the repayment to investors of the principal component of the IOU. This means higher prices for consumers because it is they who must fund these accelerated repayments through the regulated charges they face for using the gas network.[6] In other words, gas customers pay more now, rather than later, to indemnify investors against the future stranding of their investments in the network. These higher network charges add ‘fuel to the fire’ of the death spiral mentioned above. **Accelerated depreciation for gas networks really means *accelerating prices* for gas consumers** (that is, those consumers who remain connected to the gas network).

[5] AER (2021) *Regulating gas pipelines under uncertainty information paper* (November) p. ix. Available at: https://www.aer.gov.au/publications/reports/performance/regulating-gas-pipelines-under-uncertainty-information-paper

[6] ‘Small consumers’ do not often see network charges as these charges are treated as an input into the retail charges which appear on their gas bills.

In February, Energy Consumers Australia (ECA) submitted what's known as a rule change proposal to the AEMC.[7,8] The submission is a worthwhile read, containing plenty of very helpful explanatory material. The ECA paper finds:

1. The gas transition is underway and there's no turning back without abandoning national commitments to reducing greenhouse gas emissions.
2. Hydrogen and biomethane will have a place in the future, but not as a mass-market, reticulated substitute for natural gas.
3. There are very significant equity impacts arising from the climbing prices caused by the death spiral for gas networks.
4. Accelerated depreciation is shifting costs to customers even though the gas networks "are not demonstrating full, good faith efforts to reduce asset stranding risk in the future." That is, despite stranding risk, the gas networks are continuing to invest in growing their regulated asset bases.[9]

The ECA has proposed a number of rule changes which seek to require the AER only to provide for accelerated depreciation if a network demonstrates it is actively managing down future stranding risk. In other words, the regulator should only pass the cost of stranding risk on to consumers if a network is demonstrably avoiding making the death spiral problem even worse.

There is, however, one conclusion reached by ECA that is not self-evident and warrants challenge – namely, where it states:[10]

> *Energy Consumers Australia believes that accelerated depreciation may be a necessary, though unwelcome, tool that should be retained by the regulator…*

This paper agrees that accelerated depreciation is unwelcome, but does not agree it may be necessary. Accelerated depreciation, and the accelerating prices it implies, is an unsustainable and therefore unrealistic way forward. Neither the political system nor the commercial environment will be able to tolerate the consequences of the death spiral for too long. Put bluntly, the political system will accept neither a spiralling impost on consumers nor increasing challenges to maintaining the physical integrity of the network.[11] Indeed, just the anticipation of spiralling costs or diminishing network

---

[7] Available at: https://energyconsumersaustralia.com.au/news/media-release-proposed-gas-rule-changes-ensure-better-consumer-energy-transition
[8] The Justice and Equity Centre submitted a related (though narrower) rule change request in May 2025, see: https://www.aemc.gov.au/rule-changes/establishing-regulatory-framework-gas-disconnections
[9] ibid. p.15
[10] ibid. p.19
[11] Two 'bookend' outcomes are foreseeable once gas network prices begin noticeably spiralling for remaining customers. Government could intervene to prevent prices from increasing, potentially starving networks of funds. Alternatively, prices spiral and an increasing number of customers default on their payments (noting that under current regulatory arrangements the funding shortfall would initially fall on gas retailers). In any event, if gas networks are unable to recover sufficient funds – while remaining

integrity will eventually put at risk ongoing community acceptance of – and therefore political support for – the gas transition.

What this means in terms of a future policy response to the mounting effects of the death spiral is altogether unpredictable. However, what is entirely predictable is the inevitability of some form of policy or regulatory intervention. Managing a successful gas transition therefore means actively pre-empting – and avoiding – the transition's *predictably unpredictable* political economy. There is no other realistic way forward.

Importantly, while government policies that support electrification may be beneficial in many ways, they do not address the RAB problem. Indeed, they will hasten the death spiral; quicken asset stranding risk for gas networks; and fuel accelerating prices for remaining gas customers.

While the ECA proposal rightly seeks to constrain further growth in the gas networks' RAB (thereby at least not worsening the RAB problem), it will not stop prices from accelerating as the death spiral gathers pace.

Or to put it somewhat more colourfully: the RAB represents the 500lb gorilla of the gas transition. It is a deadweight drag on sustained support for the entire energy transition. The ECA proposal largely seeks to stop the gorilla from getting fatter, but it does not help the gorilla lose weight.

Section 3 of this paper outlines a proposal to help slim-down the gorilla.

Before turning to the proposal, it is necessary to briefly describe two constraints imposed on the paper's proposed approach to shrinking the RAB.

First, as already mentioned there are only three parties who can ultimately bear the cost of the asset stranding caused by the gas transition: consumers, investors or taxpayers. At least as a starting position, this paper proceeds on the basis of two assumptions. First, it assumes governments will not meddle with the so-called "regulatory compact" which, according to the rules, allows investors to recover the full efficient value of their sunk investments.[12,13] The second assumption holds that current fiscal constraints mean governments will not use taxpayer funds to compensate network investors for stranding risk.

---

responsible for the safety of the network – they will be forced to take drastic action to curtail those risk: namely, shutting down parts of their networks regardless of the affected consumers' readiness to transition away from gas.

[12] The foundations of the so-called "regulatory compact" have been challenged by the Consumer Challenge Panel. See: Consumer Challenge Panel (2022), *CCP28 advice to the AER – APA VTS access arrangement proposal* (February), p.2 and chapter 7. Available at: https://www.aer.gov.au/documents/ccp28-advice-aer-apa-vts-2023-27-aa-proposal-18-february-2022

[13] Reputational risk to future investment in energy assets is the most likely reason governments might be reluctant to meddle with (or even renege on) the so-called, "regulatory compact". This form of reputational risk is commonly described as "sovereign risk".

(Note, these assumptions are questioned in sections 4.1 and 4.2, respectively.)

These two constraints mean the burden of underwriting stranding risk falls entirely to consumers – despite the death spiral being an unsustainable and unrealistic way forward. Even so, no-one is proposing a realistic solution to the RAB problem. Not networks. Not regulators. Not governments.

To be clear, the solution offered in section 3 is a **concept plan** only. It does not attempt to identify the regulatory or legislative details required to enliven the proposed approach.

3. A ten-point plan for shrinking the gorilla

It's important to remember that, at one level, the RAB is just a number in a regulatory spreadsheet. If someone hacked into the AER's spreadsheets and doubled or halved the value of the RAB, it would not alter the physical assets in the ground. Even so, it is an important number in an important spreadsheet because it represents a regulated right to recover money in return for investment made in physical assets. As noted in the previous section, the RAB reflects an IOU written to investors by regulators on behalf of consumers. For all intents and purposes, it amounts to a promissory note. At its core, the RAB is just a financial instrument.

It is only through labyrinthine rules and regulations that this IOU is coupled with responsibility for managing the physical gas network. There is no *a priori* reason, however, why ownership of the financial asset cannot be decoupled from ownership of the physical asset (and responsibility for managing it).

Unlocking the fungibility of the RAB as a financial instrument – by decoupling it from the physical asset – creates new opportunities for dealing with the RAB problem described in section 2. As outlined below, converting the RAB into a fungible financial asset will silence gas networks' special pleadings for accelerated depreciation; protect gas customers from accelerating prices; and arrest the death spiral.

The following ten steps describe a **concept plan** for solving the RAB problem. They describe a process for gradually decoupling ownership of the financial asset from ownership of, and responsibility for, the physical asset. As the throughput of the reticulated gas network declines over coming decades, the financial and physical assets are increasingly separated.

*

Step 1. Every, say, five years each gas network's RAB is revalued to reflect the declining throughput of gas through its assets.

Step 2. The difference in value between a gas network's pre- and post-revaluation of the RAB is captured in a new regulatory asset. Let's call it the "delta asset" where:

Value of delta asset = (Pre-revaluation RAB) *less* (post-revaluation RAB)

Step 3. The delta asset is recognised as a standalone asset in the AER's regulatory model – that is, it sits alongside the revalued RAB in the AER's spreadsheet.

Step 4. The delta asset is recognised and structured as a separate financial instrument with no connection to the physical gas network. The delta asset creates a right for the holder of the asset to a fixed and secure income stream – see steps 5 and 9. The face value of the delta asset is set at its delta value (this assumption is reviewed in section 4.1).

Step 5. The delta asset is auctioned in the financial market at its face value (that is, its delta value). The market is invited to bid on the structure of the delta asset – most notably (i) the rate of return bidders would be willing to accept on their investment, and (ii) the amortisation period over which they would require the return of their investment.

> Note: Because the delta asset comes with a fixed and secure income stream with no legal ties to physical assets or the risks associated with operating a gas network, the rate of return that's bid on the delta asset can be expected to be notably lower than the rate of return provided by the regulator – that is, the AER's weighted average cost of capital (WACC).[14]

Step 6. The cash received on the sale of the delta asset is transferred to the relevant gas network, at which time the AER voids the delta asset in that network's regulatory accounts. In effect, an asset swap is orchestrated in the gas network's regulatory accounts which sees it RAB devalued by the delta amount in return for a capital injection funded through the sale of the delta asset.

> Note: This is an entirely financial transaction. The network operator retains full ownership of the underlying physical asset and would continue to be fully responsible for its operation and maintenance (see section 4.3).

Step 7. The remaining (revalued) RAB would be subject to the same regulatory treatment as has been the case for the past 30 years – namely, it would earn a regulated rate of return and be subject to unchanged straight-line depreciation until the next revaluation. In other words, there is no accelerated depreciation, and no need for accelerated depreciation, of the remaining RAB.

[14] The regulated WACC would continue to be applied to post-revaluation RAB.

Step 8. The process of creating and selling delta assets to fund the write-down of the networks' RABs is periodically repeated – say, every five years – to reflect the decline in each gas network's throughput.

*

This leaves the question: **Who is underwriting the value of a delta asset?** That is, who's paying the income stream mentioned in Step 4?

Clearly, it cannot be the relevant gas network (or its customers) because that would just replace one death spiral problem with another death spiral.[15] And, under the assumption described in section 2, governments and taxpayers do not step in to absorb these costs (though this assumption is revisited in section 4.2).

> Recall: Section 2 also ruled out, by assumption only, network investors bearing the cost of stranding risk. That is, it is assumed investors recover the full value of their investments in the gas network. This assumption is revisited in section 4.1.

This leaves the field of underwriters for the delta asset short on candidates. Creative and daring thinking is required to tackle the 500lb gorilla – which leads to Step 9...

*

Step 9. The regulatory framework is amended to recognise 'relevant' electricity distribution network(s) as the underwriter(s) of the delta asset. In other words, the relevant electricity distribution network(s) become liable for the income stream underpinning the value of the delta asset. Section 4.4 discusses the factors that would inform decisions involved in identifying 'relevant' electricity distribution networks.

> Note: As electrification of the economy proceeds, including investment in behind the meter storage to flatten the 'duck curve',[16] utilisation of electricity distribution network infrastructure should improve. Improved utilisation of the electricity network's sunk assets should see a decline in the unit cost of delivering electricity distribution network services. This decline will help 'make room' for the additional cost that will come with underwriting the delta asset.

[15] Adding 'death spiral risk' to a delta asset negates the benefit of the proposal set out in this paper.
[16] The "duck curve" refers to the profile of total daily net demand for electricity which dips during the day (belly of the duck) when distributed solar power production is high, and peaks in the evening (the duck's head) when solar generation ends while residential demand increases.

Step 10. As the regulated counterparty to the delta asset, the relevant electricity distribution network(s) would be permitted under the rules to fully recover from their customers the payments made against the delta assets. In other words, an electricity network's payments to the holders of delta assets would become another building block in the regulatory revenue model.

> Note: The impact on regulated electricity network prices would be gradual and occur in tranches as steps 1 to 9 are repeated periodically (say, every 5 years).

4. Some policy questions that don't go away

The concept plan proposed in section 3 addresses the death spiral and all its inherent risks, but it does not negate significant policy questions that still need to be resolved. These questions cannot be answered from first principles. There is no economic or financial theory that points to a 'correct' set of answers. The questions require political judgement by government(s) about the acceptable sharing of risk (and subsequent wealth transfers) between investors, consumers and potentially taxpayers.

Five policy questions are briefly outlined below.

4.1 Should investors in stranding gas networks be fully indemnified?

Perhaps the first question requiring policy consideration concerns whether investors in gas pipelines should be fully indemnified against asset stranding. It is only by an assumption in section 2 that this paper leaves the value of investors' investments in gas pipelines fully preserved. It is not self-evident that a full indemnity is warranted.

The regulatory framework has compensated investors for a range of risks over the past 30 years. To what extent this includes stranding risk is an open question. Moreover, concerns have been raised about the regulatory framework having overcompensated investors – allowing gas networks to earn supernormal profits.[17] Past compensation or *over*-compensation for stranding risk lessens the case for indemnifying ongoing stranding risk. In which case, networks might be expected to wear some of the burden.[18]

Even more fundamentally, the foundation and limits of the so-called "regulatory compact", mentioned in section 2, has never been properly explored or tested. This is

[17] Gordon, Jay (June 2024) *Gas networks are making persistent and significant supernormal profits*. A report published by the Institute for Energy Economics and Financial Analysis. Available at: https://ieefa.org/resources/gas-networks-are-making-persistent-and-significant-supernormal-profits

[18] In effect, this would involve a unilateral and uncompensated write-down of the value of the RAB in the networks' regulatory accounts with the AER (and presumably this would require a corresponding write-down in the value of the assets on their statutory balance sheets).

despite representatives for consumers having called for this analysis ahead of the AER making provision for accelerated depreciation in gas networks' regulated revenues in 2022.[19,20]

The extent to which investors should be compensated for stranding risk is unavoidably a policy question, not a regulatory one. This paper is not looking to answer this question. In any event, the mechanism outlined in section 3 can be used to fully or partially compensate the stranding of investors' sunk investment in gas network assets.

The conduct of each network operator may be one consideration for policymakers when deciding the extent to which investors are compensated for asset stranding – for example, whether an operator actively supports the gas transition through an orderly shrinkage and decommissioning of its reticulated network. A less favourable approach may be taken toward gas network operators who fund marketing campaigns to promote new gas connections and increased gas use.[21]

4.2 What role might government (taxpayers) play?

It is only by assumption this paper proceeds on the basis that no taxpayer funds would be used to compensate investors in gas networks for the stranding of their network investments. Were taxpayer funds to be made available to underwrite the gas transition, these funds could be channelled in numerous ways into supporting the financial restructuring outlined in section 3. Some examples include:

- a direct transfer from government to gas network owners in recognition of the declining value of their stranding assets. This transfer would offset a reduction in the gas networks' RAB. This would reduce the quantum of funds that would need to be raised through the sale of delta assets,
- government using its strong balance sheet to purchase some (or all) of the delta assets as they were sold in tranches over the course of the gas transition,[22]

---

[19] See: Consumer Challenge Panel (2022), *CCP28 advice to the AER – APA VTS access arrangement proposal* (February), p.2 and chapter 7. Available at: https://www.aer.gov.au/documents/ccp28-advice-aer-apa-vts-2023-27-aa-proposal-18-february-2022

[20] It has been suggested that the increasing viability of electrification is eroding the market power (and 'essentiality') of the gas network – potentially removing the need for its ongoing economic regulation. **Deregulating the gas network** would void the regulatory compact. Doing so would leave it to gas networks to determine their own tariffs under competitive pressure from electricity as an increasingly viable substitute for gas. For the reasons outlined in section 2, this paper does not contemplate this option. It is worth noting, however, that all things being equal, such an option would likely catalyse the risk of a disorderly disruption to, and potential shutdown of, the reticulated gas network. Network operators would, in all likelihood, find themselves increasingly trapped between choosing to embark on a death spiral or earning insufficient revenue to maintain the network's integrity (see footnote 11).

[21] For example, see: https://www.youtube.com/watch?v=dMXtsCXo5Ec

[22] The second option differs from the first example insofar as it would see governments receiving the revenue stream generated from its ownership of the delta assets.

- transfers or concessions paid to (or on behalf of) electricity consumers to partially or fully offset the additional costs on electricity bills arising from electricity networks' payments against the delta assets, or
- any combination of the above (or any other available options).

Clearly, the use of taxpayer funds is a policy decision and not a regulatory one.

4.3 How should new capital expenditure by gas networks be treated?

In the years ahead, gas networks will inevitably present revenue proposals to the AER that seek funding for new capital expenditure. In its recent rule change request, ECA recommended changes to the regulatory framework that would see greater scrutiny and scepticism applied to such expenditure proposals.[23] This paper supports those proposed rule changes.

In reality, however, no matter how scrupulous the regulator may be, it will always be informationally disadvantaged when assessing such claims for new capital expenditure. This asymmetry will inevitably favour the claimants which, all things being equal, would see the networks' regulatory asset base (RAB) continuing to grow – thereby worsening their stranded asset risk.

But, all things cannot be allowed to remain equal. A line in the sand must be drawn distinguishing between the regulatory treatment of past (sunk) investment and any further capital expenditure.

It is beyond the scope of this short paper to examine the regulatory treatment of investments in new gas network assets. What is certain, however, is that it cannot continue to be treated on equal terms to past investment. The regulatory framework cannot keep feeding the gorilla while at the same time seeking to liposuction away its stranding asset risk.

4.4 How can electricity price impacts be managed?

The primary benefit of the mechanism outlined in this paper is that it progressively reduces the gas networks' RAB in line with declining throughput in the gas network, thereby avoiding the death spiral and its accompanying risks. In so doing, it should reduce the overall cost of the gas transition and the total financial impost on the community. This lower cost is achieved by:

i. progressively converting the RAB into a secure, low-risk financial instrument that sits outside the regulatory framework and earns less than the regulated rate of return (that is, less than the AER's weighted average cost of capital, WACC)

[23] ibid

ii. selling these secure assets in tranches to financial investors who derive portfolio value in holding low risk, long-term assets – with each tranche amortised over a long period, say, 30-40 years, from the time of sale

iii. progressively shifting the recovery of the costs associated with sunk and stranding assets to a much larger and growing base, namely, electricity network usage (which will continue to gather pace with electrification)

Two additional factors should further contribute to containing the overall cost of the gas transition to the community:

iv. removing asset stranding risk for investors in gas distribution network businesses, should cause the AER to reduce the regulated rate of return (or WACC) it provides to these businesses on their remaining RAB,[24] and

v. a well-managed electrification of the economy should flatten the 'duck curve' thereby reducing the unit cost of delivering electricity distribution services.[25]

The financial impact on *individual* electricity customers due to item (iii) will largely depend on how "relevant" electricity distribution networks are determined for steps 9 and 10 of the mechanism described in section 3. Countless options exist. At one end of the spectrum, the total required income stream could be proportionately recovered from *all* electricity distribution networks.[26] At the other end of the spectrum, income streams could be apportioned to each electricity distribution network to reflect the extent to which it overlaps with the geographically corresponding gas distribution network whose assets are stranding.

Determining the "relevant" electricity distribution networks for steps 9 and 10 is unavoidably a question for policymakers given the distributive consequences it has on electricity consumers.

4.5 What if asset stranding becomes a material risk for electricity networks?

The proposal outlined in section 3 relies on the ongoing necessity and viability of electricity distribution networks (steps 9 and 10). While the risk to their ongoing viability looks minimal for now, the emergence of stranding risk may be a possibility over the medium term. If it becomes genuinely viable for electricity consumers to defect *en masse* from the electricity network, a new death spiral will emerge.

---

[24] It's worth noting the AER will also need to revisit how it determines the WACC because its current approach to setting the WACC has many backward-looking elements which would be too slow to reflect the removal of stranding risk.

[25] As noted under step 9 in chapter 3, realising economies of scale should, all things being equal, put downward pressure on the unit cost of operating an electricity distribution network.

[26] Such an approach may be justified on that basis that reduced emissions from electrification represents a common good, implying some sort of cost-sharing arrangement.

Mass defection from the electricity network would create a whole new death spiral problem. And while policy makers and regulators should be putting in place measures now responding to that risk, dealing with that problem is not the purpose of this paper. Nonetheless, if potential investors in the delta assets considered electricity network stranding to be a material risk within their investment horizons, they may add a risk premium to their bids for the delta assets. This would undercut a key objective of reducing the costs of the gas transition using the mechanism described in section 3.

It is well beyond the scope of this short paper to explore how the stranding of electricity networks – or even the risk thereof – might be managed. But, for the purposes of this paper, and its concerns with supporting the gas transition, government might need to consider guaranteeing the long-term recovery of delta assets should asset stranding emerge as a material risk for electricity distribution networks.

5. Conclusion

The concept plan outlined in this short paper is in addition to, and not in place of, the rule changes proposed by Energy Consumers Australia (ECA). Those rule changes will help stop the 500lb gorilla of the gas transition from getting unnecessarily fatter. They do not, however, do much about the gorilla itself – the gas networks' RAB problem. This paper proposes a way for shrinking the gorilla in an orderly and manageable way.

This paper presents a 'concept plan' only. It will take months of work to identify, understand and resolve all the legislative, legal, financial, design, accounting and taxation challenges. But one way or another, a serious discussion must commence about the future treatment of gas networks' RAB. If the RAB problem is not resolved, the gas network will eventually reach a point of disorderly failure. For now, it's not possible to say whether that point of failure is 10, 20 or 30 years away; nor is it possible to say how it will unfold. Nonetheless, failure in one form or another is foreseeable. Despite this foreseeability, no other suggestions for tackling the 500lb gorilla of the gas transition have been put forward.

The mechanism proposed in this paper may not be popular. It involves many complexities and unanswered questions, and it may contribute to somewhat higher electricity prices. But these are not reasons to dismiss it. Anyone looking to dismiss the mechanism proposed above is welcome to put forward their own solution to the 500lb gorilla of the gas transition.

— END —