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Submitted via email: IM.Review@comcom.govt.nz

Dear Charlotte

Cross Submission – Part 4 Input Methodologies Review 2023 – Draft Decision

Firstgas welcomes the opportunity to provide our response to submissions on the Input Methodologies (IMs) Review Draft Decisions.

We encourage the Commission to continue to adopt an evidence-based approach to decision making in the IMs review process. Placing weight on empirical data and analysis helps to ensure that decisions are grounded in facts and objective findings. While IMs decisions can require the exercise of regulatory discretion, we firmly believe that such discretion needs to be exercised in ways that are consistent with objective evidence. This approach instils confidence in consumers, regulated businesses, infrastructure investors, and other stakeholders that the Commission is committed to making informed and predictable decisions.

Our cross-submission addresses the following issues raised by other submitters. The first three points relate to draft decisions on accelerated depreciation for gas pipelines. The final three points relate to draft decisions on the weighted average cost of capital (WACC) IMs for gas pipelines.

- **None of the evidence in submissions suggests a more certain future for gas pipelines.** Updated industry data and analysis provided by the Major Gas Users' Group (MGUG) (in Appendix A of its submission) does not change the conclusions of that analysis, which has already been factored into the Commission's decisions to amend the asset valuation IMs for gas pipelines in 2022.
- **Future expectations of gas demand are a reasonable way to evaluate stranding risk.** The specific challenge facing the ability of gas pipelines to earn back their invested capital is achieving the legislated target of net zero emissions by 2050. This creates an expectation of significant declines in gas demand across customer classes – from customers that currently pay relatively low pipeline charges for the gas they consume through to customers that currently pay relatively high pipeline charges for the gas they consume. This means that there is little to be gained by using revenue, rather than demand, as a measure of future asset stranding risk as suggested in MGUG's submission.
- **The Australian regulatory approach to asset stranding risks shares many features with New Zealand.** MGUG's submission suggests that the Australian Energy Regulator (AER) has adopted a different and better approach to dealing with gas pipeline regulation under uncertainty. In fact, the requirements for accelerating depreciation in Australia align with the evidence in New Zealand – and increases in regulatory depreciation in both countries will help to protect gas consumers from higher future increases in gas pipeline charges.
- **Uncertainty should also be reflected in WACC settings.** Stakeholders appear to agree that two starkly different scenarios are possible for the future use of gas infrastructure (winddown and repurposing). While the Commission has amended the asset valuation IMs to reflect this wide range of uncertainty, its draft decisions on the WACC IMs fail to provide the conditions needed to invest in these circumstances. A survey of investment analysts and economists

conducted for this cross-submission suggests that most advisors would expect the WACC for gas pipelines to be at least 20 basis points higher than electricity networks to attract capital. This would require the current WACC settings for gas pipelines to be retained or for the asset beta uplift for gas pipelines to be increased back to 0.10 points.

- **Lower investment would lead to less reliability.** We believe that it is not sensible to rely on a lack of evidence that extra money is required to ensure reliability since we cannot observe the counterfactual (i.e. what reliability would be achieved with less investment). Without evidence to the contrary, the natural conclusion is that the lower WACC proposed by the Commission will lead to less reliable gas pipeline services in the future.
- **The difference between gas and electricity asset beta is statistically meaningful.** Some submissions commented on the lack of statistical significance in the difference between gas and electricity betas. In fact, daily betas differences are statistically significant and when these are included the analysis suggests an uplift of 0.10 points is appropriate.

None of the evidence provided suggests a more certain future for gas pipeline businesses

MGUG's submission includes an appendix that recasts its previous analysis of gas pipeline businesses incorporating the most recent information disclosed by regulated businesses. Given the short timeframe involved for cross-submissions, we have not been able to review the 92-page appendix in detail (although we note that some of it appears to be duplicated so is in fact only 80 pages in length).

We asked Frontier Economics to consider whether any of the updated analysis leads to different conclusions on the risks facing gas pipeline businesses and gas consumers. Frontier concludes that the MGUG submission "does not identify the implications that this updated evidence might have for the economic life of gas network assets, nor suggest what amendments the Commission should make to the scenarios or the relative probabilities that underpin its assessment of the economic life of gas network assets." In Frontier's opinion "the MGUG submission contains no new evidence to support a change to the Commission's prevailing assessment of the economic life of gas networks."

Frontier specifically considers whether the continuation of trends in new pipeline connections over recent years supports MGUG's view that the prospects for gas pipeline use have not changed materially. Frontier concludes "that evidence that growth in connections has continued over the last year is not usefully informative about the expected economic life of gas network assets" – reflecting the fact that the horizons for considering asset stranding risk and financial capital maintenance are longer than the economic life of gas appliances.

Future expectations of gas demand are a reasonable way to measure stranding risk

In its submission, MGUG states that, "*the Commission should note that the relationship between gas volume (demand) and pipeline revenue isn't a direct one when looking at how declining gas volumes might affect economic stranding risk*¹." This is a point that MGUG has previously made in submissions opposing accelerated depreciation for gas pipelines². The point is that gas pipelines could face material reductions in gas demand, without any real threat to the overall ability to generate enough revenue.

While a distinction between volume and revenue could be relevant to stranding risk in some circumstances (such as the loss of a single major gas user like Methanex), the risk facing gas pipelines in New Zealand today is much broader. The Climate Change Commission models that for the country to reach net zero emissions in 2050 we will need to see material decreases in gas demand across all customer classes (residential, commercial, industrial, electricity generation and petrochemicals). As a result, whether demand or revenue at current prices is used to measure stranding risk, the conclusion is the same.

This is consistent with the expert evidence provided on 2022 gas default price-quality path reset. Houston Kemp, for example, noted that "*declining demand could lead to volatile and increasing prices*

¹ MGUG Submission para 47.d p62

² [MGUG Submission on Gas DPP3 draft decision-14 March 2022](#) para X8c, p3

for delivered gas over time, raising uncertainty for investments that use gas”.³ The same report also noted that..... “Maximum Allowable Revenue (MAR) is likely to gradually increase over time, even as projections of demand decline. Since increasing MAR is assumed to be recovered from a shrinking base of demand, the average price of gas pipeline services required to recover MAR would be expected to increase even further over time compared to the price path under the status quo⁴.” The report further noted that “declining demand combined with the ongoing costs of providing gas pipeline services may eventually cause pipelines to descope or discontinue their operations and it is desirable for both service providers and customers that any such exit occur in an orderly fashion⁵.” The Commission addressed the issue by allowing for accelerated depreciation.

While increasing prices per unit may help maintain revenues temporarily, it is unlikely to be a sustainable strategy over long periods of time in the face of changing policy and consumer behaviour to achieve net zero emissions. We therefore consider that future expectations of demand, rather than revenues, serves as a reliable estimator of asset stranding risk and long-term viability.

The Australian regulatory approach to these issues shares many features with New Zealand

MGUG contends that the AER has developed a better approach for addressing the asset stranding risks facing gas pipelines by requiring certain elements to be demonstrated before increasing regulatory allowances. Given that Frontier Economics regularly advises clients (including gas pipelines) on AER processes, we asked them to evaluate whether there is any merit in more closely aligning New Zealand approaches to the Australian regulatory regime.

Frontier concludes that “there are many similarities between the AER and Commission approaches to accelerating depreciation to address stranding risk for gas networks”. These include an overall principle of financial capital maintenance, a preference for accelerated depreciation (rather than other possible regulatory changes), recognition of policy changes, and a preference for early action to address these risks.

In our view, the regulatory decisions in Australia and New Zealand are broadly consistent – with differences reflecting genuine differences in the policy environment and energy mix of the two countries. In addition, the decision-making process that the Commission has followed in New Zealand reflects the requirements of the Commerce Act – where gas pipelines are regulated under a DPP/ CPP regime. This is different from Australia where regulated pipelines have a propose-respond model of regulation, where specific information requests are part of the normal regulatory decision-making process.

Uncertainty should be reflected in both the WACC and asset valuation IMs

Gas industry stakeholders appear to accept that gas pipeline business face material uncertainty in the future use of their assets. MGUG considers that this uncertainty calls for an even “wider range of scenarios” than considered when the Commission made IMs amendments in 2022 to accelerate depreciation (see MGUG, para 66).

MGUG considers that because a winddown scenario (which creates the risk of asset stranding) would require law changes, the Commission has acted too soon in amending the input methodologies to provide for accelerated depreciation. However, all possible future scenarios will likely require law changes. The Commission’s task is to recognise the impacts of this uncertainty through the application of regulatory principles, which it has done by providing the ability for DPP/ CPP decisions to accelerate depreciation. We agree with Methanex that this approach is reasonable in allowing the Commission to incorporate new evidence on the likelihood of future scenarios at DPP/ CPP resets.

Our view is that the work of the Gas Infrastructure Futures Working Group has usefully characterised the bounds of uncertainty as lying between a full winddown in the use of gas infrastructure and a repurposing scenario where a significant proportion of existing gas infrastructure is used to transport renewable gases (biogas and hydrogen). That wide range of outcomes creates two distinct challenges for the regulatory framework:

³ [HoustonKemp Economics - Consequences of declining gas pipeline utilisation](#), p2

⁴ [HoustonKemp Economics - Consequences of declining gas pipeline utilisation](#), p8

⁵ *Ibid*, p2

- Ensuring financial capital maintenance (FCM) for suppliers given the prospect of a winddown scenario (the “asset valuation IM issue”)
- Continuing to provide incentives to invest to maintain quality and reliability in a winddown scenario and invest to pursue repurposing opportunities and maintain future options for repurposing (the “WACC IM issue”).

The IMs amendments in 2022 focused on the first of these two points – the asset valuation IM issue. GPBs are united in supporting the Commission’s approach to providing for accelerated depreciation. Some consumers also support the approach now under the IMs – for example, Methanex states that it considers the approach is “sufficiently flexible” and it “supports the decision not to pursue the changes to the Input Methodologies for GTBs canvassed in the Input Methodologies Review”. MGUG does not support the decision on the grounds that it is “premature”.

The Draft Decisions have brought the second point (the WACC IM issue) into focus by proposing material reductions to the regulated WACC for GPBs (adopting the 50th percentile estimate and retaining the current 0.05-point uplift to the asset beta estimate). MGUG and Methanex both support a move to the 50th percentile estimate, and MGUG suggests that the asset beta uplift should also be removed. GPBs oppose the reduction from the current 67th percentile WACC estimate and have provided evidence in support of a higher asset beta uplift (such as the 0.10-point uplift that applied from 2010-2016).

In our submission, we pointed to the relativity between electricity and gas WACCs in the Draft Decisions as a strong indicator that the Commission had drawn incorrect conclusions from the available evidence. Since gas pipelines face higher systematic risks than electricity networks at this time, GPBs should not receive a lower regulated WACC. Submissions from consumer groups suggest they would disagree.

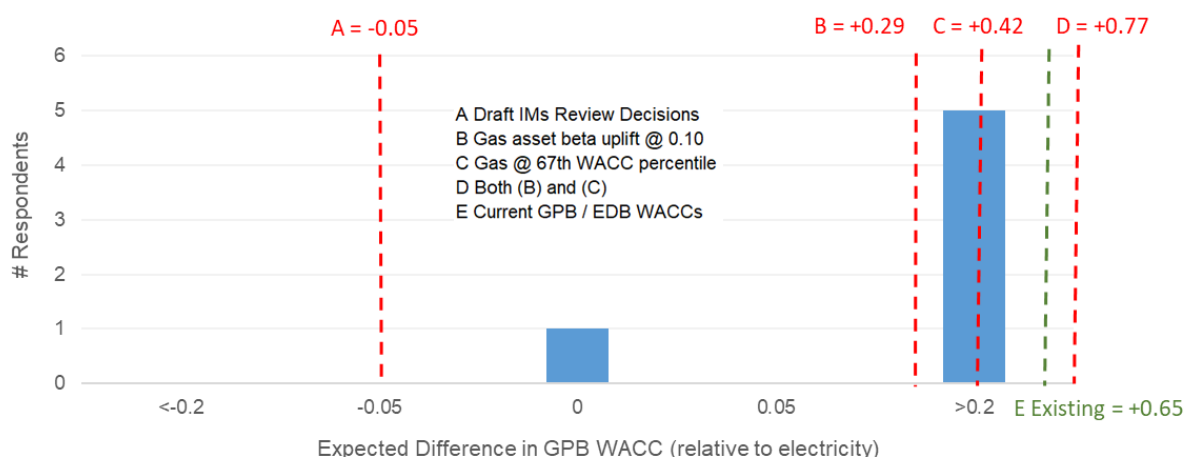
To move past the dynamic of suppliers preferring a higher regulated WACC and consumers preferring a lower regulated WACC, we asked Senate SHJ to administer a one-question survey of investment advisors and economists to explore expectations of relative electricity and gas WACCs. All the experts surveyed regularly advise on regulated investments in New Zealand and therefore have a good understanding of the settings that apply to regulated businesses. The question asked was:

“Based on your experience and knowledge of the NZ energy sector, would you expect gas pipeline businesses to have a weighted average cost of capital that is around:

- 20 basis points lower than electricity networks (or less)?*
- 5 basis points lower than electricity networks?*
- About the same as electricity networks?*
- 5 basis points higher than electricity networks?*
- 20 basis points higher than electricity networks (or more)?*

The responses received from 6 experts are shown in blue bars on the graph below. Five experts had an *a priori* expectation that the regulated GPB WACC would be at least 20 basis points higher than electricity networks given existing policy and regulatory settings. One expert believed that the WACCs would be about the same. Figure 1 also shows that the outcome of the Commission’s draft decisions (the red dotted line labelled A) is lower than all expert expectations from this survey. In contrast, IMs that provide a 0.10 basis point asset beta uplift (the red dotted line labelled B), adopt the 67th percentile WACC estimate (the red dotted line labelled C), or a combination of both of these decisions (the red dotted line labelled D) would all be more consistent with the weight of expert expectations. For comparison, we have also plotted the current differential between gas and electricity vanilla WACCs (the green dotted line labelled E).

Figure 1: Expert expectations of GPB v EDB WACCs



We believe that this evidence is relevant to the Commission’s decisions because the investment advisors and economists surveyed all advise infrastructure investors of where to deploy capital. To adopt regulatory settings that so clearly conflict with the expectations of these advisors is highly likely to result in outcomes that fail to attract capital into regulated gas businesses (and therefore fail to achieve the objective set out in s52A(1) of the Commerce Act).

Lower investment would lead to lower reliability

In its submission, MGUG states that *“There is no evidence that incentives for reliability are not already sufficiently strong to ensure that consumers will continue to benefit from reliable and secure supply of gas pipeline services”*.⁶

To some extent, we agree in the context of the present regulatory settings for GPBs including WACC and asset beta. However, MGUG also states they support reduction of WACC to the 50th percentile, which implies they believe GPBs can be expected to continue to deliver reliable performance under regulatory settings that provide less incentives to invest.

In the same section of its submission, MGUG refers to the consequences that GPBs in New Zealand face for breaching quality requirements, which MGUG considers should be enough to drive performance expected by consumers. These include quality standards under Price-quality regulation, petroleum pipeline regulation under the Health and Safety at Work Act, and the social license to operate.

We do not agree with MGUG that the consequences of breaching regulatory or technical standards alone will justify the business case for ongoing investments in reliability, particularly on a scale that reflects the current reach of gas networks. Moreover, MGUG appears to be asserting that there is a lack of evidence that supports incentivising investment to ensure reliability is necessary.

We believe that while it is reasonable to believe that current regulatory settings have an effect on reliability outcomes (as demonstrated by GPB performance over the years), it is not sensible to conclude that, in the absence of other evidence, regulatory incentives should be reduced while expecting the same outcomes. Since lower investment incentives have not been in place, the counterfactual cannot be observed.

In our submission⁷ on the Draft Decisions we provided examples of how the present WACC settings have facilitated Firstgas investments that deliver better reliability outcomes and proactively manage High Impact Low Probability (HILP) events, of the kind seen with the Maui pipeline outage of 2011. We also pointed out how current investment settings support Firstgas in achieving reliability outcomes that go beyond those provided for by the default-price-path quality standards alone.

⁶ MGUG Submission para 27.c p5

⁷ Firstgas Submission to the Part 4 Input Methodologies Review 2023, sections 4.4 and 4.5, p16-22

In our view a reduced incentive environment is likely to affect major gas users first. This is because in a reduced investment incentive regime one compliant pathway for GPBs to achieve the necessary price-quality, technical and social license outcomes would be to take more planned outages and capacity reductions affecting major users, while ensuring supply to distribution networks is maintained. Investing in reduced impact reduction efforts in the event of major pipeline outages may also be reduced as these would not change price-quality path outcomes and can still align with the appropriate engineering codes and standards.

The difference between gas and electricity asset beta is statistically meaningful

In its submission, MGUG notes that *“the CEPA empirical evidence, which includes statistical confidence bounds, indicates that gas asset betas are indistinguishable from electricity sub samples⁸”*. MGUG also referenced CEPA’s commentary on page 16 that notes, *“the average asset betas of the two samples for the entire period 2012 to 2022 generally remain separated with the asset beta for gas above that of electricity. However, this is not the case when considering the confidence intervals. We find that the difference between the electricity and gas asset betas are not statistically significant⁹.”*

We note that in the same report CEPA suggests that the difference between gas and electricity beta values may call for Commission judgment, with indications that the difference potentially surpasses 0.05 points.¹⁰ The Commission also observed a statistically significant difference in the daily beta values between gas and electricity.¹¹

MGUG refers to CEPA’s commentary, which further notes, *“the confidence intervals for the gas sample are particularly wide. Indeed, there are periods where at the 95% confidence interval level the asset beta for the gas sample is statistically indistinguishable from both 0 and 1 at the same time. This may suggest that the gas sub-sample cannot be used alone to estimate asset beta¹².”*

We consider that the wide confidence intervals and the periods where the asset beta for gas is indistinguishable from both 0 and 1 have important implications for analysing the difference between gas and electricity asset beta estimates. The presence of wide confidence intervals suggests that there is a high level of uncertainty surrounding the true value of the asset beta and this makes it challenging to draw robust conclusions about the relative volatility or market sensitivity of gas assets compared to electricity assets. When confidence intervals are wide and include values close to 0 and 1, it becomes difficult to ascertain whether gas assets are significantly exposed to market movements or if they are not sensitive to market fluctuations at all.

In addition, the occurrence of periods where the asset beta for gas assets is indistinguishable from both 0 and 1 could suggest the existence of a significant transitional component in the returns or stock prices during that period. Perron, Chun and Vodounou (2013)¹³ posit that stock prices have both permanent and transitory components. The authors note that the discrete time representation of the beta depends on the sampling interval and two components, permanent and transitory betas. In our view, rather than discounting the size of the asset beta difference observed based on statistical significance, the Commission needs to decompose which elements are permanent and which are transitory.

Incorrect claims made in submissions

While reviewing the submissions to the Commerce Commission, we identified a couple of factual inaccuracies concerning our business in the submission from Contact Energy. We have included corrections to this information in the following table.

⁸ MGUG Submission para 18, p4

⁹ [CEPA-report-on-Commerce-Commission-IM-Review-Cost-of-Capital-29-November-2022.pdf](#) P.16

¹⁰ Ibid, P.4

¹¹ Part 4 IM Review 2023 Draft decision: Cost of capital topic paper, Table 4.4 and 4.5

¹² [CEPA-report-on-Commerce-Commission-IM-Review-Cost-of-Capital-29-November-2022.pdf](#) P.16

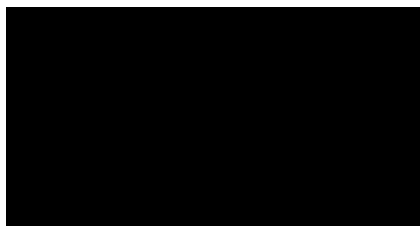
¹³ Pierre Perron, Sungju Chun, Cosme Vodounou (2013). Sampling interval and estimated betas: Implications for the presence of transitory components in stock prices, Journal of Empirical Finance, Volume 20.

No.	Submission by	Claim	Correction
1	Contact Energy	In 2015 Vector sold its gas transmission business to First Gas for \$952.5m, compared to a RAB value in the year beginning July 2015 of \$503.2m, suggesting a RAB multiple of 1.89.	Contact's calculation is based on gas transmission assets only, when the transaction also included distribution assets. The transaction date was April 2016. The gas pipelines formally owned by Vector had a RAB value as at 30 June 2016 of \$692.2m
2	Contact Energy	In 2022 Eastland sold its electricity distribution business to First Gas for \$260m, compared to a RAB value of \$188m at 21 March 2022, suggesting a RAB multiple of 1.38.	The transaction date was March 2023. The value of the Firstlight Network RAB as at 31 March 2023 was \$209.5m.

Conclusion

Firstgas appreciates the opportunity to comment on submissions for others in this matter and would welcome further discussion with the Commerce Commission on any aspect of this letter or our original submission.

Yours Faithfully



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