

25 August 2016

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Dear Keston,

Cross-submission on Input Methodologies Review Draft Decisions: Cost of Capital Issues

This is the First Gas cross-submission on the Input Methodologies (IMs) Review Draft Decisions, Topic Paper 4: Cost of Capital Issues.

This cross-submission, supported by additional analysis from Oxera, continues to conclude that the current market evidence supports an asset beta for regulated gas pipelines of 0.44.

The submissions from other suppliers and infrastructure users across different regulated industries have encouraged the Commission to use smaller, more comparable samples to estimate beta (particularly Contact Energy for electricity and gas, and First Gas for gas pipelines). The two economics experts that provided new empirical evidence on asset beta (Oxera and TDB) both found material differences in comparable company samples and beta estimates between electricity networks and gas pipelines.

This cross-submission provides new evidence confirming that the asset beta estimated from the Commission's sub-sample of gas pipelines provides a materially better estimate of the cost of capital for gas transmission and distribution pipeline businesses in New Zealand. TDB raised the concern that the Commission's gas sub-sample includes businesses engaged in activities such as gas gathering, gas exploration, and gas retailing, which may not be good comparators for regulated gas pipelines in New Zealand. We asked Oxera to test this concern using an alternative industry classification (the Thompson Reuters Business Classification) that limits comparators for gas pipeline businesses in New Zealand to "natural gas utilities", and requires a higher proportion of revenues to fall into that industry classification as an initial screen. Oxera finds an average asset beta for these gas pipeline businesses using the last 10 years of data of 0.41, which is similar to the result presented in Oxera's expert report using Bloomberg industry classifications of 0.42. Both of these estimates are drawn from 4-weekly, weekly and daily estimate ranges that include the current asset beta of 0.44.

We also provide further evidence on the appropriate allowance made in the cost of capital for debt issuance costs. Our recent experience in obtaining debt and interest rate swaps as part of our acquisitions showed that the costs are higher than 35 basis points (the current allowance). This is highly relevant to the Commission's assessment on this matter given these transactions are recent and involve a meaningful amount of debt and swaps across major lenders in the market. Our cost is higher but not inconsistent with the survey information provided by members of the Electricity Networks Association, which found average issuance costs and swaps of around 35 basis points (the current allowance). Both piece of evidence support higher debt issuance costs than the allowance proposed in the draft decisions of 20 basis points.

1. Comparable gas pipeline companies have asset betas consistent with 0.44

Our submission and expert report from Oxera provided empirical evidence supporting an asset beta for gas pipelines of around 0.44–0.50 based on current market evidence for 5-year betas, and 0.42 based on the Commission's approach of averaging 4-weekly and weekly estimates from the last 10 years of data. This result was based on an analysis of gas pipeline businesses in the Commission's dataset of comparable companies, which differs from the approach proposed in the draft decisions of taking the average beta of all electricity networks, gas pipelines and integrated utilities in the Commission's dataset.

Several submitters agreed with our position that the Commission should refine its sample to obtain a more accurate estimate of the allowed asset beta for gas pipeline businesses. In an expert report for Contact Energy, TDB attempted to refine the sample of gas pipeline businesses by assessing the comparability of each company with gas transmission and distribution networks in New Zealand. While we agree with the intent of ensuring comparability, we conclude that the judgements made by TDB are too subjective to be useful for regulatory decision-making. In this section of our cross-submission, we present further evidence of a more objective way to examine comparability using an alternative industry classification system. The new evidence confirms that the Commission's proposed asset beta of 0.34 is not empirically supported, and it is both appropriate and robust for asset beta for gas pipelines to remain at 0.44.

Submissions across regulated industries recommend the use of smaller samples with closer comparators

Our submission raised serious concerns about the Commission's approach to use a sample of 74 companies to estimate an asset beta that included a mix of electricity networks, gas pipelines, and integrated utilities. Other submitters, including from other regulated sectors, also considered that greater comparability would build confidence in the appropriateness of the empirical results obtained.

- TDB (on behalf of Contact Energy) highlighted that defining comparable companies involves
 making a trade-off between the comparability of the set with the regulated entities, and the
 statistical significance of the sample set (i.e., having a large enough sample). TDB expressed
 the view that the Commission may have adopted too large a set at the expense of a loss in
 accuracy in the appropriate asset beta.
- NZAA noted that the Commission's sampling technique does not seek to identify an asset beta that is specific to New Zealand regulated airports as a group, or individually.

Some parties agreed with the Commission's approach of using a large sample, but provided no evidence to support their views. Frontier Economics support a larger sample on the basis that it is likely to produce statistically robust estimates. However, the analysis presented by Oxera shows that the use of a narrower gas sub-sample of comparators, rather than the whole energy sample, does not lead to a substantial increase in the standard error of the estimation, especially if daily betas are used (see Tables 2.2 and Table 2.3 of the Oxera submission on August 3). We note that Frontier Economics supports the use of daily betas. The standard errors for the beta estimates for the gas sub-sample as estimated by Oxera are also lower than the datasets on which the Commission has relied in other decisions (such as airports).

¹ Frontier Economics (2016), 'Response to cost of capital issued raised in Draft Input Methodologies', August, p. 46.

² Oxera (2016), 'Asset beta for gas pipelines in New Zealand', prepared for First Gas, 3 August, Section 2.3.1.

The empirical evidence provided in submissions supports the view that gas pipelines face different levels of exposure to systematic risk

We agree with Contact Energy (on page 25 of its submission) that separate WACCs for electricity networks and gas pipelines should be used if it is possible to substantiate any difference with evidence. Oxera's expert report provides compelling evidence that a difference exists – both in empirical estimates of the asset beta and in the factors that expose each industry to systematic risk.

TDB (on behalf of Contact Energy) was the only party apart from First Gas that analysed empirical differences between gas pipelines and electricity networks. TDB noted (at page 32 of its report) that electricity and gas betas appear to have a diverging trend in the Commission's data, beginning in approximately 2009 and continuing to the most recent estimates. TDB consider that "a case can be made that pre-2009 data had a fundamentally different economic makeup", which appears to refer to the clear break in asset beta data occurring at that time and shown in Figure 1 of our submission.

TDB also remind the Commission that the Capital Asset Pricing Model is forward-looking, emphasising the relevance of data after 2009 when current trends were established. MGUG also supports giving more weight to evidence from the most recent time periods (on page 8 of its submission). We believe that this supports estimating different asset betas for gas and electricity, given the clear divergence in asset betas across the different sectors since 2009. Aurora also agrees (in section 11 of its submission) that the Commission should set betas for GPBs and electricity networks separately.

TDB's report analyses the distribution of asset betas for each of the Commission's sub-samples (electricity, gas, and integrated companies). This analysis suggests that the comparator samples are quite different. According to TDB's analysis, while the electricity and integrated sub-samples are somewhat consistent with expectations of a normal distribution, the gas businesses in the Commission's dataset have higher betas that are not obviously grouped around the mean. This again supports our view that it is inappropriate to group the companies together into the same sample.

Against the weight of empirical evidence, Frontier Economics claimed that the dataset considered by the Commission does not produce reliable evidence of a difference between the gas and electricity sub-samples.³ However, as shown in Figure 1 of the Oxera report, the asset betas for gas companies have remained reliably higher than the asset betas for electricity companies over the past 7 years.⁴ The marked difference has been sustained over the whole period since the publication of the current input methodologies in December 2010, and the differential has grown over time.⁵

We note that Methanex supports the removal of the uplift for GPBs relative to electricity networks. Methanex states that GPBs and electricity networks face similar risk exposure, and that both fuels are equally non-substitutable for large users. We disagree. The Oxera report examined in some detail why gas pipelines in New Zealand face higher systematic risk than electricity networks. While electricity is pervasive, gas does not reach even one quarter of homes and businesses in its service areas. Even where gas would be a competitive fuel (such as for dairy processing in the North Island), the transmission network does not connect all of these facilities. While we are aiming to grow the use of gas, we are acutely aware of the dynamics that make this more difficult for gas than for electricity networks.

While no analysis or evidence is presented, Methanex refers to the fact that "the 2013 merits appeal judgment placed considerably more weight on empirical evidence in reaching its conclusions than on theoretical assessments". We agree that empirical evidence is important, particularly when setting

³ Frontier Economics (2016), 'Response to cost of capital issued raised in Draft Input Methodologies', August, pp. 46–47.

⁴ Oxera (2016), 'Asset beta for gas pipelines in New Zealand', prepared for First Gas, 3 August, Figure 2.2.

⁵ Oxera (2016), 'Asset beta for gas pipelines in New Zealand', prepared for First Gas, 3 August, pp. 8–10.

cost of capital parameters. As noted above, significant empirical evidence has been presented by Oxera that demonstrates a statistical difference between asset betas for electricity networks and gas pipelines.

The process of filtering companies from the comparator set should be objective and transparent

Contact Energy raised the concern in its submission that some of the companies in the Commission's dataset do not appear to be suitable comparators for regulated businesses in New Zealand. Contact is specifically concerned that some of the comparators engage in different activities than energy transmission and distribution, and earn a significant proportion of their revenues from unregulated sources. We agree with Contact Energy that the sample used to estimate betas should ideally reflect the services provided by regulated businesses in New Zealand, while acknowledging that the lack of publicly listed domestic comparators makes this task more difficult.

On behalf of Contact Energy, TDB proposed a filtering system to exclude firms with: a) unregulated 'gathering', 'processing', 'liquids', and 'commodity exposures'; b) unrelated/unregulated business segments; and c) business segments that are not related to transmission and distribution. Based on this filtering process, TDB identified eight pure-play transmission and distribution companies. TDB recommends that the Commission investigate a similar filtering system to identify closely matched or pure-play comparators when assessing beta for energy networks.

While we agree with the aim of ensuring comparability, we have serious concerns with the filtering approach used by TDB and we doubt that it actually improves comparability. TDB's approach appears to reflect Contact Energy's view (stated on page 4 of its submission) that to improve WACC estimates the Commission needs to remove "companies whose operations have higher systematic risk from the comparable company set for deriving appropriate asset beta and leverage estimates."

Rather than having a particular result in mind (a higher or lower asset beta), the approach used to ensure comparability needs to be objective, verifiable, and needs to accord with conceptual logic. TDB's analysis fails on all three of these grounds as it:

- Involves subjective judgement—TDB's methodology is subject to a high degree of judgement that risks introducing bias to the sample selection process. TDB itself states (at page 6 of its report) that "our classification of the Commission's 74 compcos is indicative, and inevitably involves a degree of judgement based on the available information". Relying on subjective judgment criteria would undermine the objectivity of the Commission's comparator sampling methodology. Relying on subjective judgment may also lead to less transparency and an undesirable increase in lobbying efforts as different parties provide information from a range of sources to support the inclusion or exclusion of particular companies. We therefore support the use of objective and quantitative filters, like those applied in Oxera's report.
- Is not transparent or verifiable. We are concerned that misapplying the filters proposed by TDB could easily lead to incorrect conclusions due to type one and type two errors. We have identified examples of both types of error in TDB's sampling approach. In the case of a type one error (a false positive), a breakdown of revenues using the Bloomberg Industry Classifications System (BICS) suggests that Unitil Corp derived 51% of its revenues in 2015 from fossil-fuel electricity generation. Based on TDB's filters, Unitil therefore should be excluded, but appears in TDB's final sample. In the case of a type two error (a false negative), TDB excludes Atmos Energy Corp because it is said to be exposed to significant

⁶ Based on data from Bloomberg.

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⁷ TDB Advisory (2016), 'Submission to the Commerce Commission on the Input Methodologies Review Draft Decisions: Comparative Company Analysis', 4 August, Appendix 3.

gas gathering or extraction activities. In fact, Atmos Energy Corp appears to derive 95 percent of its revenue from its regulated gas transmission and distribution activities. Numerous similar errors of judgement could have been made by TDB in deciding which firms to exclude.

• Ignores demonstrated differences between electricity networks and gas pipelines. While acknowledging possible differences in exposure to systematic risk of electricity networks and gas pipelines, the final sample of eight comparable companies used by TDB included only two gas companies (Northwest Natural Gas Co and Spire Inc). These companies are grouped together with electricity networks to derive an average asset beta. This undermines its reliability as a valid comparator sample for GPBs.

Using an alternative objective classification does not materially change the asset beta estimate for gas pipelines

Based on the need to ensure objectivity and transparency, we continue to support the approach applied by Oxera to derive a comparator company set. This approach used the Commission's subsamples (based on Bloomberg's Industry Classification Benchmarks), and applied objective quantitative screens to test the robustness of the analysis and the findings.

Contact Energy states (at page 34) that "Bloomberg descriptions are too prone to error and do not provide enough information to form a view of how comparable the company's operations are relative to the service being regulated". We disagree with this assertion – Bloomberg is an internationally recognised, widely used financial service provider. Furthermore, neither Contact nor TDB demonstrate why Bloomberg classifications are prone to error, and why their proposed filters lead to more reliable classifications.

The Commission can take comfort from the fact that important classification parameters used by Bloomberg are the same as those used in the Federal Energy Regulatory Commission's Policy Statement on the composition of the proxy groups used to determine gas and oil pipelines' return on equity. In particular, FERC considers (at paragraph 79 of the Policy Statement) that comparable companies will generally have at least "50 percent of operating income from, or 50 percent of assets devoted to" the regulated activity (while accepting some flexibility to increase sample size).

While we consider Bloomberg classification fit for purpose, we note that alternative industry classifications are available. One alternative is the Thomson Reuters Business Classification (TRBC). The TRBC system may address Contact Energy's concerns about Bloomberg due to two differences in the approach to classification:¹⁰

- TRBC uses a higher threshold for the proportion of revenues required to classify a
 business to an industry. Whereas Bloomberg uses 51% (as does FERC), in the first
 instance TRBC assesses whether more than 60% of a firm's revenues to come from the
 industry in which it is classified.¹¹
- TRBC has a code for "natural gas utilities". In contrast, Bloomberg classifications applicable to our business are drawn from "gas distribution utilities" and "gas pipelines".

⁸ http://www.reuters.com/finance/stocks/companyProfile?symbol=ATO.N

⁹ 123 FERC ¶ 61,048, http://www.ferc.gov/CalendarFiles/20080613124044-PL07-2-001.pdf

¹⁰ http://financial.thomsonreuters.com/content/dam/openweb/documents/pdf/financial/selecting-sector-benchmarks.pdf

¹¹ If a company has two main lines of business, TRBC checks whether either is responsible for at least 60% of the firm's assets. If neither lines of business contribute to 60% of the firm's assets, TRBC considers whether either lines of business contribute to 60% of the firms operating profits. If neither accounting metric serves to classify the business, Thomson Reuters resorts to market perception. If a company has three or more lines of business, TRBC conducts the same process but using a 51% threshold in revenues, assets or operating profits.

Having identified this alternative system, we asked Oxera to update its estimates of the asset beta for gas pipelines using TRBC. The purpose of this analysis is not to suggest the Commission adopt the TRBC system – but rather to test whether using a classification system with different screens than Bloomberg materially changes the result.

In order to refine the Commission's sample Oxera had already applied liquidity and gearing filters as described in its expert report. In addition, Oxera has now excluded five companies (namely, Kinder Morgan, Enbridge Energy, ONEOK, Spectra Energy, and TC Pipelines) from the gas sub-sample and the whole energy sample, as these were not classified as "natural gas utilities" under TRBC. This approach leads to the exclusion of five out of the six gas companies that are identified by TDB as outliers and therefore appears to objectively address concerns raised by Contact Energy, while maintaining transparency.

The results of this analysis are presented in Table 1. Oxera has used the Commission's asset beta spreadsheet to estimate asset betas for the refined sample of comparators, based on the quantitative filters identified in its expert report and the TRBC system. The results for the refined comparator sample show that the beta for gas companies, after excluding gas companies that are not classified as "natural gas utilities", remains considerably higher than that for the electricity companies in the whole 'energy' sample.

Table 1: Five-year asset betas estimates of the refined sample based on TRBC

| Sample | Four-weekly results | Weekly results | Daily results | Commission's beta estimate for 2006-16 ¹ |
|--|---------------------|----------------|---------------|---|
| Gas | 0.35 (0.17) | 0.40 (0.17) | 0.50 (0.15) | 0.41 |
| Electricity | 0.27 (0.05) | 0.30 (0.06) | 0.36 (0.08) | 0.33 |
| Integrated | 0.26 (0.08) | 0.31 (0.08) | 0.37 (0.10) | 0.31 |
| Energy | 0.28 (0.09) | 0.32 (0.10) | 0.39 (0.11) | 0.33 |
| Difference between 'gas' and whole 'energy' sample | 0.07 | 0.08 | 0.11 | 0.08 |
| Difference between 'gas' and 'electricity' sample | 0.08 | 0.10 | 0.15 | 0.08 |

Note: Standard errors are reported in brackets. The asset beta estimates presented above are based on a simple average of betas for comparators in each sample. The cut-off date is set to 31 March 2016, consistent with the Commission's analysis.

Oxera understands that the Commission's reported point estimate for the beta is based on a simple average of four-weekly and weekly results for the two most recent five-year periods (i.e. 2006–11 and 2011–16).

This evidence suggests that if the Commission were to now use the refined 'gas' and 'electricity' comparator sub-samples to set separate betas for gas and electricity, respectively, the evidence would justify a beta that is higher for gas pipeline businesses by 0.08–0.15. If a point estimate for the gas beta was derived based on the Commission's methodology using data over a 10-year period (i.e. 2006–2016), the asset beta for gas companies would be 0.41. This compares with 0.42 reported in Oxera's expert report using the gas sub-sample based on Bloomberg classifications.¹⁴ If the Commission's prior methodology of applying an uplift for gas pipeline businesses relative to betas for

¹² Specifically, TRBC classified these five companies under the "oil & gas transportation services" industry.
¹³ TDB identified six gas companies as outliers: Williams Partners, TC Pipelines, ONEOK, National Fuel Gas, Kinder Morgan and Enbridge Energy. Williams Partners has been excluded from the refined sample on the basis of liquidity filters, whereas TC Pipeline, ONEOK, Kinder Morgan and Enbridge Energy have been excluded because these firms are classified under the "oil & gas transportation services" industry by TRBC. Oxera has retained National Fuel Gas in its sample, as this company is classified as "natural gas utilities" by TRBC.
¹⁴ Oxera understands that the Commission's reported point estimate for the beta is based on a simple average of four-weekly and weekly results for the two most recent five-year periods (i.e. 2006–11 and 2011–16).

electricity networks (that are derived from the 'energy' whole sample) was retained, the market evidence would support an uplift of 0.07–0.11 for the refined sample.

A final point to note on this additional evidence is that the range of 0.35-0.50 for 4-weekly, weekly and daily beta estimates is quite wide. The Commission was also presented with a wide range for the estimate of Chorus' asset beta in the final pricing principle decision. In that case, the Commission's economic experts recommended a range of 0.30-0.50,¹⁵ and the Commission adopted an asset beta for Chorus of 0.43 – which sits above the mid-point of the range.¹⁶ A consistent approach in this case supports retaining an asset beta of 0.44 for gas pipelines.

2. The evidence on income elasticity supports a higher asset beta for gas pipelines

In its report for Powerco, Houston Kemp responded to the Commission's criticism that its earlier estimates of income elasticities of demand in New Zealand are high when compared to income elasticities observed in overseas markets.

- Income elasticity of demand for gas in New Zealand should be higher than other countries. Houston Kemp noted that New Zealand is expected to have higher income elasticity of demand than other countries as gas is not an essential service in New Zealand. 17 This is supported by evidence presented in the Oxera report, which showed that countries with low income elasticity of demand for gas tend to have higher residential consumption of gas (as a proportion of total gas consumption in the country), which potentially characterises markets in which gas is considered an essential service. 18 We agree with Houston Kemp that it is unreasonable to set aside evidence about relative income elasticities of demand for gas and electricity in New Zealand based on evidence from markets that have fundamentally different consumption patterns for gas. 19
- Relative income elasticities of demand for gas and electricity in New Zealand. Houston
 Kemp noted that the Commission rejected Houston Kemp's estimates of income elasticities of
 demand in New Zealand on the basis that the results are not aligned with the Commission's
 prior views.²⁰ As discussed in the Oxera report, Houston Kemp's estimates are within the
 range of income elasticities estimated by Asche et al. (2008) for other countries.²¹

As well as having higher income elasticity of demand, our submission noted that gas pipelines have more opportunities to expand than electricity networks, which introduces an element of systematic risk. No submissions expressed a different view.

¹⁵ Oxera "Third Review of Expert Submissions on the WACC", 17 November 2015

¹⁶ Commerce Commission "Cost of capital for the UCLL and UBA pricing reviews", 15 December 2015

¹⁷ Houston Kemp (2016), 'Issues raised by the Commerce Commission's draft decision on cost of capital', 3 August, p. 15.

¹⁸ Oxera (2016), 'Asset beta for gas pipelines in New Zealand', prepared for First Gas, 3 August, Figure 3.5.

¹⁹ Houston Kemp (2016), 'Issues raised by the Commerce Commission's draft decision on cost of capital', 3 August, p. 15.

²⁰ Houston Kemp (2016), 'Issues raised by the Commerce Commission's draft decision on cost of capital', 3 August, p. 16.

²¹ Oxera (2016), 'Asset beta for gas pipelines in New Zealand', prepared for First Gas, 3 August, Figure 3.5; Asche, F., Nilsen, O.B. and Tveteras, R. (2008), 'Natural gas demand in the European household sector', *The Energy Journal*, **29**:3, pp. 27–46; Houston Kemp (2016), 'Asset beta for gas pipeline businesses', May, p. 9.

3. Regulatory certainty and stability favours retaining an asset beta for gas pipelines of 0.44

Section 4 of our submission explained why retaining a gas pipelines asset beta of around 0.44 would be consistent with the purpose of the IMs review. The submissions made by other parties overwhelmingly support this view.

No party suggested in submissions that the current gas asset beta is not fit for purpose. In fact, MGUG's submission states that there is a "lack of clarity on problem definition for GPBs" and it is unclear "how the proposed changes might improve S52A outcomes". While MGUG claim to support a beta for our business that is no higher than 0.30, we consider its submission in fact supports our view that the Commission has not satisfied the threshold set out in its framework for the IMs review (at paragraph 72) of "identifying whether there is a problem with the existing IM".

Parties that have no direct financial stake in the asset beta for gas pipelines also supported our position and urged the Commission to not introduce abrupt methodology changes without a robust evidence base.

- Former Commerce Commissioner, Pat Duignan, reminded the Commission that investors in gas networks (our shareholders) formed expectations based on the Commission's current approach to setting the asset beta for gas pipelines. He urged the Commission to not introduce a significant change in methodology without commissioning international expert advice a step that we have taken by engaging international cost of capital experts, Oxera. We appreciate that Mr. Duignan felt compelled to publicly express his views on this issue given the prospect of the abrupt change signalled in the draft decisions and the material impacts on our business.
- Aurora suggests that the Commission should retain a higher beta for GPBs to provide regulatory stability. As an electricity distribution business, Aurora does not gain financially from such a position. However, Aurora appears to recognise the risks that all regulated suppliers, and ultimately consumers, face if the Commission changes its approach to estimating cost of capital parameters without compelling evidence.

4. The allowance for debt issuance and swap costs should be increased

The draft decisions proposed to add interest rate swap costs to the debt issuance cost allowance, while at the same time reducing the level of the allowance from 35 basis points to 20 basis points.

We have reviewed the evidence provided by the Commission to support its draft decision, as well as the additional evidence on this issue provided by other parties (particularly ENA and Powerco).

We have also analysed our own debt issuance cost to help inform the Commission's final decision. A confidential summary of our debt issuance costs is provided as Appendix A to this cross-submission. Our issuance costs are particularly relevant given that we have very recent experience accessing debt from capital markets (our debt facilities were arranged in April and June 2016), and we are the only focused gas pipeline business that has provided debt costs to the Commission. The debt and swaps are also of a meaningful size across major lenders in the market.

While the specific issuance costs for our debt are confidential, we can publicly say that our issuance costs (debt plus swaps) are more than 35 basis points (the current allowance). The estimates submitted by ENA members also show that the costs are close to the current allowance and much

higher than the 20 basis points proposed by the Commission. In our view, the current issuance cost allowance of 35 basis points should be retained as a minimum. The lower allowance now proposed by the Commission is not reflective of market and does not provide sufficient compensation to debt issuance costs.

5. Conclusion

Our review of the submissions made on cost of capital in the IMs review reinforces our concerns about the impacts of substantially reducing the asset beta on investment in New Zealand's regulatory industries. The evidence provided in submissions and expert reports provides strong grounds to reconsider the analysis, approach, conclusions and broader implications of the draft decision on the asset beta that should apply to gas pipelines in New Zealand.

We look forward to continuing to engage with the Commission through the process of reviewing the IMs. Please contact me if you wish to discuss this further at ben.gerritsen@firstgas.co.nz or call me on (021) 911 946.

Yours sincerely

Ben Gerritsen

General Manager Commercial and Regulation



Appendix A: Summary of First Gas Debt Issuance and Swap Costs

Confidential - Commercially Sensitive

[redacted due to confidentiality]