Gas Transmission Investment Programme

Structure and Scope

September 2011

GAS INDUSTRY COMPANY LIMITED

14 September 2011

About Gas Industry Co.

Gas Industry Co is the gas industry body and the co-regulator under the Gas Act. Its role is to:

- develop arrangements, including regulations where appropriate, which improve:
  - the operation of gas markets;
  - access to infrastructure; and
  - consumer outcomes;
- develop these arrangements with the principal objective to ensure that gas is delivered to existing and new customers in a safe, efficient, reliable, fair, and environmentally sustainable manner; and
- oversee compliance with, and review such arrangements.

Gas Industry Co is required to have regard to the Government's policy objectives for the gas sector, and to report on the achievement of those objectives and on the state of the New Zealand gas industry.

Gas Industry Co's corporate strategy is to "optimise the contribution of gas to New Zealand".

Executive Summary

The Gas Transmission Investment Programme (GTIP) is Gas Industry Co's response to industry concerns over the long-term outlook for gas transmission capacity availability in the Auckland region of New Zealand. This work has its origins in 2009, when Vector announced to the industry that it would no longer be able to sell new capacity on its North Pipeline as that pipeline had reached the limits of its capacity. Large end users on the North Pipeline subsequently experienced a reduction in the number of credible bids they receive when seeking a new gas supplier.

Gas Industry Co's investigation of the situation prompted key industry members to put in place a set of 'commitments' to improve market performance in August 2011. These are known as the Bridge Commitments and have the potential to improve current market conditions while providing a bridge to longer term solutions. Gas Industry Co is monitoring the market to assess the effectiveness of the Bridge Commitments.

At an April 2011 industry workshop on the North Pipeline constraint, attendees strongly endorsed Gas Industry Co leading a structured programme of work to address industry concerns in relation to transmission pipeline capacity. An outline programme for the GTIP was then prepared by Gas Industry Co, and endorsed by industry submissions.

This paper takes that initial work forward by setting out the structure and scope of the GTIP.

Legal Framework for the GTIP

The GTIP comprises a set of projects operating within the framework for governance of the gas industry by Part 4A of the Gas Act 1992. This includes specific objectives for the industry, and particularly in relation to industry governance arrangements that promote efficient and competitive gas markets through voluntary or regulated industry arrangements.

Objective of the GTIP

The objective of the GTIP is to:

- ensure that existing and future gas transmission assets are used efficiently;
- establish the need for gas transmission investment; and
- develop an effective pathway for efficient gas transmission investment to take place.

This objective reflects concerns that existing capacity is not allocated efficiently, and that new pipeline capacity may or may not be built, even though it may be efficient to do so.

Governance Framework for the GTIP

A GTIP governance framework has been designed to allow industry experts and stakeholders to advise Gas Industry Co of the best mix of arrangements to meet the GTIP objective. These could include changes to existing industry agreements (eg the Vector Transmission Code), new industry agreements and regulated solutions. The framework comprises:

- A Panel of Expert Advisers (PEA), comprising industry experts, to provide advice on a range of market design issues. Dr Graham Scott, an independent consultant, will Chair the PEA.
- A Panel of Strategic Advisers (PSA), comprising senior stakeholder executives, to provide strategic oversight for the Programme. Andrew Brown, an Independent Director on Gas Industry Co's Board of Directors, has been asked to Chair the PSA.
- Provision for wider stakeholder consultation on key issues.
- A Programme Sponsor, who is Gas Industry Co Chief Executive, Steve Bielby that both the PEA and PSA will report to.
- Project Managers for each of the three project areas, secretariat services to the two Panels and other expert advice/resources will be provided by Gas Industry Co as required.
- In accordance with Part 4A of the Gas Act, Gas Industry Co will evaluate industry arrangements, make recommendation to the Minister where regulations are considered necessary, and seek the endorsement of the Minister for non-regulatory solutions.

GTIP Projects

The GTIP is structured as a package of interconnected projects aimed at:

- minimising information asymmetries;
- providing efficient market arrangements; and
- defining appropriate regulatory arrangements.

GTIP Duration

The GTIP is expected to last 18 to 24 months.

GTIP Scope

While this document describes Gas Industry Co's views on the minimum package of projects we believe are necessary to achieve the GTIP objective, further refinement of the scope will be considered by the PEA. For example, the PEA's review may consider whether reform should be focused on the North Pipeline, the broader transmission services market, or the broader gas market.

Next Steps

On release of this paper Gas Industry Co will invite stakeholders to make nominations for the PEA and PSA. Once Gas Industry Co has made these appointments, the PEA will begin its review of GTIP scope.

Feedback

We welcome any feedback on this paper.

Contents

1 Introduction

1.1 This paper

This paper presents the structure and scope of the Gas Transmission Investment Programme (GTIP) [1], including:

- a clear objective and scope for the Programme;
- further detail on its governance and component projects; and
- an initial work plan.

Development of the GTIP follows industry calls for Gas Industry Co to lead a comprehensive and structured programme of work to deal with transmission issues that emerged following a constraint on Vector's North Pipeline. The emergence of the GTIP is discussed below.

1.2 North Pipeline constraint

In mid-2009 Vector Limited announced that its North Pipeline, supplying gas to Auckland and Northland, was constrained[2] and it was unable to sell any more Reserved Capacity[3]. Shortly afterwards large end users supplied from the pipeline noticed that, in the presence of a constraint, the commercial arrangements for use of Vector's pipelines led to a reduction in the number of retailers able to offer to supply them with gas.

When a pipeline is constrained, it has no capacity to accommodate new demand. But a physical constraint need not affect retailer competition to supply the existing end users—the existing end user's demand would not alter if it were supplied by a new retailer. The reduced competition was an unintended consequence of the access arrangements on the North Pipeline.

At the time this problem emerged, Gas Industry Co was already working on a review of Vector's access arrangements, but diverted resources from this 'long-term workstream' to a 'short-term workstream' aimed at addressing the more immediate issues arising from the constraint.

1.3 Gas Industry Co's capacity workstreams

The long-term work has been considering what access regime options would improve the efficiency of the gas transmission market. The short-term work has been aimed at ensuring

[1] To avoid the confusion of having 'projects' within 'projects', we have used the term 'programme'.
[2] A pipeline is 'constrained' at times when it cannot reliably transport additional gas without breaching operational constraints.
[3] 'Reserved Capacity' is the amount of capacity reserved and held by users under the Vector Transmission Code. Reserved Capacity sets the limit on the amount of gas a user can have transported without incurring overrun charges. There is also committed capacity under agreements outside of the Vector Transmission Code that account for much of the capacity.

large end users on the constrained North Pipeline are not prevented from having an effective choice of supplier. The progress and status of this work is described below.

The long-term workstream

In May 2010 Gas Industry Co released the paper, *Options for Vector Transmission Capacity.* The paper considered Vector's options for changing its commercial arrangements for transporting gas on its transmission pipelines - its 'capacity regime'. The work did not consider whether investment to create additional capacity in the pipeline was required. The paper identified many areas to improve Vector's existing capacity regime and recommended next steps for beginning the process of making these changes.

Submissions on the Options Paper largely agreed with the issues identified, as well as the changes identified to improve Vector's commercial arrangements for its existing transmission capacity. However, many submitters considered that even if commercial arrangements were amended, investment in additional physical capacity would still likely be required at some time in the future to resolve the North Pipeline constraint.

The short-term workstream

In November 2010, Gas Industry Co published the paper, *Retail Competition and Transmission Capacity: Statement of Proposal*. The paper described Gas Industry Co's preferred option to ensure that existing end users could have an effective choice of gas supplier. The option required that transmission capacity would 'follow the end user', and would be implemented by means of statutory rules. Submissions received on the Statement of Proposal considered that Gas Industry Co had not exhausted all feasible non-regulatory options to resolve the issue.

Through a number of workshops, Gas Industry Co encouraged industry participants to develop the non-regulatory options they had proposed in their submissions on the Statement of Proposal. One such proposal was put forward by Vector on behalf of the industry. The central concept of Vector's proposed 'Market Package' was the creation of capacity auctions.

Gas Industry Co's preliminary view of the Market Package was that it is market oriented; potentially allows more suppliers to bid to supply existing large end users, and could well form part of longer term access arrangements being worked on as part of the GTIP. However, it would take at least 12 months to implement, so did not improve market conditions for large end users in the short term.

Ultimately this led market participants to put in place a set of commitments, the so-called 'Bridge Commitments'[4], intended to give existing large users a greater choice of gas supplier and to provide market improvement for the longer term.

The Bridge Commitments, agreed to in August 2011, were signed by key members of the gas industry and Gas Industry Co believes they have the potential to make the introduction of rules unnecessary. Accordingly, Gas Industry Co has suspended its work on a regulatory solution and

[4] See http://gasindustry.co.nz/work-programme/short-term/bridge-commitments.

will maintain a watching brief on how the Bridge Commitments work in practice. If the arrangements do not effectively address Gas Industry Co's objective for the short-term work, regulation may again be considered.

1.4 Emergence of the GTIP

While Gas Industry Co believed that it was necessary to address the short-term issue, many submitters on the November 2010 paper, *Retail Competition and Transmission Capacity: Statement of Proposal,* encouraged Gas Industry Co to resume work on the long-term issues, including Vector's access arrangements and consideration of investment on the North Pipeline.

On 14 April 2011, Gas Industry Co held a workshop to discuss investment and access issues, which was attended by a wide range of stakeholders. Together with Gas Industry Co, the workshop participants identified a range of possible issues with current industry arrangements that might act as a barrier to identifying the need for transmission investment and to making any required investment.

Reflecting on how these issues should be resolved, and considering the interconnectedness of the issues, participants supported a coordinated project management approach to improving market arrangements and conditions for future investment. Industry participants at the workshop expressed strong support for Gas Industry Co to lead this work to help ensure the right conditions exist for efficient investment to occur. The areas identified at the workshop for study include:

1. market information available to participants and potential investors;
2. market arrangements (pricing and access); and
3. regulatory arrangements.

Following the April workshop, Gas Industry Co developed an outline proposal for the GTIP. The proposal was circulated on 25 May 2011 for formal feedback[5]. The feedback received on the proposal showed strong support for the project.

Key points made in submissions were:

- further work on the investigation of capacity issues is supported;
- the main focus of the GTIP should be on improving market arrangements; and
- the first step should be to improve the quality and availability of information.

Based on the feedback and further consideration of the Programme structure and timetable, this report has been developed to establish clear objective, scope, timetable, and governance arrangements for the GTIP.

[5] Proposed Gas Transmission Investment Project, May 2011, found at: http://gasindustry.co.nz/sites/default/files/u254/gas_infrastructure_investment_project_170803.8.pdf.

1.5 The Programme

Gas Industry Co previously issued a short paper that outlined a proposed approach to the GTIP, to gauge whether we had captured the structured, holistic approach favoured by the industry. We received feedback that largely endorsed the proposed programme outline, and we committed to produce a more detailed scoping document. In the process of preparing this paper we have thought further about the objective and the component parts of the GTIP and have concluded that (in comparison with the original proposal):

a) The objective should be amended from:

> *To establish the current need for gas transmission investment and develop an effective pathway for efficient gas transmission investment to take place.*

to the following:

> *To:*
>
> - *ensure that existing and future gas transmission assets are used efficiently;*
> - *establish the need for gas transmission investment; and*
> - *develop an effective pathway for efficient gas transmission investment to take place.*

The amended objective reflects the strong emphasis the Programme has on ensuring that changes to existing market arrangements are made so that the current transmission system is utilised as efficiently as possible. It also reflects views in submissions that the project should not be limited to establishing the 'current' need for transmission investment. Section 2 provides more detail on the rationale for the GTIP objective and the structure and scope of the Programme needed to meet that objective.

b) The overall GTIP Programme should remain broadly as outlined in the initial proposal, but the objective of the component projects should be clarified. We believe these objectives can be concisely described as:

- *minimising information asymmetries* – to allow stakeholders to make informed decisions that will result in an efficient allocation of resources;
- *providing efficient market arrangements* – to allow an efficient allocation of transmission capacity and signal the need for new investment; and
- *defining appropriate regulatory arrangements* – that support efficient investment in transmission infrastructure.

Sections 3, 4, and 5 describe the projects we believe are necessary to deliver these outcomes. For clarity, we have grouped the project areas under three broad headings: Information Projects, Market Projects, and Regulatory Projects.

Initial review of GTIP scope

While Gas Industry Co believes that the constituent projects of the GTIP described in this paper are necessary and sufficient to meet the overall Programme objective, it is prudent to also take advice from the Programme advisers on this matter. Section 2.6 describes how the GTIP's Panel of Expert Advisers (PEA) will review the scope of projects set out in this paper. After considering the advice, Gas Industry Co will then confirm the Programme scope, identifying any resulting changes or refinements to the scope. More information on the scope review is found in Section 2.6.

2 GTIP description

2.1 Overview

This section describes the GTIP legal framework, objective, governance arrangements, projects and a review of the scope of the projects identified by the PEA.

Sections 3, 4, and 5 describe the scope in greater detail by explaining the component projects for each project area.

Appendix F contains a GTIP timeline diagram showing preliminary timetables for each project.

2.2 Legal framework

The GTIP operates within the framework established for the industry, and particularly in relation to development of voluntary or regulated industry arrangements, established by Part 4A of the Gas Act 1992 (Act). This includes:

- establishment of Gas Industry Co as the industry body and co-regulator;
- a requirement for Gas Industry Co, when making recommendations, to have regard for the April 2008 Government Policy Statement on Gas Governance (GPS); and
- specific objectives for the industry, and particularly in relation to industry governance arrangements, in the Act and the GPS which promote efficient and competitive gas markets.

2.3 Objective of the GTIP

The overall objective of the GTIP is to:

- ensure that existing and future gas transmission assets are used efficiently;
- establish the need for gas transmission investment; and
- develop an effective pathway for efficient gas transmission investment to take place.

This objective reflects concerns that existing capacity is not allocated efficiently, and that new pipeline capacity may or may not be built, even though it may be efficient to do so.

2.4 Governance Framework for the GTIP

Context

The GTIP must operate within the gas industry's current regulatory framework. It is intended that the Programme will define new market arrangements that will be put into effect by industry agreements and, where necessary, regulation. In this context an important design feature is to provide opportunities for all stakeholders to engage with the GTIP and, in particular, have suitable communication channels with advisers and decision makers. We believe that by keeping stakeholders well informed, and advisers in touch with market participants, good communication will lead to more timely and well-directed decision-making and market improvements.

Changes from original proposal

Gas Industry Co's May 2011 paper, *Proposed Gas Transmission Investment Project,* proposed a governance structure for the GTIP. In light of feedback from stakeholders and further consideration of the best approach, we have introduced several modifications to improve the governance and better align with the objective of the GTIP. These changes are described below.

Gas Industry Co originally proposed that the GTIP would be supported by a single panel of advisers. We now consider that two panels are necessary: one providing strategic oversight and advice to the Programme Sponsor, and the other assisting the Project Managers to grapple with aspects of the projects that require particular expertise (for example related to the economics of markets, or the commercial or technical operation of the industry). Gas Industry Co has appointed one Chair and is in discussions with another. We are also seeking nominations for Panel members from stakeholder organisations. Gas Industry Co will appoint members to each panel following a review of nominations with the respective Panel Chairs.

Overview of Advisory Panels

The Panel of Strategic (PSA) will comprise senior stakeholder representatives (e.g. CEO or CEO reports). This will allow for strategic oversight of the projects in the wider industry context, and provide a forum to address contentious issues at the request of the Programme Sponsor. The PSA Chair will be responsible for facilitating discussions between PSA members in a manner that will stimulate debate. While promoting development of industry advice, agreement, or consensus is a potential benefit of the PSA, the PSA Chair's role is to Chair rather than to seek to mediate those discussions. Terms of Reference for the PSA are provided in Appendix A.

The Panel of Expert Advisers (PEA) will comprise members who are selected, principally from market participants, for their expertise in particular areas. Terms of Reference for the PEA are provided in Appendix B. The PEA will follow a detailed Work Plan and the initial Work Plan will be agreed at its first meeting. Appendix C provides a draft of the initial PEA Work Plan prepared by Gas Industry Co. The PEA will first be responsible for providing expert advice to Gas Industry Co in relation to the scope of the GTIP projects, and then it will turn its attention to the Transmission Access and Pricing Project. These items are described in Schedules 1 and 2 of the PEA Work Plan. Other matters may be referred to the panel as other GTIP Projects get underway. It is likely that the expertise of the PEA will be needed for aspects of all GTIP Projects. Initially, however, the PEA's efforts will be focussed on the Market Projects, where strong expert input is expected to be required throughout.

Together with Gas Industry Co, the PSA will consider the PEA's advice on the scope of the GTIP. The interaction of the PEA, PSA, Gas Industry Co, and wider stakeholders is discussed below.

GTIP process for making recommendations

Gas Industry Co has carefully considered how to maintain the integrity of its role under the Gas Act and the co-regulatory model while supporting and promoting the objective of the GTIP. The GTIP follows a structure slightly different to other Gas Industry Co workstreams, however, the underlying policy development framework remains the same.

Key decisions will continue to be made by Gas Industry Co's Board. And when recommending new gas governance arrangements (regulatory or non-regulatory), Gas Industry Co will follow the process required under the Gas Act by consulting on a Statement of Proposal and then submitting any recommendations to the Minister for consideration.

The PEA and PSA will be required to have regard for the objectives of the Gas Act, GPS and overarching GTIP objective in all its work. When either panel gives advice to Gas Industry Co's, our main consideration will be how well it meets the objectives. While it is important that Gas Industry Co carefully consider the advice of the PEA and PSA, it must make its own assessment of such advice, and seek wider stakeholder views, through formal consultation where necessary. The PEA may also need input from stakeholders to inform its work.

Figure 2 illustrates how this will be achieved. The Programme Sponsor may request advice from the PEA on any matter. This will be done via the PEA's Work Plan. The PEA can propose changes to the plan and we expect that there would be further discussion between the Chair and Programme Sponsor before a final Work Plan is agreed by the PEA and Gas Industry Co. If a Work Plan cannot be agreed, Gas Industry Co will progress the work in another way, such as using its own resources or external consultants.

The PEA will be expected to conduct a robust analysis that brings its collective knowledge to bear on the issue. This analysis may require the PEA to seek information directly from stakeholders to inform its analysis, or it may seek feedback from stakeholders on its analysis. Stakeholders could be engaged in a number of ways, including workshops. The PEA may also seek feedback directly from Gas Industry Co.

When the PEA seeks feedback from Gas Industry Co, or gives advice to Gas Industry Co on a particular matter, Gas Industry Co may choose to formally consult on that matter. Where it consults, it will provide the resulting submission to the PEA for analysis.

It is not practicable for all industry participants to have a representative on one of the two panels. Therefore, it is important that good communication with all stakeholders is maintained throughout the Programme. All final documents produced by the PEA will be published on Gas

Industry Co's website. And as noted above, in relation to some matters, wider stakeholders' views will be sought through consultation led by either Gas Industry Co or the PEA.

In all of these communications the Programme Sponsor is a linchpin. This is illustrated in the diagram below, which shows the connections with the advisory panels (formalised through the terms of reference) and other stakeholders.

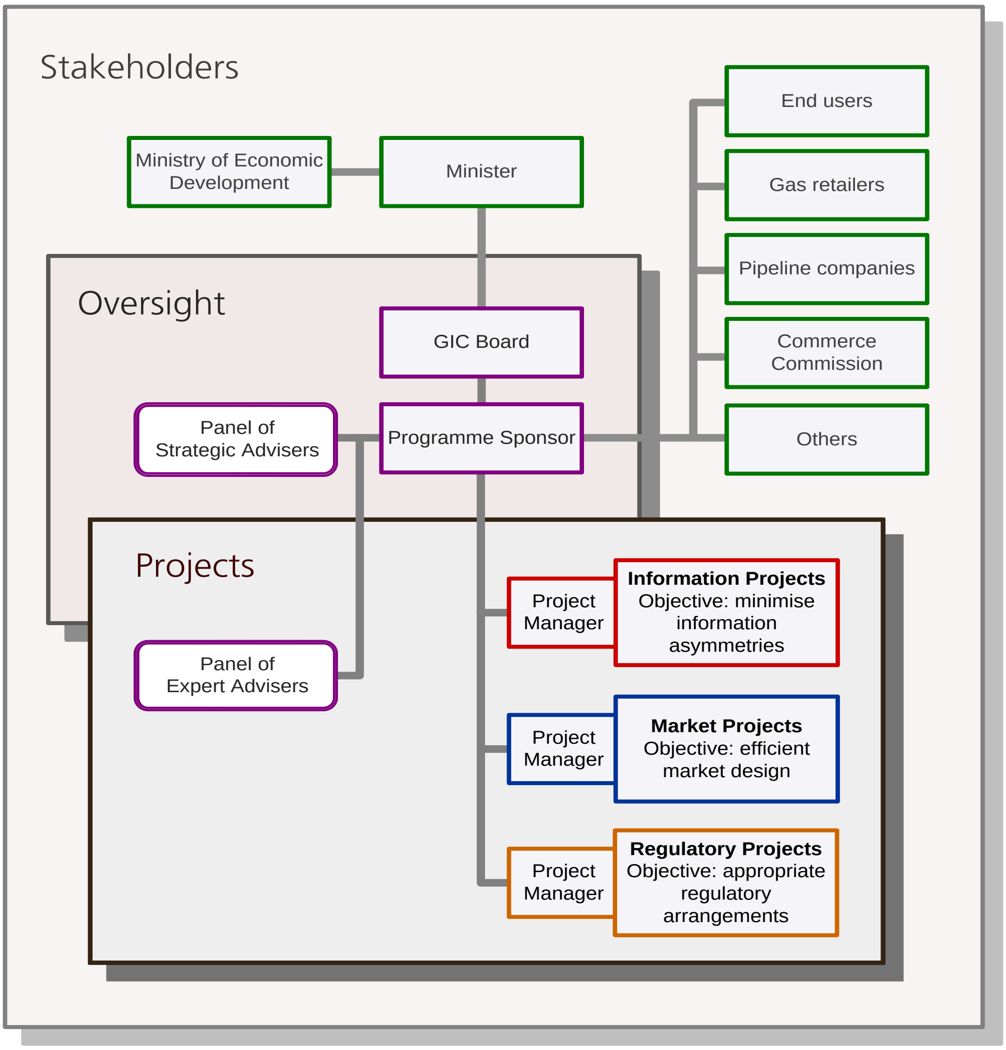

Figure 1 - GTIP relationships

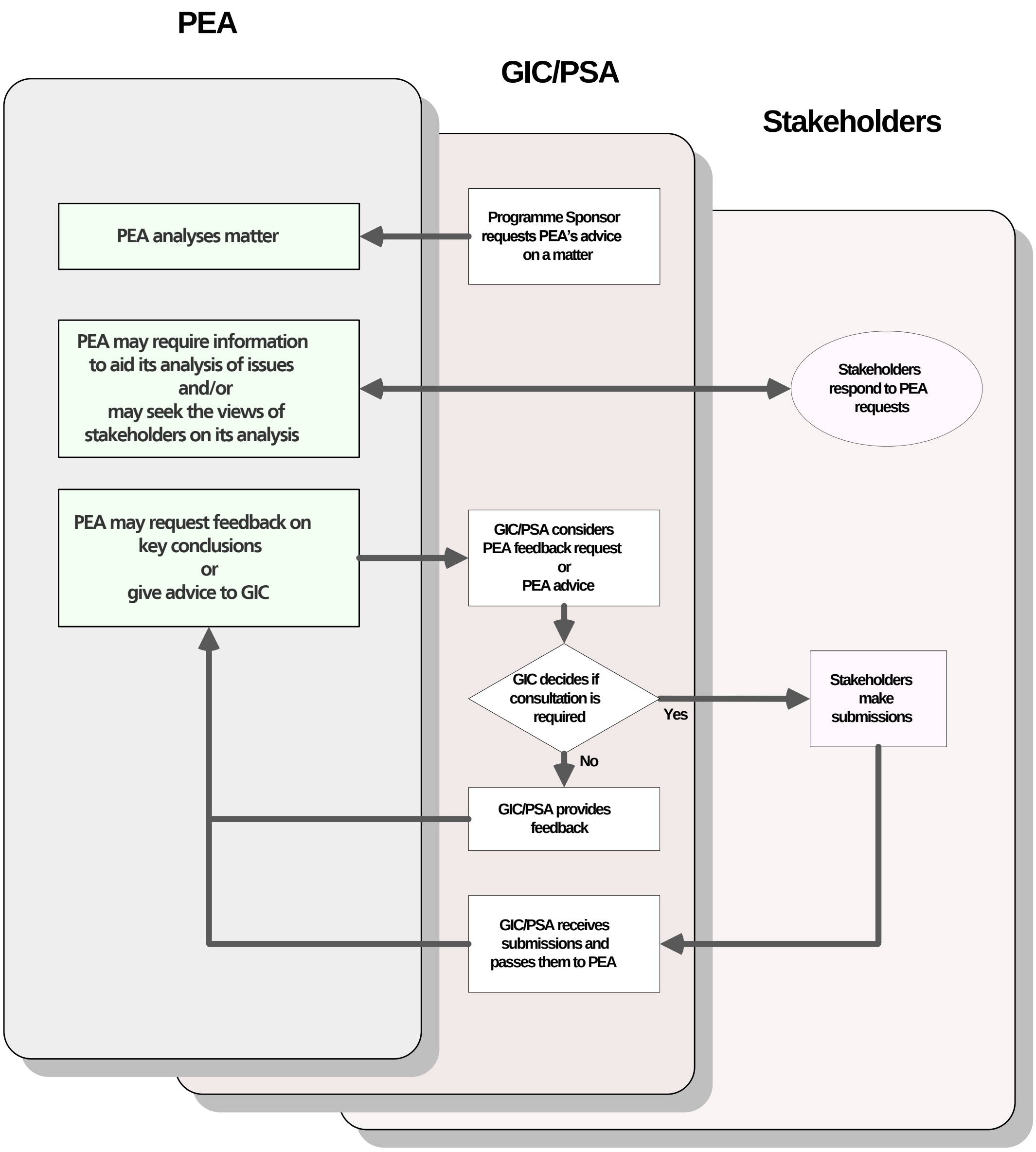

Figure 2 – Stakeholder consultation

2.5 GTIP Projects

The project areas are the same as initially discussed at the April 2011 workshop, and subsequently reflected in the May paper. These areas are: information, market[6], and regulatory. The objective of each project area has been refined to better reflect each project's role in achieving the overall objective of the GTIP. The project areas and corresponding objectives are listed below.

- Information Projects: aimed at minimising information asymmetries to allow stakeholders to make informed decisions that will result in an efficient allocation of resources;

[6] This area was previously called 'commercial' but we believe that 'market' better describes the focus on overall market design, rather than particular commercial arrangements.

- Market Projects: aimed at providing efficient market arrangements to allow an efficient allocation of transmission capacity and signal the need for new investment; and
- Regulatory Projects: aimed at defining appropriate regulatory arrangements that support efficient investment in transmission infrastructure.

2.6 Scope Review

Within the broad structure outlined above we consider it would be prudent for the PEA to consider and advise whether Gas Industry Co has correctly identified the projects that are necessary to achieve the overall Programme objective.

In identifying the projects proposed in this report we have been careful not to allow the scope to drift into areas that are not of immediate concern, or that may cause undue delays. However, we consider it worthwhile for our advisers to either confirm that we have correctly identified the projects, or propose alternatives. In doing so they will need to strike a balance between an incremental approach that can deliver timely benefits, compared to a broader market redesign that may deliver greater benefits but take longer and require substantial resources. An added benefit of the scope review will be a better understanding of the project objectives and boundaries, including time and budget constraints. Examples of the kinds of matters advisers may wish to debate are whether reform should be focused on the North Pipeline, the broader transmission services market, or the broader gas market.

The PEA will report on the outcome of its review to Gas Industry Co. Any changes agreed may have flow-on effects on other areas of the GTIP.

Preliminary timetable for PEA review of project scope

Set out below is a preliminary timetable for the PEA's review of the GTIP scope.

Task	Who	When
Consider scope of GTIP projects	PEA	Oct 2011
Give advice to Gas Industry Co on scope	PEA	Dec 2011
Confirm GTIP scope	GIC	By March 2012

3 Information Projects

3.1 Component projects

The intent behind the Information Projects is to remove, or at least minimise, information asymmetries. The working assumption underlying the GTIP is that efficient use of existing capacity and new investment in gas transmission will come about in an environment that provides market participants and potential investors with sufficient information to make informed decisions. For that to happen, market participants in the gas industry will need to have a good degree of confidence to underpin the commitments they will variously need to make to underwrite such investment. That will only happen if good, relevant information is readily available. The diagram below identifies the component projects of the information thread.

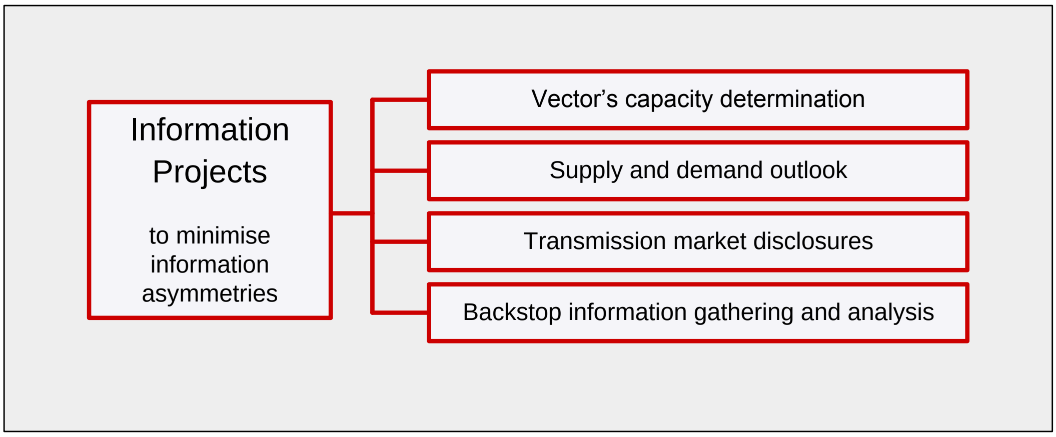

Figure 3 - Information Projects

3.2 Vector's capacity determination

Overview

The capacity of any pipeline depends on a range of factors, including the physical characteristics of the pipeline, the availability and capability of compression, and particular factors such as upper pressure limits through the Auckland urban area. As part of the Bridge Commitments, Vector has undertaken to review the North Pipeline capacity constraint by a target date of 1 December 2011. Gas Industry Co is working with Vector on that.

In addition, we understand that Vector will shortly advise the industry of a comprehensive consultation plan that will re-determine how much capacity is available on the North Pipeline and to review its security of supply standard. We have linked these elements into a single Vector Capacity Determination project that Vector will lead. Vector has provided Gas Industry Co with a timetable of this work copied below.

In addition to the above, Gas Industry Co intends to obtain information on commercial capacity arrangements (i.e. reservations etc) and, perhaps, information on the amount and utilisation of interruptible demand including any forecast for use of this in the future. We understand Vector will very shortly disclose its capacity queues, which is information that Gas Industry Co has previously requested be disclosed.

Timetable for Vector's capacity determination

Set out below is a timetable provided by Vector for this work.

Task	When
Overarching consultation paper: sets out purpose, high level consultation approach, steps and timeline	30 September 2011
Current State Paper: reviews the North Pipeline capacity	31 October 2011
Physical Modelling Inputs Discussion Paper: explains the modelling approach, demand assumptions, security criteria, reasonable and prudent operator.	31 October 2011
First Consultation: public forum to answer questions	31 October to 25 November 2011
Consultation feedback and publication of modelling outputs: modelling base case and sensitivity scenarios, including a draft capacity determination.	Early-Mid December 2011
Presentation of capacity determination discussion paper: public forum, discussion	Depends on feedback received.
Consultation Period	
Vector's capacity determination	

3.3 Supply and demand outlook

Overview

The outlook for supply and demand for gas is a crucial input for potential investors to assess whether further gas transmission investment is likely to be efficient. Unlike electricity, the New Zealand gas market does not have an independent body responsible for commenting on the potential futures for gas supply and demand at a regional level.[7] Instead, industry participants take a position on supply and demand, based on their own individual views of the gas market.

[7] The MED Energy Outlook currently models energy supply and demand at a national level rather than a regional level.

Market development scenarios (MDS) for electricity generation have been produced by the then Electricity Commission in the Statement of Opportunities (SoO). This role has since been transferred to the Ministry of Economic Development (MED). MDSs are developed to provide an information base against which the regulator (previously the Electricity Commission, now the Commerce Commission) can assess and approve electricity transmission investment proposals put forward by Transpower. Such an arrangement does not exist for gas transmission investment. However, publication of MDSs for the gas sector in a similar way to the SoO would encourage discussion and scrutiny of investment proposals and help early identification of potential constraints.

Given the complexity of the gas market and interdependence with other markets, it is likely to be more efficient to have a single, independent body providing a consolidated and consistent set of information on projected gas supply and demand under a range of scenarios. The results could be consulted-on and made public.

We have consulted MED, which is responsible for the electricity sector SoO. While it would not be able to undertake a gas SoO within the proposed GTIP timeframes, the MED is keen to support our efforts to initiate the work. Longer term, consideration would need to be given to which authority is best placed to carry the work forward.

Gas Industry Co proposes to co-ordinate the building of a model that would provide possible supply and demand scenarios to be used as inputs for the broader GTIP. Essential to the GTIP is the ability to model regional demand so as to generate scenarios that will help to answer the related questions of if, and when, new gas transmission investment north of Rotowaro is required.

This project would draw on existing information and resources wherever possible. For example, MED already uses a model for the outlook for gas production by basin, price, and sectorial demand. The project will need to be resourced with consultants who have a good knowledge of that work, as well as a sound understanding of the gas sector.

Time horizon

The electricity SoO produced by the former Electricity Commission[8] forecasts electricity supply and demand for 30 years.

In contrast the gas SoO produced by the Australian Energy Market Operator (AEMO) forecasts supply and demand for only 10 years. The AEMO gas SoO includes forecasts of capacities and constraints of production; storage and transmission facilities, and projected annual and peak day demand for natural gas for each demand zone. However it also includes a more speculative outlook of natural gas reserves and annual demand for a further 10 years.

[8] Following the 2009 Review of the electricity market, responsibility for the electricity SoO has been transferred to MED.

Although pipelines are very long lived investments – typically with economic lives exceeding 60 years – discounting of future costs and benefits mean that these are largely irrelevant to investment decisions after 15 years.

Gas Industry Co does not have a firm view on the appropriate time horizon for a supply/demand outlook, and would seek advice from the advisory panels and industry stakeholders on model design, inputs and outputs, to ensure the final product adds real value to the industry.

Appendix D contains a preliminary view on what information will be required and possible components of the model.

Preliminary timetable for supply and demand outlook

Set out below is a preliminary timetable for the key tasks in this project.

Task	Who	When
Engage consultant to assist in developing terms of reference and developing model	GIC	Oct 2011
Develop terms of reference for model development	GIC/MED	Oct 2011
Information gathering	Industry/Consultant/GIC	Nov 2011
Model development	Consultant/GIC	Dec/Jan 2011/12
Initial scenarios published	Consultant/GIC	Feb/Mar 2012
Workshop to review scenarios	GIC/Consultant/Stakeholders	Apr 2012
Scenarios revised/published	Consultant/GIC	May/Jun 2012

3.4 Transmission market disclosures

Overview

In Gas Industry Co's April 2011 paper entitled *Retail Competition and Transmission Capacity Statement of Proposal: Submissions Analysis and Next Steps*, we noted that we would encourage Vector to:

- publish information on any pent-up demand for capacity (the 'capacity queues');
- disclose its security of supply standard, its projection of the frequency of interruptions necessary to maintain that standard, and the impact of these matters on the amount of reserved capacity it will sell;
- disclose details of why it was concerned the security of supply standard would be breached, including its expectations for future demand growth, and relevant system modelling work, including modelling assumptions; and

- present future capacity disclosure information in a way that is transparent for industry participants.

Vector has agreed to disclose its capacity queues, and intends to commence a process that will include consulting on its security of supply standard. In addition, the requirements for pipeline companies to disclose information will be clarified once the Commerce Commission has established its information disclosure requirements. It is therefore possible that all information necessary for the efficient operation of the market will be available. However, we consider that it is wise to review what information is available once a better understanding of the market is obtained, through the other GTIP projects.

Preliminary timetable for transmission market disclosures

Set out below is a preliminary timetable for the key tasks in this project.

Task	Who	When
Review findings of other GTIP projects	GIC	Sept 2012
Identify information gaps	GIC	Oct 2012
Consider options to improve information	Consultant/GIC	Nov 2012
Implement information improvements	Industry/Consultant/GIC	February 2013

3.5 Backstop information gathering and analysis

Overview

Information on the state of the capacity market will be essential to the success of the GTIP. One of the Bridge Commitments is directly relevant to the availability of information:

> …disclose to the GIC such information as the GIC reasonably requires to enable it to understand and assess the extent of the Northern Pipeline capacity constraint, the efficiency of the current capacity allocation mechanism and the need for asset investment…

To date there has been no information on the extent to which shippers utilise their capacity reservations and no information on any pent-up demand that may exist.

Gas Industry Co is developing an information gathering process, which may include recommending back-stop regulations designed to ensure that fulfilling its mandate is not frustrated or delayed by a lack of information. Section 43G(2)(l) of the Act allows for regulations to be made that provide for processes for settling particular issues within the gas industry. This process may result in recommendations for gas governance regulations or rules. If enacted, industry participants would be required to comply with those processes, including producing documents as part of those processes. Any regulations would include mechanisms to ensure that commercially sensitive information was protected while still allowing Gas Industry Co to publish the results of any analysis of such information, leading to more efficient outcomes from the policy development process.

This work is being pursued in parallel to the GTIP and will apply across all areas of Gas Industry Co's work. With respect to the GTIP, this information gathering process (or any regulations implemented for this purpose) has the potential to assist in the development of market arrangements – voluntary and regulatory – that could lead to improved availability of information in the marketplace. Such improved transparency of information is key to enhancing the efficiency of market operations.

Preliminary timetable for backstop information gathering

Set out below is a preliminary timetable for the key tasks in this project.

Task	Who	When
Proposed approach discussed with MED	GIC/MED	Aug 2011
Statement of Proposal issued	GIC	Sept 2011
Recommendation to Minister	GIC	Dec 2011
Regulations introduced (if required and approved)	MED/Minister	Mar 2012

4 Market Projects

4.1 Component projects

The second thread of the GTIP involves considering whether the existing market arrangements can and should be changed to facilitate more efficient outcomes. Matters to consider here include the type(s) of transmission service offered and the way in which a service is priced particularly to ensure capacity shortages are signalled. Assuming that a change to more efficient arrangements is warranted, there could be a significant implementation process to transition from the current to new arrangements.

Although only one project – transmission access and pricing – is currently identified as being necessary, it may be that during the initial scope review other projects are identified. In addition, if a 'market carriage' type of access regime is identified as the preferred option during the transmission access and pricing project, it would be necessary to initiate a separate project to consider how gas trading arrangements would be integrated into that model. Alternatively, such a possible development could be progressed outside the GTIP after the identified GTIP projects are complete. (The GTIP may be considered as an initial step in a wider market reform.)

Only by improving the access arrangements and, thereby, optimising use of the existing capacity on the North Pipeline, will the market obtain a clear picture of whether investment in additional capacity is justified.

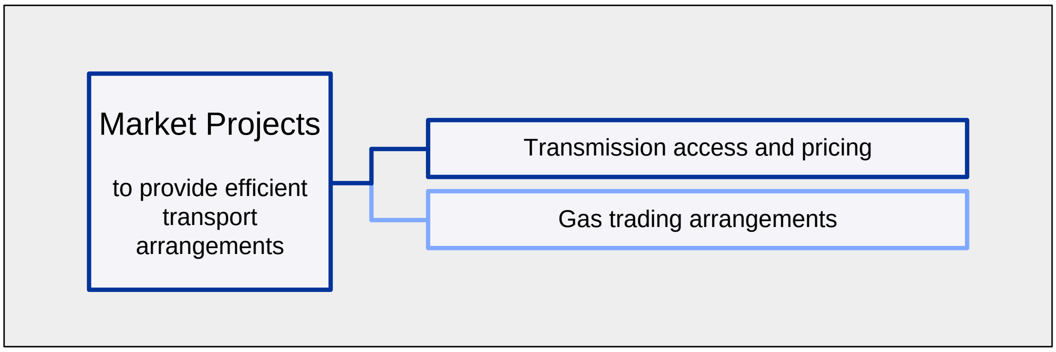

Figure 4 - Market Projects

4.2 Transmission access and pricing

Overview

Open access transport on gas transmission pipelines is defined by the physical capabilities of the pipelines, access arrangements (that is, the commercial terms for users), and regulatory arrangements. A pipeline owner can package the capability of the pipeline in different ways, offering a transport service described in terms of:

- the degrees of security of the service (often described as 'firm', 'semi-firm', and 'interruptible');
- the term of the service (investors in a major project, such as a power station, typically wish to purchase firm capacity for the economic life of the project); and
- the arrangements for scheduling gas flows ('no-notice' service, or various 'nomination' regimes).

The Maui pipeline and Vector pipelines are also subject to regulations relating to the price and quality of service and investment currently being developed by the Commerce Commission (see Appendix D).

Previous Gas Industry Co work identified the main concerns with the current access arrangements as:

- inefficient pricing of capacity: capacity pricing, specifically on the North Pipeline, does not reflect its scarcity value;
- inefficient allocation of capacity (closely related to pricing):
  - grandfathering of capacity, where shippers are entitled to reserve the same capacity as the previous year;
  - the lack of secondary trading between users[9]; and
- lack of transparency on how Vector determines its commercial capacity.

Additional concerns identified include whether interruptible demand has the correct price signal and is being supplied and used efficiently.

As discussed in Section 1.3, this earlier work culminated in the May 2010 paper: *Options for Vector Transmission Capacity.* We would expect the PEA to consider this paper, and the submissions made on it, at an early stage of the advisory panel's deliberations. The panel may find these papers especially useful when undertaking the scope review.

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[9] This is expected to change as a result of the Bridge Commitments. However, it seems likely that capacity trading would be a significant component of optimising any contract carriage regime.

Preliminary timetable for transmission access and pricing

Gas Industry Co has developed a draft Work Plan for the PEA. It is included in full in Appendix C.

Task	Who	When
Consult on access and pricing options	GIC (having considered advice of PEA)	May 2012
Consult on preferred option	GIC (having considered advice of PEA)	July 2012
Develop details of preferred option	GIC (having considered advice of PEA)	Sept 2012
Implement changes	GIC (having considered advice of PEA)	Dec 2012

5 Regulatory Projects

5.1 Component project

At the core of the GTIP is ensuring that there is a clear pathway to investment in gas transmission infrastructure. This is important not only to a North Pipeline investment, but also for any potential future investment by a gas transmission owner. If the pathway is unclear, acting as a barrier to investment, there is a risk that necessary investments are delayed or do not even take place.

Following from the objectives of the other GTIP Projects and from other circumstances in the market, this Project will consider whether further work needs to take place to confirm how an investment would be treated inside or outside current regulatory arrangements. This particularly applies to the outcomes of the Commerce Commission's work on economic regulation of gas pipeline businesses under Part 4 of the Commerce Act.

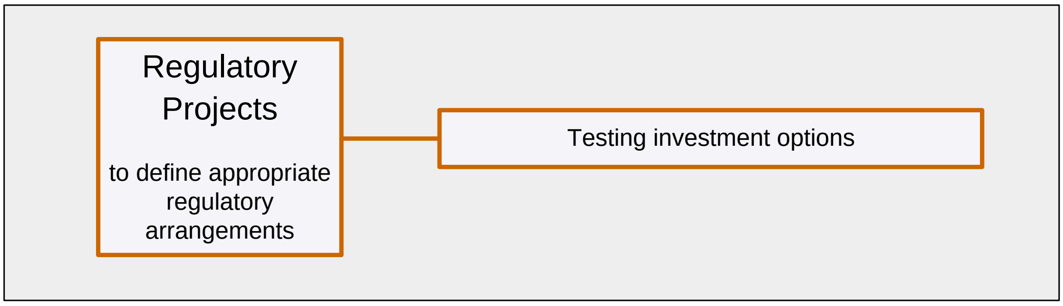


Figure 5 - Regulatory Projects

5.2 Testing investment options

Overview

Once a viable investment project is identified, work is likely to be required on how the investment will work in (or outside) the Commerce Commission's price-quality regime. It is possible that investment proposals could involve smaller or specific works, such as increased compression or looping of the existing transmission system. Alternatively, it may involve addition of substantial new pipeline capacity. Investment could be by one of the existing transmission system operators or a new entrant. Gas Industry Co also has powers to require investment in certain situations and to specify how this might be paid for.[10] Regulatory treatment may differ based on these factors.

Regulatory considerations

The new regime mandated under Part 4 of the Commerce Act means that Vector and Maui Development Limited (MDL) are subject to economic regulation in the form of either default price-quality path (DPP) or a customised price-quality path (CPP).[11]

The DPP is designed to be a low-cost approach under which:

- the Regulated Asset Base (RAB) is determined;
- a return on the RAB is set;
- either a total revenue cap or a weighted average price cap is determined; and
- starting prices and rates of change are set for the regulatory control period.

The Commission's draft decisions on DPPs for gas pipeline businesses are not expected until November this year.

Testing investment options

Under this project, we will work with the Commerce Commission and Government to help clarify the regulatory arrangements and to ensure that an effective pathway for efficient gas transmission investment is in place. Ultimately, the market will determine whether sufficient conditions exist for investment, but the Project envisages an overall role in helping the market better understand the regulatory framework in place and ensuring incentives to invest do not face barriers. This work may include working through investment scenarios with the Commerce Commission to better understand how a large investment would be treated. If an investor is not the asset owner, Gas Industry Co will again work with the Commission and whoever else might be involved to understand what the regulatory arrangements are for the investment.

Preliminary timetable for testing investment options

Set out below is a preliminary timetable for the key tasks in this project.

Task	Who	When
Draft determination of DPP for gas pipeline businesses	Commerce Commission	November 2011
Develop capital investment scenarios	GIC/Industry	April-September 2012
Consider investment vehicles	GIC/industry	September-November 2012

[10] Section 43F(2)(d) of the Gas Act 1992.
[11] See Appendix D for a more detailed overview of the Commerce Commission's input methodologies and price control regime for Gas Pipeline Businesses.

Task	Who	When
Test options in regulatory context	GIC/ Commerce Commission /Government/Other	November-June 2013

6 Next Steps and Feedback

6.1 Next Steps

On release of this paper Gas Industry Co will invites stakeholders to make nominations for the PEA and PSA. Once Gas Industry Co has made these appointments the PEA will begin its review of GTIP scope.

6.2 Feedback

We welcome any feedback on this paper.

Appendix A Terms of Reference: Panel of Strategic Advisers (PSA)

Introduction

1. Gas Industry Company Limited (Gas Industry Co) has established a new work programme – the Gas Transmission Investment Programme (GTIP) the objective of which is to:

   - ensure that existing and future gas transmission assets are used efficiently;
   - establish the need for gas transmission investment; and
   - develop an effective pathway for efficient gas transmission investment to take place.

2. The GTIP comprises a set of projects grouped into three categories: information, market, and regulatory.

3. The Panel of Strategic Advisers (PSA) has been established to discuss and provide impartial strategic advice to Gas Industry Co in relation to the GTIP, and how best to achieve the GTIP objective, including where industry solutions are achievable.

4. Formal communication between the PSA and Gas Industry Co will be made between the PSA Chair and the GTIP Programme Sponsor (Gas Industry Co's Chief Executive).

5. This document is the primary reference for the PSA regarding its governance and operations.

Role

6. The key role of the PSA is to provide the Gas Industry Co with a strategic view of how the GTIP can best contribute to ensuring that the gas industry is achieving its optimal potential.

7. The PSA will review and consider matters brought before it by the Programme Sponsor.

8. The PSA is primarily a forum to discuss issues and give advice to the Programme Sponsor.

9. The PSA is expected to:

   - be informed about the progress of GTIP projects;
   - assist the Programme Sponsor to make informed decisions about the scope of projects and allocation of resources to projects, when requested;

- consider and provide feedback on advice the PEA gives to Gas Industry Co , when requested;
- discuss and give advice to Gas Industry Co on where industry solutions can be developed; and
- advise Gas Industry Co on how diverse views on various issues might be reconciled.

10. When considering matters, the PSA will take into account:

- the industry governance arrangements set out in Part 4A of the Gas Act, in particular the section 43ZN objectives;
- the most recent Government Policy Statement on Gas Governance (GPS);
- the overall objective of the GTIP;

PSA Membership

11. Appointment of members to the PSA will be senior representatives of industry organisations.
12. Gas Industry Co will invite participation of a range of stakeholder organisations to gain an appropriate representation of industry perspectives.
13. Gas Industry Co will appointment members following consultation with the PSA Chair.
14. Members are expected to use all reasonable endeavours to attend meetings but will be entitled to nominate an alternate member from their respective organisations.
15. Except by agreement with Gas Industry Co and the PSA Chair, PSA Members will not speak to the media on behalf of the PSA on any matter relating to the PSA or the GTIP.

The PSA Chair

16. In addition to the PSA Members, Gas Industry Co will appoint a PSA Chair. Note that the PSA Chair is not considered a member of the PSA.
17. Except by agreement with Gas Industry Co, the PSA Chair will not speak to the media on behalf of the PSA on any matter relating to the PSA or the GTIP.

Responsibility of the PSA Chair

18. The PSA Chair will be responsible for:

a) facilitating discussions between PSA Members in such a manner that will stimulate robust debate on issues and encourage effective contribution from PSA Members; and

b) guiding discussions so that they are relevant and effective while at the same time ensuring that genuine disagreements and conflicts are aired and, if possible, resolved.

c) while promoting development of industry advice, agreement, or consensus is a potential benefit of the PSA, the Chair's role is to chair rather than seek to mediate those discussions at the PSA.

Timing and Agenda for each PSA meeting

19. The PSA Chair will arrange meetings with assistance from Gas Industry Co.

20. The PSA Chair will set the agenda for each PSA meeting in consultation with the Programme Sponsor before circulating the agenda to PSA Members. PSA Members may seek to add further items to a meeting agenda, but inclusion will be at the discretion of the PSA Chair after being discussed with the Programme Sponsor.

Administration

21. Gas Industry Co wishes the PSA to operate as informally as possible, with a minimum of administration.

22. Gas Industry Co will provide administrative/secretarial support to the PSA, as required.

Minutes

23. The PSA Chair must ensure that proper minutes are kept of all business conducted at PSA meetings.

Transparency of reports

24. In the normal course of events, Gas Industry Co will arrange for all final non-confidential documents, including reports, presentations, and minutes, to be published on Gas Industry Co's website.

Gas Act/GPS Objectives

25. For reference, the objectives and outcomes in both the Gas Act and the Government Policy Statement on Gas Governance (GPS) are listed below.

Objectives from section 43ZN of the Gas Act:

The principal objective is to ensure that gas is delivered to existing and new customers in a safe, efficient, and reliable manner.

The other objectives are:

(i) the facilitation and promotion of the ongoing supply of gas to meet New Zealand's energy needs, by providing access to essential infrastructure and competitive market arrangements:

(ii) barriers to competition in the gas industry are minimised:

(iii) incentives for investment in gas processing facilities, transmission, and distribution are maintained or enhanced:

(iv) delivered gas costs and prices are subject to sustained downward pressure:

(v) risks relating to security of supply, including transport arrangements, are properly and efficiently managed by all parties:

(vi) consistency with the Government's gas safety regime is maintained.

Objective and outcomes from the GPS dated April 2008

To ensure that gas is delivered to existing and new customers in a safe, efficient, fair, reliable and environmentally sustainable manner.

a) The facilitation and promotion of the ongoing supply of gas to meet New Zealand's energy needs, by providing access to essential infrastructure and competitive market arrangements;

b) Energy and other resources are used efficiently;

c) Barriers to competition in the gas industry are minimised to the long-term benefit of end-users;

d) Incentives for investment in gas processing facilities, transmission and distribution, energy efficiency and demand-side management are maintained or enhanced;

e) The full costs of producing and transporting gas are signalled to consumers;

f) Delivered gas costs and prices are subject to sustained downward pressure;

g) The quality of gas services and in particular trade-offs between quality and price, as far as possible, reflect customers' preferences;

h) Risks relating to security of supply, including transport arrangements, are properly and efficiently managed by all parties;

i) Consistency with the Government's gas safety regime is maintained; and

j) The gas sector contributes to achieving the Government's climate change objectives by minimising gas losses and promoting demand-side management and energy efficiency.

Appendix B Terms of Reference: Panel of Expert Advisers (PEA)

Introduction

1. Gas Industry Company Limited (Gas Industry Co) has established the Gas Transmission Investment Programme (GTIP), the objective of which is to:

- ensure that existing and future gas transmission assets are used efficiently;
- establish the need for gas transmission investment; and
- develop an effective pathway for efficient gas transmission investment to take place.

2. The GTIP comprises a set of projects grouped into three categories - information, markets, and regulatory.

3. The Panel of Expert Advisers (PEA) has been established to provide expert advice to Gas Industry Co in relation to the projects.

4. Formal communication between the PEA and Gas Industry Co will be made between the PEA Chair and the GTIP Programme Sponsor (Gas Industry Co's Chief Executive).

5. Initially, the PEA will be responsible for reviewing the scope of the GTIP as described in the *GTIP: Structure and Scope paper*.

6. This document is the primary reference for the PEA regarding its governance and operations. The Terms of Reference also describe arrangements for agreeing and undertaking the PEA's Work Plan.

Role

7. The key role of the PEA is to provide advice to Gas Industry Co on matters assigned to it in the Work Plan. The advice provided by the PEA to Gas Industry Co should contain robust analysis, and be of sufficient quality to enable Gas Industry Co to make well-informed decisions.

8. In providing its advice, the PEA will take into account:

   (a) the industry governance arrangements set out in Part 4A of the Gas Act, in particular the section 43ZN objectives;

   (b) the most recent Government Policy Statement on Gas Governance (GPS);

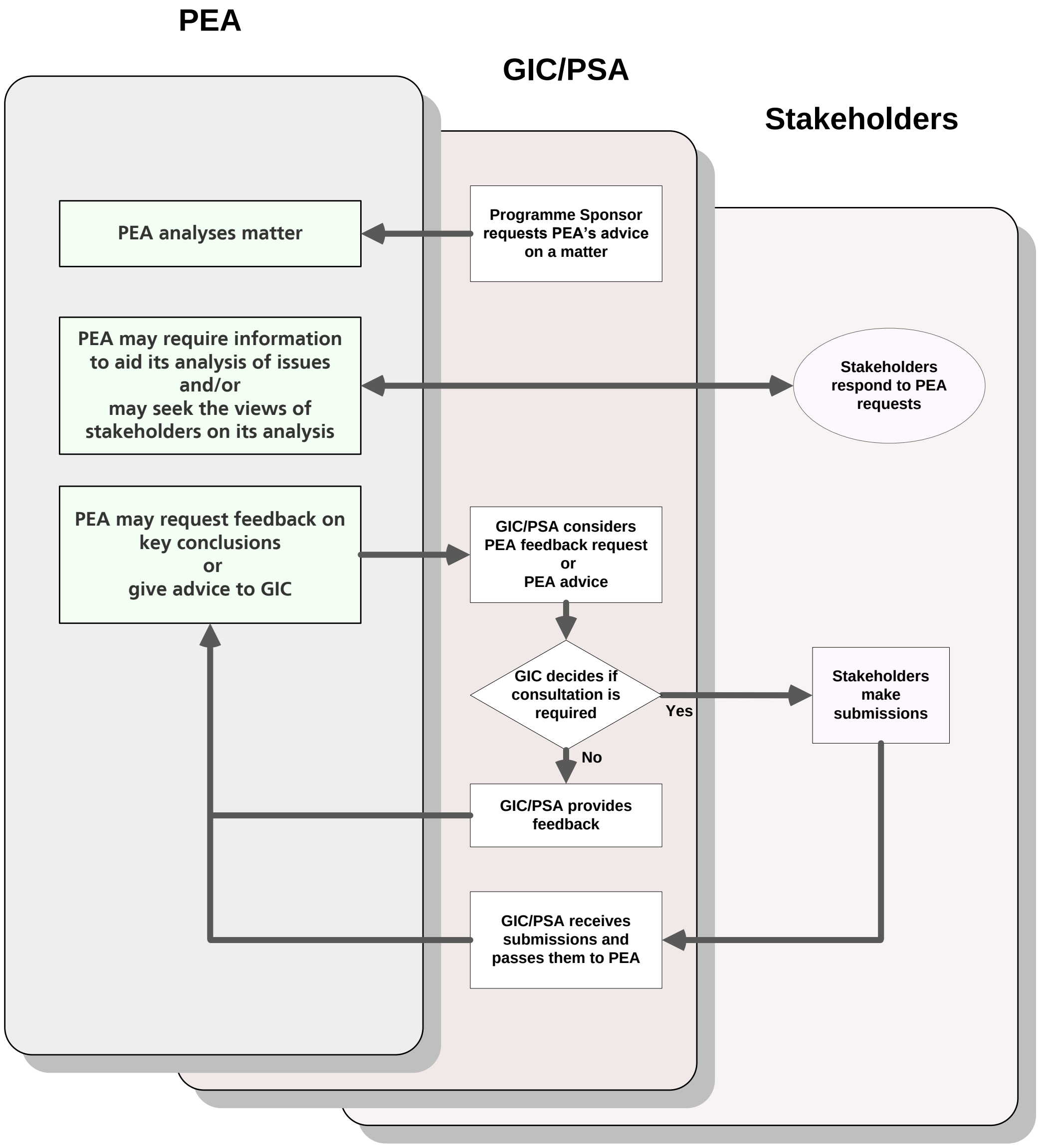
   (c) the objective of the GTIP; and

(d) the need to reconcile divergent views wherever possible.

Interaction with stakeholders

9. Subject to Clause 10, the PEA may communicate with stakeholders on an ad-hoc basis through workshops, presentations, or other means.

10. Also, where Gas Industry Co accepts, rejects, or modifies a key recommendation of the PEA, and considers that stakeholder feedback is required, it will prepare and issue the related consultation paper.



Work Plan

11. Gas Industry Co will prepare a draft Work Plan for the PEA and discuss it with the PEA's Chair before presenting it to the PEA for its consideration.

12. In considering and proposing changes to the draft Work Plan the PEA must be mindful that:

    (a) Gas Industry Co has a limited budget and must prioritise its work; and

    (b) the Work Plan must be consistent with Gas Industry Co's other work obligations and the GTIP.

13. If the PEA and the Programme Sponsor are unable to reach agreement on aspects of the PEA's Work Plan, including in regards to timing for progressing items of the Work Plan.

14. From time to time, Gas Industry Co and the PEA may propose changes to the Work Plan. In particular, the Programme Sponsor may propose additional work as the requirements of other GTIP projects demand.

15. In addition to the Work Plan, Gas Industry Co may provide specific guidance to the PEA on any matter at any stage of the PEA's work.

Undertaking the PEA's Work Plan

16. Subject to its Work Plan and any specific guidance from Gas Industry Co, the PEA will decide:

    (a) The extent and type of analysis it undertakes and feedback it seeks, so as to enable it to give advice to Gas Industry Co;

    (b) The content of any advice it gives to Gas Industry Co, including advice on the form and content of consultation papers that Gas Industry Co should issue on matters identified in either these terms of reference or the PEA's Work Plan;

    (c) How it will interact directly with stakeholders to receive additional information to support its analysis, such as via workshops; and

    (d) How to incorporate stakeholder feedback into its analysis and advice.

17. Gas Industry Co is mindful of the need for the GTIP to deliver outcomes in a timely fashion. From time to time, Gas Industry Co may request reports from the PEA on its progress against the Work Plan or request other outputs and by specified dates.

Provision of advice to Gas Industry Co

18. Gas Industry Co strongly encourages the PEA to provide consensus advice on the issues assigned to it, within the timeframes agreed with the Programme Sponsor in the Work Plan.

19. If the PEA is unable to provide consensus advice, Gas Industry Co expects the PEA to provide a report that explains the alternative views held by members.

20. Any advice given by the PEA must be consistent with the objectives in the Gas Act, the GPS, and the objective of the GTIP.

21. In giving advice to Gas Industry Co, the PEA must explain how the advice will meet the objectives of the Gas Act and GPS and the overall objective of the GTIP.

22. Gas Industry Co will decide the best option for progressing the PEA's advice.

PEA Membership

23. The PEA consists of seven (7) PEA Members appointed by Gas Industry Co based on nominations of candidates made by stakeholder organisations and following consultation with the Chair.

24. The PEA members will be selected to obtain a balance of economic, technical, commercial, and regulatory experience, particularly in relation to gas transmission (including access arrangements and pricing).

25. While members are not required to be independent persons, the members are expected to provide impartial advice.

26. Representatives of Gas Industry Co are entitled to attend PEA meetings and participate in discussions.

27. Secretariat services for the PEA will be provided by Gas Industry Co.

28. For the avoidance of doubt, the PEA Chair, secretariat, and Gas Industry Co representatives are not PEA Members.

Responsibility of PEA Members

29. PEA Members will be responsible for:

   a) complying with the requirements set out in these Terms of Reference;

   b) being available for all PEA meetings unless granted leave by the PEA Chair, reading all PEA papers circulated, and actively contributing to the discussions of the PEA;

   c) informing the PEA Chair and Gas Industry Co of any actual or potential conflicts of interest that may affect their ability to perform their functions as a PEA Member;

   d) carrying out any tasks or action items assigned to a Member by the Chair; and

   e) not speaking to the media on any matter relating to the PEA or the GTIP, except as agreed with the Chair.

30. PEA Members must remain mindful that:

a) While their attendance is supported by their employer, they have been appointed to act in their personal capacity and not as representatives of their organisations;

b) they have been appointed for their expertise and knowledge of one or more particular areas, as well as their ability to contribute towards the range of matters that the PEA is likely to consider; and

c) appointments to the PEA are of individuals rather than organisations.

31. All papers produced by or for the PEA will be published at the same time as they are provided to PEA Members, PEA Members may obtain input from within the organisation they are associated with where they consider this appropriate and useful. It is acknowledged that the views expressed by a PEA Member may differ from their nominating organisation.

The PEA Chair

32. In addition to the seven (7) PEA Members, Gas Industry Co will appoint an independent PEA Chair. The person must be free of conflicts of interest such as could arise from current involvement at a senior level in an industry organisation, with parties that act as advisers to such organisations, or by having a material financial interest in an industry organisation. The Chair must inform Gas Industry Co immediately it becomes aware of a potential conflict of interest.

33. Except by agreement with Gas Industry Co, the PEA Chair will not speak to the media, or agree to permit a PEA Member PEA to speak to the media, on any matter relating to the PEA or the GTIP.

Responsibility of the PEA Chair

34. The PEA Chair will be responsible for:

a) monitoring compliance by the PEA with the requirements set out in this Terms of Reference;

b) confirming the Work Plan and delivery of its requirements in a timely fashion;

c) scheduling meetings and notifying PEA Members;

d) inviting specialists to attend meetings when required;

e) facilitating discussions between PEA Members in such a manner that will stimulate robust debate on issues and encourage effective contribution from PEA Members;

f) guiding discussions so that they are relevant and effective while at the same time ensuring that genuine disagreements and conflicts are aired and, if possible, resolved;

g) ensuring that the minutes of each PEA meeting are correct;

h) ensuring that the PEA responds to any requests for advice within timeframes agreed with Gas Industry Co;

i) seeking Gas Industry Co agreement on any matter about which the Chair or a Member may talk to the media;

j) discussing with Gas Industry Co how conflicts of interest will be dealt with; and

k) reporting to Gas Industry Co on the above as appropriate.

Term of Appointment

35. PEA Members and the Chair are appointed for a period of 18 months from the date of appointment or until the PEA is disestablished by Gas Industry Co, whichever occurs first.

36. PEA Members and the Chair may be appointed for a further term by agreement. Alternatively, Gas Industry Co may seek further nominations for new Members or seek to appoint a new Chair at the end of the first term at its sole discretion.

37. In the event a PEA Member needs to withdraw from the PEA for any reason during the term, the Member must give the Chair reasonable notice. Following notification, Gas Industry Co will seek nominations for a replacement Member.

38. In the event that the Chair needs to withdraw from the PEA for any reason during the term, the Chair must give Gas Industry Co reasonable notice. Following notification, Gas Industry Co will seek to appoint a new Chair.

Non-performance

39. Any person concerned about the performance of a Member will, as appropriate, discuss his or her concerns with the PEA Chair. The Chair will refer the matter to Gas Industry Co if it is not resolved to the satisfaction of all parties.

40. Failure to perform to a standard acceptable to the PEA Chair and Gas Industry Co may result in the termination of the Member's appointment to the Panel.

41. In the event that a PEA Member's appointment is terminated for non-performance, Gas Industry Co will seek nominations for a replacement Member.

42. Any person concerned about the performance of the PEA Chair will, as appropriate, discuss his or her concerns with Gas Industry Co's Chief Executive. Gas Industry Co will determine what action to take.

43. Failure to perform to a standard acceptable to Gas Industry Co may result in the termination of the Chair's appointment.

44. In the event that the Chair's appointment is terminated for non-performance, Gas Industry Co will seek nominations for a replacement Chair.

45. Any person concerned about the performance of a Gas Industry Co staff member or contractor or external consultant must discuss his or her concerns with Gas Industry Co's Chief Executive. Gas Industry Co will determine what action to take.

Timing and Agenda for each PEA meeting

46. The PEA will meet as required having regard to the PEA's Work Plan.

47. PEA meetings will be organised by the PEA Chair with assistance from Gas Industry Co.

48. The PEA Chair will set the agenda for each PEA meeting in consultation with the Programme Sponsor before circulating the agenda to PEA Members.

49. PEA Members may seek to add further items to a meeting agenda, but inclusion will be at the discretion of the PEA Chair after being discussed with Gas Industry Co.

Interaction

50. Day-to-day interaction between the PEA and Gas Industry Co will be through the PEA Chair.

51. Email interaction between PEA Members regarding substantive PEA business should be copied to all PEA Members, the PEA Chair, and relevant Gas Industry Co staff, advisers, and the secretariat.

Authority

52. Gas Industry Co is responsible for ensuring that the PEA is appropriately resourced to perform its tasks. The PEA does not have the authority to commission analysis, to commit resources, or make any PEA or GTIP related expenditure.

Administration

53. The business and activities of the PEA must be as transparent as practicable, and unless otherwise agreed by Gas Industry Co:

    a) all meeting papers will be distributed to PEA Members and the PEA Chair five (5) business days in advance of meetings;

    b) agendas and minutes of all meetings will be published on Gas Industry Co's website as soon as practicable after the minutes are confirmed;

    c) Gas Industry Co will provide administrative/secretarial support to the PEA; and

    d) consensus among PEA Members is the optimum result, although Gas Industry Co recognises that this will not always be possible. In such circumstances, the PEA's advice must reflect the views raised by all PEA Members, and all such views must be reflected in the minutes of that particular PEA meeting.

Notice of meetings

54. Reasonable notice of meetings must be given to the PEA Chair and each PEA Member, including the details of the time and venue.

Methods of holding meetings

55. A meeting of the PEA may be held by a number of PEA Members who constitute a quorum, being at the date and time appointed for the meeting.

56. As a general rule, PEA members must attend meetings in person. However, it will be permissible for Members to attend by teleconference.

Quorum

57. The quorum for PEA meetings will comprise the Chair and at least 4 PEA Members.

58. No business (which includes approving minutes and providing advice to Gas Industry Co as part of the PEA) may be transacted at a PEA meeting if a quorum is not present.

59. PEA Members are not entitled to send an alternate to meetings unless agreed to by the Chair and the alternate is approved by the Chair.

60. The Chair is not entitled to send an alternate to meetings unless agreed by Gas Industry Co and the alternate is approved by Gas Industry Co.

Attendance

61. The PEA Chair may authorise a PEA Member leave from a meeting or meetings at its discretion.

62. Any PEA Member who, without authorised leave, misses two consecutive PEA meetings will be deemed to be removed from the PEA.

63. The PEA Chair (with the approval of Gas Industry Co) or Gas Industry Co may invite non-members to the PEA meeting. In these circumstances the invited party may participate in discussions but will not be a PEA Member, nor form part of the quorum.

Minutes

64. The PEA Chair must ensure that proper minutes are kept of all business conducted at PEA meetings.

Transparency of reports

65. In the normal course of events, Gas Industry Co will arrange for all final non-confidential documents, including reports, presentations, and minutes, to be published on Gas Industry Co's website.

Gas Act/GPS Objectives

66. For reference, the objectives and outcomes in both the Gas Act and the Government Policy Statement on Gas Governance (GPS) are listed below.

Objectives from section 43ZN of the Gas Act:

The principal objective is to ensure that gas is delivered to existing and new customers in a safe, efficient, and reliable manner.

The other objectives are:

(i) the facilitation and promotion of the ongoing supply of gas to meet New Zealand's energy needs, by providing access to essential infrastructure and competitive market arrangements:

(ii) barriers to competition in the gas industry are minimised:

(iii) incentives for investment in gas processing facilities, transmission, and distribution are maintained or enhanced:

(iv) delivered gas costs and prices are subject to sustained downward pressure:

(v) risks relating to security of supply, including transport arrangements, are properly and efficiently managed by all parties:

(vi) consistency with the Government's gas safety regime is maintained.

Objective and outcomes from the GPS dated April 2008

To ensure that gas is delivered to existing and new customers in a safe, efficient, fair, reliable and environmentally sustainable manner.

a) The facilitation and promotion of the ongoing supply of gas to meet New Zealand's energy needs, by providing access to essential infrastructure and competitive market arrangements;

b) Energy and other resources are used efficiently;

c) Barriers to competition in the gas industry are minimised to the long-term benefit of end-users;

d) Incentives for investment in gas processing facilities, transmission and distribution, energy efficiency and demand-side management are maintained or enhanced;

e) The full costs of producing and transporting gas are signalled to consumers;

f) Delivered gas costs and prices are subject to sustained downward pressure;

g) The quality of gas services and in particular trade-offs between quality and price, as far as possible, reflect customers' preferences;

h) Risks relating to security of supply, including transport arrangements, are properly and efficiently managed by all parties;

i) Consistency with the Government's gas safety regime is maintained; and

j) The gas sector contributes to achieving the Government's climate change objectives by minimising gas losses and promoting demand-side management and energy efficiency.

Appendix C Draft PEA Work Plan

Introduction

1. This draft work plan has been prepared by Gas Industry Co for discussion with the Panel of Expert Advisers (PEA) at the panel's first meeting.

2. The PEA is appointed to provide expert advice to Gas Industry Co in relation to the Gas Transmission Investment Programme (GTIP).

3. Initially the PEA will be responsible for providing advice to Gas Industry Co on the scope of the projects comprising the GTIP. After providing advice on the scope, the PEA will provide advice in relation to the GTIP projects, in particular, the Market Projects.

4. This work plan assigns matters for the PEA to investigate, analyse, and advise on and proposes timeframes for those key deliverables.

5. The PEA will operate in accordance with the PEA Terms of Reference (ToR) Gas Industry Co has developed. The ToR establish the scope of advice and arrangements for the PEA's governance and operations. The ToR also describe arrangements for agreeing and undertaking the PEA's work plan.

6. Gas Industry Co will keep the PEA well informed of the progress of other GTIP projects. When the PEA's advice on specific matters related to other projects is required, this work plan will be amended in accordance with the PEA ToR to include that work.

7. Members of the PEA are appointed for a term of 18 months or until the PEA is disestablished. Gas Industry Co believes Transmission Access and Pricing Project work can be completed within 18 months, but there may be follow-up work which is best dealt with by the PEA. Also the PEA may be involved in other GTIP projects which extend beyond this term. In either case, Gas Industry Co will consider extending the PEA's term.

8. The PEA is expected to meet once a month. However; there may be instances when the PEA needs to meet more or less frequently depending on the demands of the work plan.

Schedule 1 – Scope review

Scope review – Purpose

1. The purpose of the scope review is to determine if the projects that comprise the GTIP (as defined in the paper: *Gas Transmission Investment Programme: Structure and Scope*) are necessary and sufficient to achieve the overall GTIP objective to:

   - ensure that existing and future gas transmission assets are used efficiently;
   - establish the need for gas transmission investment; and
   - develop an effective pathway for efficient gas transmission investment to take place.

Scope review – PEA functions

2. In relation to the scope review the PEA is expected to:

   (a) Provide advice to Gas Industry Co, with supporting analysis, on any changes[1] to the scope of the projects that comprise the GTIP;

   (b) Provide analysis and justification for the advice; and

   (c) If Gas Industry Co seeks broader stakeholder input on the matter, review and comment on submissions received in relation to project scope.

Scope review – PEA key deliverables

Key deliverable 1: Advice on scope of projects

3. The PEA is expected to report Gas Industry Co on the scope of projects by the end of December 2011.

Scope review – Draft schedule of meetings

4. Below is a draft schedule of meetings for the first three months of PEA meetings (Oct-Dec 2011). The schedule will be reviewed and revised at each PEA meeting. The schedule will be published on Gas Industry Co's website.

[1] Note that after reviewing the scope, the PEA may advise that no changes are required.

Table 1 Draft schedule of meetings

Mtg #	When	Possible activities	Decisions required
1	Fri 7 Oct	• Build an understanding of the GTIP, regulatory framework, and objectives. • Build an understanding of the PEA's role. • Review draft work plan. • Review previous GIC work that may be relevant. • Initiate work required to achieve scope review (Key Deliverable 1).	
2	Thur 10 Nov	• Review work done in relation to scope review. • Determine key features of analysis.	
3	Thur 8 Dec	• Consider draft advice on scope review. • Finalise advice to GIC on scope (**Key deliverable 1**)	Advice to GIC on GTIP scope
?	?	If GIC consults on PEA advice, review and comment on submissions.	Review and comment on scope submissions

Schedule 2 – Transmission Access and Pricing Project work

Transmission Access and Pricing Project – Purpose

1. The purpose of the Transmission Access and Pricing project is to ensure arrangements for transmission access and pricing allocate capacity efficiently and effectively signal the need for investment in additional capacity.

Transmission Access and Pricing Project – PEA functions

2. In relation to the Transmission Access and Pricing Project the PEA is expected to:

   (a) Provide advice to Gas Industry Co, with supporting analysis, on changes to existing gas transmission arrangements to ensure arrangements meet the Gas Act objectives and specifically that arrangements for transmission access and pricing allocate capacity efficiently and effectively signal the need for investment in additional capacity. Advice provided by the PEA should be in relation to the following:

      (i) Service definition (includes examination of what is the most efficient carriage regime);

      (ii) Service pricing (includes developing pricing methodologies); and

      (iii) Implementation (in relation to the above, plans for how changes will be introduced and over what timeframe).

   (b) Provide analysis and justification for supporting or rejecting alternative options; and

   (c) Review and comment on submissions received on any papers related to gas transmission arrangements.

Transmission Access and Pricing Project – PEA key deliverables

Key deliverable 1: Identification and preliminary assessment of access regime options

3. The PEA should begin by identifying whether there are market failure(s) which cause it to believe that:

   (a) The current regime requires reform, and

   (b) Reform is unlikely to be achieved through the negotiation of contracting parties.

4. Before identifying access regime options, the PEA will need to establish the extent to which existing arrangements need to be re-designed. For example, depending on what the market failure(s) are to be addressed, the scope may include all gas transmission pipelines, all open access transmission pipelines, all Vector transmission pipelines, or all capacity constrained pipelines.

5. Before identifying access regime options, the PEA should develop a set of access and pricing principles. These will be referred to throughout the process to assess the merits of alternative options.

6. The PEA will identify the reasonably practicable access regime options and prepare an initial shortlist of preferred access regime options (including service definition and pricing methodologies). These will be assessed against a counterfactual of evolution of the existing access regime through negotiation and the code change process. The supporting analysis should contain:

   (a) Descriptions of the options that could alter/replace the existing regime so as to enhance efficiency, including a description of how the option would allocate capacity efficiently and effectively signal the need for investment in additional capacity;

   (b) An assessment of how well the alternative options would meet the objectives of the Gas Act, GPS and GTIP;

   (c) Justification for the rejection of any options;

   (d) For shortlisted options, a description of the service definition and pricing methodologies.

7. The PEA should review previous work completed by Gas Industry Co on access arrangements including the papers:

   (a) *Review of Vector Capacity Arrangements - A Research Paper*, January 2009

   (b) *Options for Vector Transmission Capacity*, May 2010, and submissions on that paper.

8. The PEA will submit its analysis of options to Gas Industry Co, which will compile the work into a consultation paper and seek submissions from stakeholders.

Key deliverable 2: Analysis of submissions on the Access Regime options paper

9. The second key deliverable is an analysis of submissions on the access regime options consultation paper.

10. The PEA will submit its analysis of submissions on the options paper to Gas Industry Co who will use it as the basis of a submissions analysis paper and issue it.

Key deliverable 3: Development and analysis of shortlisted option(s)

11. After having considered submissions on the Access Regime Options paper, the PEA will develop its final advice.

12. The advice should include:

    (a) Justification for the rejection of any options;

    (b) Detailed descriptions of the preferred option(s), including a description of how the option(s) will allocate capacity efficiently and effectively signal the need for investment in additional capacity;

    (c) An assessment of how well the alternative options would meet the objectives of the Gas Act, GPS and GTIP;

    (d) Overview of how the option(s) would be implemented;

    (e) A draft timetable for implementing the preferred option(s);

    (f) An assessment of the costs and benefits of the option(s); and

    (g) Recommendation of a single preferred option;

13. The PEA's work will be used by Gas Industry Co as the basis of an Access Regime decision paper that will be released for consultation.

Key deliverable 4: Analysis of submissions on the Access Regime Decision paper

14. The fourth key deliverable is an analysis of submissions on the Access Regime Decision paper.

15. The PEA's work will be used by Gas Industry Co as the basis of an Access Regime Decision Submissions Analysis paper.

Key deliverable 5: Detailed implementation plan

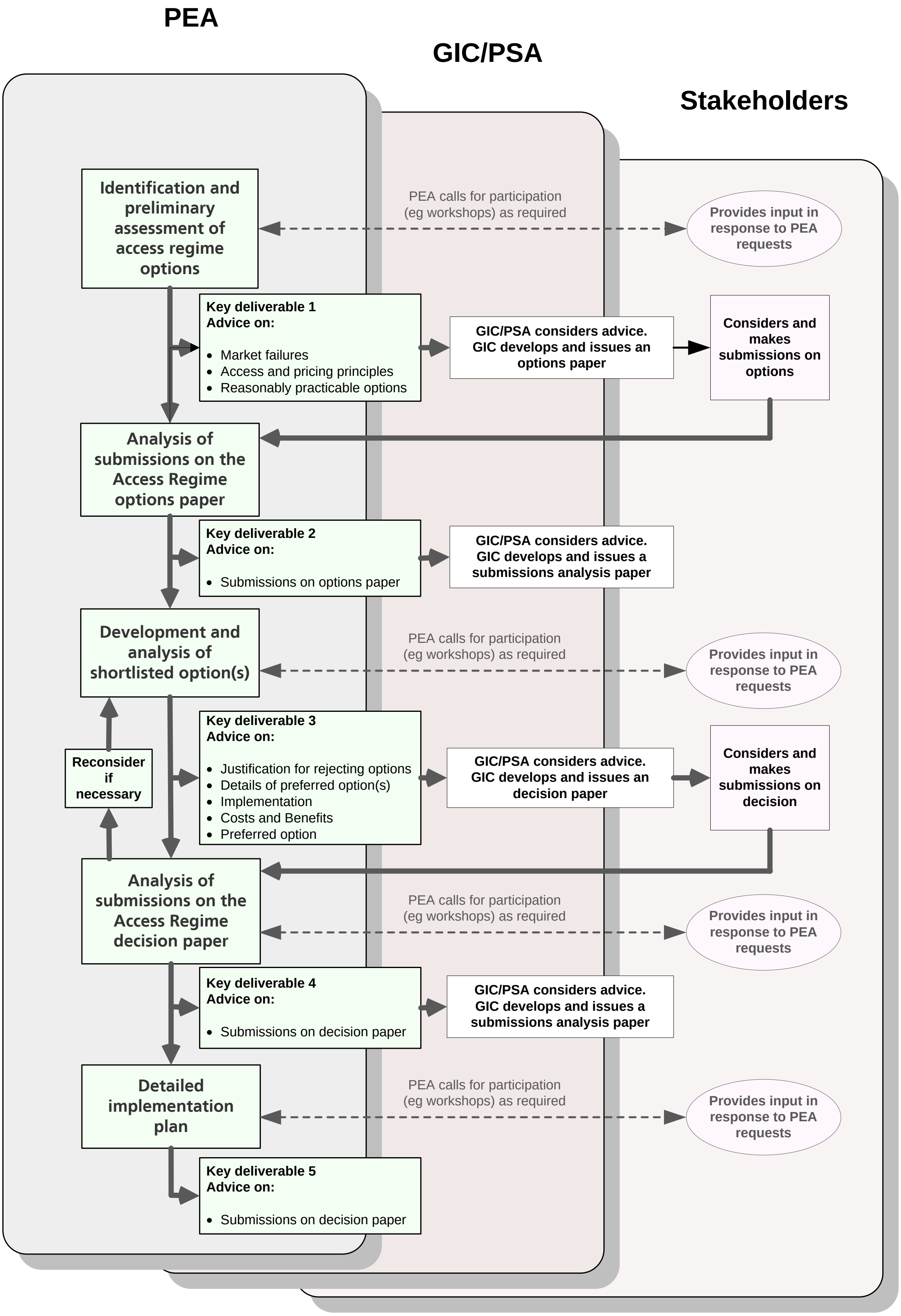
16. If the analysis of submissions causes the PEA to reconsider its previous advice, steps 14 to 18 will be repeated.

17. The PEA will develop detailed implementation plans in consultation with industry stakeholders.

18. The PEA will give advice to Gas Industry Co on how the new access regime should be implemented.

Transmission Access and Pricing Project – Participation overview

19. This diagram illustrates the process the PEA will follow for advising Gas Industry Co in relation to the Transmission Access and Pricing Project and Gas Industry Co, Panel of Strategic Advisers, and Stakeholder participation in that process.



Transmission Access and Pricing Project – Draft schedule of meetings

20. Below is a draft schedule of meetings for the first four months of the Transmission Access and Pricing project. The schedule will be reviewed and revised at each PEA meeting. The schedule will be published on Gas Industry Co's website.

Mtg #	When	Possible activities	Decisions required
1	Thur 19 Jan	• Discuss/agree first steps for beginning review. • Discuss market failures. • Discuss access and pricing principles.	
2	Thur 16 Feb	• Agree market failures. • Agree access and pricing principles. • Discuss possible options.	
3	Thur 15 Mar	• Assess options. • Shortlist options. • Outline advice on options paper developed. • Agree work plan for next 4 months.	
4	Thur 12 Apr	Finalise advice to GIC on options (**Key deliverable 1**)	Advice to GIC on options.
5	Thur 17 May	tbc	
6	Thur 14 Jun	tbc	
7	Thur 12 Jul	tbc	
8	Thur 16 Aug	tbc	
9	Thurs 13 Sept	tbc	
10	Thur 11 Oct	tbc	
11	Thur 8 Nov	tbc	
12	Thur 6 Dec	tbc	

Appendix D Supply and Demand Outlook

Information requirements

There are a number of market segments comprising the demand-side outlook:

- petrochemicals (the methanol plant, ammonia-urea plant and peroxide plant);
- gas-fired electricity generation;
- large industrial users, such as dairy and timber processing factories;
- other industrial and commercial users, including hotels, laundries, and restaurants;
- community facilities, including hospitals and public swimming pools; and
- residential customers.

Projections will be needed for each of these market segments that take into account the relevant drivers for gas consumption in each case, e.g. price of gas and relativities between gas and alternative fuels, economic growth, and population growth. That, in turn, will require research into the relationships between historical demand and relevant metrics.

Some gas-intensive sectors comprise a small number of large users that cannot be modelled using econometric techniques, e.g. methanol production. In such cases, a range of scenarios of activity within these sectors would need to be developed.

Given the importance of price, both in absolute terms and relative to substitutes, a key input will be the assumptions regarding gas reserves, i.e. what is the outlook for gas discoveries and how does gas availability impact on demand. Undoubtedly this will best be handled by a series of scenarios.

Given the potential for gas-fired electricity generation to dominate pipeline usage, it will also be important to factor in the likely position of Combined Cycle Gas Turbine (CCGT) and "peaker" plants in the merit order so as to be able to forecast not only the annual demand but also the likely scale and timing of peak usage. With the move toward an increased level of renewable generation, gas-fired generation is likely to remain an important back-up source of electricity. Any future forecast will need to consider not just the role of gas in the electricity market but also the likely location of gas-fired electricity generating plant.

Components of the model

The diagram below outlines the inputs for a supply/demand model to generate scenarios at a regional level for consideration. Such a model is not designed to 'predict the future' – but to identify what conditions need to exist to justify additional pipeline investment.

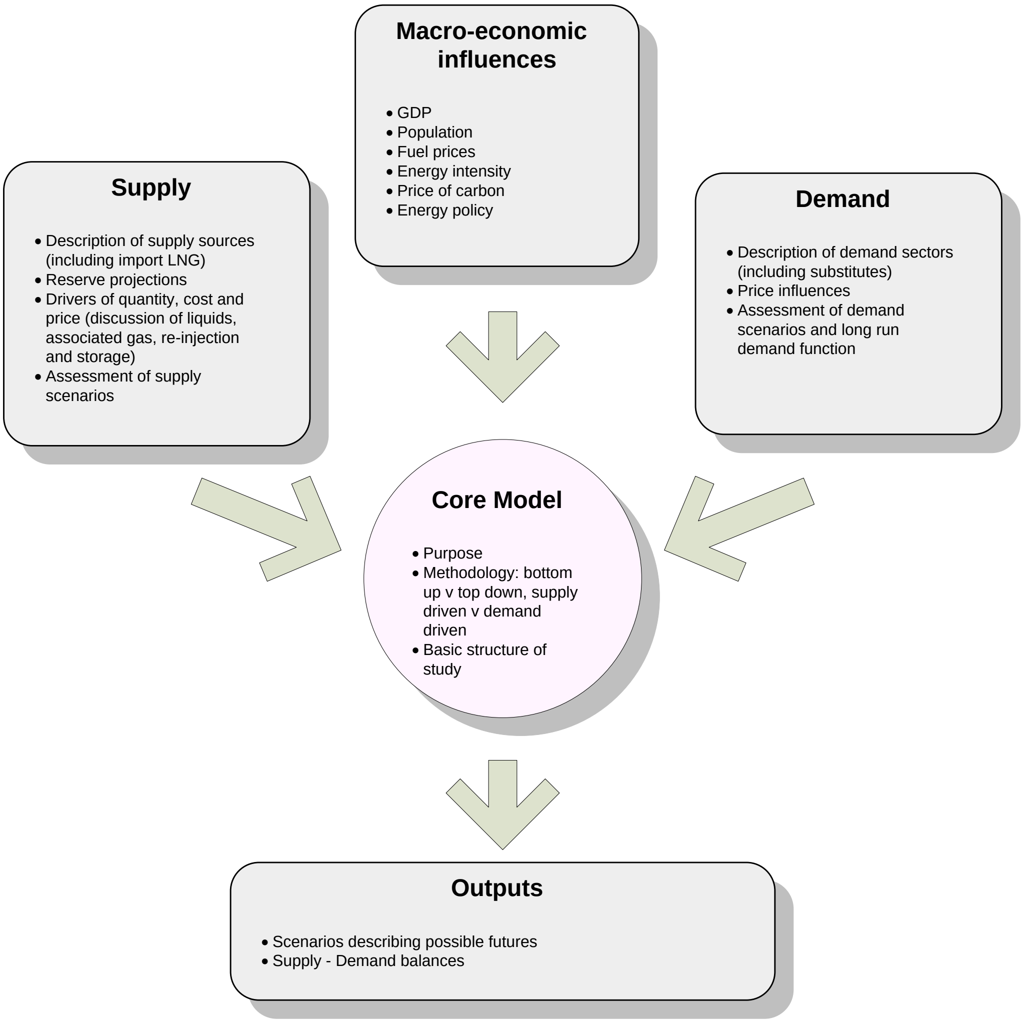


Figure 6 - Structure of supply/demand study

Appendix E Input methodologies and price control

The Commerce Commission has a role in the gas pipelines services market under the Commerce Act 1986. The purpose statement states:

> 52A Purpose of Part
>
> (1) The purpose of this Part is to promote the long-term benefit of consumers in markets referred to in section 52 by promoting outcomes that are consistent with outcomes produced in competitive markets such that suppliers of regulated goods or services—
>
> (a) have incentives to innovate and to invest, including in replacement, upgraded, and new assets; and
>
> (b) have incentives to improve efficiency and provide services at a quality that reflects consumer demands; and
>
> (c) share with consumers the benefits of efficiency gains in the supply of the regulated goods or services, including through lower prices; and
>
> (d) are limited in their ability to extract excessive profits.

The Commerce Act provides for regulation of gas pipeline services, including transmission services. Gas pipeline services are subject to both information disclosure and price-quality regulation. Price-quality paths include the maximum price or prices that may be charged or revenues that may be recovered, and quality standards that must be met, by a supplier of the regulated services.

The Act is underpinned by a series of input methodologies that set out the rules, processes and requirements applying to regulated services. Currently the Commerce Commission is working on implementing regulation under Part 4 of the Commerce Act.

The method of accounting for an asset and for gaining revenue from it has a significant bearing on the incentives to invest and the promotion of productive and dynamic efficiency in the market, and ultimately on the long-term interests of the consumers. The Commerce Commission recognises the need for appropriate investment and notes that, in workably competitive markets, suppliers have incentives to undertake investments at an efficient level at the optimal time (to the extent these levels and time can be ascertained)[12].

The input methodologies were determined in December 2010 and the information disclosure and price-quality regulation for gas pipeline services is still being processed. Default price-quality paths are likely to be determined on 29 February 2012.

[12] Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper, Commerce Commission, 10 December 2010

Price Control

The form of price control and how it is implemented can have a significant impact on the incentives provided to gas transmission businesses.

Due to the ways in which gas transmission services are supplied, in particular the capacity reservation arrangements on the Vector pipelines, the price control for a gas transmission business can be in terms of either a total revenue cap or a weighted average price cap. This will be determined while determining the price path and may be reassessed at each price path reset.

The input methodologies determination gives the criteria that will guide determination of whether a total revenue cap or weighted average price cap should be applied. Essentially this means the Maui pipeline is likely to be on a revenue cap and the Vector pipelines are uncertain until the default price path is determined.

The input methodologies included pricing methodologies to cover setting of prices for individual services or classes of services or different customer groups. These are not relevant to the calculation of allowed revenue; instead they affect how a supplier recovers that revenue. However, this is relevant to the GTIP in-so-far as the pricing methodologies provide efficient pricing of scarce capacity, and incentives to trade unused capacity, invest in interruptible demand or invest in new capacity.

The pricing methodologies determined for gas transmission are high level principles and are consistent with the previous Gas Authorisation process[13], with some minor modifications to ensure consistency with Part 4. They apply to information disclosure, certain customised price paths but not to default price paths. Where applicable the gas transmission business must disclose the extent of consistency of its pricing methodology with the principles and are subject to pricing methodologies determined by the Commerce Commission.

Price paths

The price path under the Commerce Act is set under a default price path. However, individual parties can apply for a customised price path to meet their specific business needs. Both Vector and MDL will start on a default price path, which is proposed to be determined at the end of February 2012 and-apply from July 2012 for a period of between 4 and 5 years.

A default price path specifies the starting prices or revenues applying to each supplier and the maximum rate of change over the period. A default price path is generic in nature and does not disaggregate by tariff, service or customer groups. Suppliers have the option of applying for a customised price path to more accurately reflect significant capital expenditure requirements that are specific to their needs.

13 See http://www.comcom.govt.nz/2005-06-gas-authorisation-process/. Note that the Gas Authorisation Process applied only to Powerco and Vector (Auckland) distribution networks.

A customised price path uses a building block approach including forecast capital expenditure and lasts for 3 to 5 years[14]. While it is not routinely reconsidered during its period there are circumstances where a gas transmission business can trigger a review. This includes a contingent project or an unforeseen project that occurs during the customised price path regulatory period. This was specifically included to cover large lumpy and uncertain gas transmission investment profiles.

The Commerce Commission considers that the input methodologies and the option of applying for a customised price quality path, including the contingent project mechanism under a CPP, ensure sufficient flexibility under a default/customised regulatory framework to cater for the future gas transmission investment needs[15].

Asset Base

The Regulated Asset Base (RAB) is the asset valuation from which the return on investment is determined. The RAB 'roll forward' is therefore relevant to this project because it affects how new investment is added to the RAB and therefore how a gas transmission business will gain corresponding revenue through the price control.

Regulators often undertake some form of efficiency review to ensure that only efficient investments are added to the RAB. These reviews can be ex-ante or ex-post (such as imposing a modern replacement, for example the previous 'ODV' methodology). The Commerce Commission noted the potential disincentive effects that might arise from undertaking ex-post reviews of expenditure actually incurred in previous regulatory periods of regulation, and they concluded that there be no ex-post review[16].

Under the input methodologies, capital additions would be included in the RAB at cost in the year of commissioning. To encourage only prudent and efficient investment, expenditure added to the RAB for a gas transmission business will be publicly disclosed in the Asset Management Plan (AMP). It is likely that a desktop review of the AMP will be undertaken by the Commerce Commission as part of its summary and analysis under information disclosure regulation.

Information disclosure

The Commerce Act will eventually replace the Gas (Information Disclosure) Regulations 1997. This is relevant as this is the regulation that currently requires the Vector Pipeline Capacity Disclosure.

We understand that the Commerce Commission plans to issue its draft determination for information disclosure by gas pipeline businesses in September 2011.

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[14] Commerce Act s53W(1) and s53W(2).
[15] Initial Default Price-Quality Path for Gas Pipeline Businesses Discussion Paper, 1 April 2011, Commerce Commission, 5.55, p28.
[16] Input Methodologies Reasons Paper, E4.6 p310

Appendix F Consolidated GTIP timeline