



Report on gas trading market interconnections and related issues

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About Gas Industry Co.

Gas Industry Co is the gas industry body and 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

In December 2013, Gas Industry Co provided an update on arrangements for allowing interconnection to gas transmission pipelines. Among other matters, we reported that gas trading markets had been established by:

- NZX Limited (NZX), at a Notional Welded Point on the Maui pipeline; and
- Transpower Limited (Transpower), at Frankley Road on the Vector pipeline.

Efficient arrangements for the short-term trading of gas as part of an efficient wholesale market is an outcome sought by the April 2008 Government Policy Statement on Gas Governance (GPS), against which we are required to report. We undertook to provide the Minister with a separate report on the 'interconnection' of these gas trading markets, which is the purpose of this Report.

Since October 2013, market participants may trade gas on the Maui pipeline using a bilateral trading platform operated by NZX Limited, or on the Vector pipeline using a centrally cleared market operated by Transpower Limited. We have already seen benefits of greater price transparency, and believe that market participants are benefiting from operational efficiencies and cheaper options for balancing their gas supply and demand portfolios.

Each market was enabled by a different set of contractual arrangements, reflecting the different access arrangements on the Maui and Vector pipelines. Currently only the Transpower gas trading market has active market participants, with trades of approximately \$240,000/month since its inception in October 2013.

This Report:

- reviews the development of wholesale gas trading in New Zealand;
- describes the benefits we expect the new wholesale trading platforms will bring, their design features and how they fit with other transmission access arrangements; and
- considers possible policy issues, including the effects of the gas trading market operation on pipeline balancing.

Key findings are:

- (a) Gas Industry Co considers that the introduction of a gas trading market is a significant step towards achieving Government's policy objective of efficient arrangements for short-term trading of gas;
- (b) an independent review of the process for achieving gas trading market interconnection arrangements on the Maui pipeline found no issues requiring

intervention, but did identify a number of concerns the Maui pipeline owner has about pipeline balancing that could be exacerbated by the introduction of a gas trading market;

- (c) we recognise the Maui pipeline owner's concerns, but we consider that the risks arising from the introduction of the market are manageable. However, we believe it is prudent to keep track of balancing metrics in the immediate future and to be alert to any adverse consequences; and
- (d) the on-going industry efforts to improve transmission access arrangements in response to recent recommendations from a Panel of Expert Advisers under the Gas Transmission Investment Programme (GTIP) may also have consequences for pipeline balancing. Gas Industry Co will continue to encourage and monitor these developments.

Contents

1	Introduction	4
2	Development of Wholesale Gas Trading in New Zealand	6
2.1	'Unbundling' of gas commodity and transmission services	6
2.2	Bi-lateral gas contracts	7
2.3	Introduction of the Balancing Gas Exchange (BGX)	7
2.4	Trial wholesale market	9
2.5	Introduction of the NZX and Transpower markets	9
2.6	Recent gas market trading activity	10
3	Design and implementation of trading markets	12
3.1	Market designs	12
3.2	Enabling arrangements	13
3.3	Gas Industry Co observations	15
4	Consideration of possible policy issues	17
4.1	'Interconnection' review	17
4.2	Discussion	19
4.3	Gas Industry Co observations	21
5	Key findings and next steps	23
5.1	Key findings	23
5.2	Next steps	23
	Glossary	24

1

Introduction

The GPS requires Gas Industry Co to report on outcomes for the gas industry that include efficient arrangements for the short-term trading of gas (as part of an efficient wholesale market) and access to transmission pipelines. Market-based gas trading on the transmission pipelines has the potential to bring a range of benefits. In addition to facilitating transactional efficiency and improving price transparency, it should make it easier for pipeline users to balance the quantities of gas they inject and withdraw from the pipelines.

In addition, Section 43F of the Gas Act 1992 (Gas Act) expressly allows for regulation:

...providing for the establishment and operation of wholesale markets for gas, including for—

- (i) protocols and standards for reconciling and balancing gas:
- (ii) clearing, settling, and reconciling market transactions:
- (iii) the provision and disclosure of data and other market information:
- (iv) minimum prudential standards of market participation:
- (v) minimum standards of market conduct:
- (vi) arrangements relating to outages and other security of supply contingencies: if required.

and:

... prescribing reasonable terms and conditions for access to and use of transmission or distribution pipelines:

In relation to physical interconnections, Gas Industry Co has been working with industry participants to improve arrangements for parties wishing to physically interconnect their facilities with the open access transmission systems. Our views on interconnection best practice are set out in a document entitled: Transmission Pipeline Interconnection Guidelines, February 2009 (Interconnection Guidelines).

In response to the Interconnection Guidelines, the transmission system owners (TSOs) evolved their processes. Since then we have reviewed a number of pipeline interconnections to see how well the new arrangements are working. We consider that significant improvements have been achieved and, after reporting these to the then Associate Minister of Energy and Resources in 2010, we were asked to conduct a follow-up review to see how well the new arrangements are working in practice.

We have since reviewed two physical interconnections to the Vector pipeline and one to the Maui pipeline. We will report on these separately. We are reporting on the 'interconnection' of the gas trading markets because it raises some similar issues, and because gas trading is a matter we are required to report on under the GPS.

We updated the Minister of Energy and Resources on these developments in a letter dated 20 December 2013. Among other matters, we reported that gas trading markets had been established by:

- NZX Limited (NZX), at a Notional Welded Point on the Maui pipeline; and
- Transpower Limited (Transpower), at Frankley Road on the Vector pipeline.

This Report arises from our undertaking to the Minister to report on these gas trading market developments, in addition to reporting on the physical interconnections. It describes the contractual arrangements that enable the new gas markets and considers whether they have broader implications for transmission access or other gas industry arrangements.

2

Development of Wholesale Gas Trading in New Zealand

In this chapter we outline how wholesale gas trading arrangements in New Zealand evolved. Readers who would like more detail can refer to the Wholesale Market chapter of Gas Industry Co's publication: *The New Zealand Gas Story - the State and Performance of the New Zealand Gas Industry*.

2.1 'Unbundling' of gas commodity and transmission services

Early years

The development of New Zealand's major natural gas fields was secured by long-term 'take-or-pay' contracts. These were 'delivered gas' contracts that bundled together the gas itself ('gas commodity') and the transport of that gas from source to destination ('transmission service').

In the late 1980s, the Commerce Commission administered price control on the gas industry. Through various price control rulings it began to 'unbundle' the prices of the gas commodity and its transmission service. This separation of the delivered gas product into those components that are potentially competitive (gas commodity) and those with natural monopoly characteristics (transmission service), was in line with similar reforms taking place in the United States¹, the UK and Australia.

Gas Act 1992

A Government-initiated in-depth review of the New Zealand gas industry in the early 1990s led to fundamental gas sector reforms that were translated into the Gas Act 1992. These reforms deregulated the market through the abolition of the exclusive retail franchise areas and a move from price control to market-based pricing. They also introduced a light-handed regulatory regime centred on information disclosure, but retained the threat of re-regulation. An amendment to the Gas Act in 2004 established Gas Industry Co as the gas industry's approved co-regulatory body.

While the reforms stopped short of mandating the legal separation of the gas trading and gas transportation businesses, they nevertheless prompted the Natural Gas Corporation of New Zealand Limited (NGC) to negotiate replacement contracts with gas utility companies that unbundled the previous delivered gas arrangements into

¹ Notably, in 1992, the US Federal Energy Regulatory Commission's Order 636 required interstate pipeline companies to provide open access transportation and storage and to separate gas sales and transportation services.

separate gas supply and transport elements. The new transport arrangements also introduced open access to NGC's transmission pipelines. In parallel with these changes, downstream gas utility companies began to unbundle their businesses into gas retailing and gas distribution functions.

Open access to transmission pipelines

NGC (subsequently to become part of Vector), formally unbundled its services and offered open access from 1996, and Maui Development Limited (MDL) offered unbundled transmission services on the Maui pipeline from 2005.

2.2 Bi-lateral gas contracts

Matching supply and demand arrangements to maintain balance

A party trading gas generally secures its market position by matching its downstream market demand portfolio with upstream supply arrangements with producers. The arrangements with producers are generally 5 to 10 year contracts with agreed gas uplift profiles, allowing for some variation of the profile.

To maintain pressure in a transmission pipeline within its normal operating range, each pipeline user is encouraged to maintain a 'balanced position' between its gas injections and gas withdrawals. However, since market demand can be difficult to predict, pipeline users need some flexibility to vary the amount of gas they inject and/or withdraw from the pipeline.

The emergence of short-term gas as a separate product

As the industry transitioned away from a gas supply base dominated by the Maui field, to one comprising many smaller fields, the amount of flexibility offered in pipeline user's long-term supply contracts tended to reduce. In this situation pipeline users may need to supplement their long-term supply contracts with short-term arrangements to maintain balanced daily positions. Such short-term gas is generally at a higher price, reflecting the higher cost of providing such flexibility, and difficult to secure, given the time necessary to seek out counterparties willing and able to supply it.

2.3 Introduction of the Balancing Gas Exchange (BGX)

The need for 'residual balancing'

Despite the best efforts of pipeline users to maintain their individual balance positions, there will be occasions when the pipeline operator will need to buy or sell 'balancing gas' to keep the inventory of gas in the pipeline (the 'linepack') within safe operating limits. In the early years of Maui pipeline open access this was done by calling on flexible Maui gas supply arrangements provided by the pipeline owners. This facility was progressively replaced by more market-based arrangements including, in 2009, MDL instituting an online balancing gas market known as the Balancing Gas Exchange (BGX).

For pipeline users, the risk of receiving a share of the market-based costs of balancing (rather than the low cost arrangement previously provided by the pipeline owners) gave them added incentive to improve their individual balancing performance. The resulting improvement reduced the amount of ‘residual balancing’ the pipeline operator needed to perform, as can be seen from Figure 1. In essence more balancing was being done by individual pipeline users, so the pipeline operator did not need to do so much residual balancing.

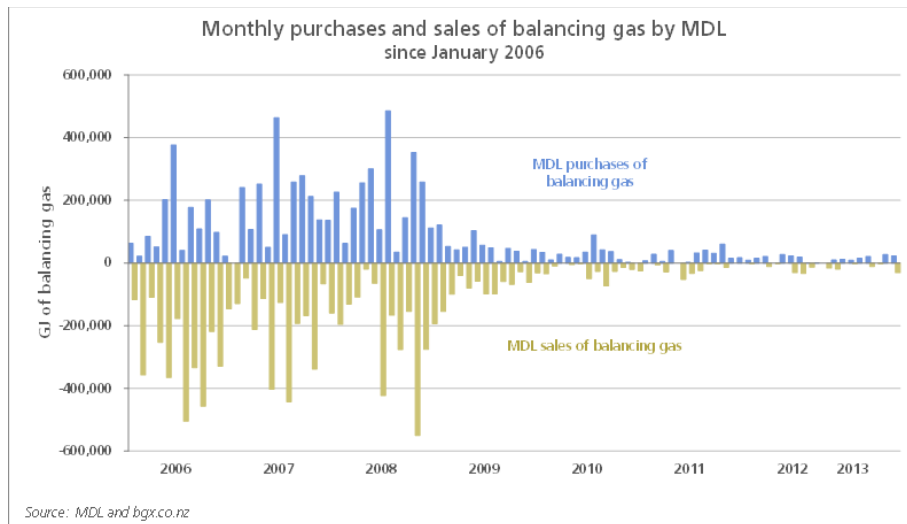


Figure 1 – Residual balancing on the Maui pipeline

The BGX significantly improves transparency. It displays pipeline balance conditions and enables MDL’s Commercial Operator, Transact Limited, to call for bids to buy or sell balancing gas (when there is respectively too much or too little gas in the pipeline), and for BGX participants to post offers to meet those requests. While the BGX improves the ability of the pipeline operator to perform its residual balancing role, it does not have the functionality to allow pipeline users to trade with each other.

MDL’s Commercial Operator did take some steps towards developing the BGX into a fully functioning gas trading market, but the initiative was not supported by industry participants and, in time, MDL withdrew its support for the project.

Residual balancing is only done on the Maui pipeline

It should be noted that there is only active residual balancing on the Maui pipeline. Vector has decided that it is not efficient for it to manage its linepack by buying or selling balancing gas in the same way Maui does. Vector does, however, buy and sell gas to manage its unaccounted-for-gas (UFG) position and to manage its own balancing position in relation to gas used by compressors.

2.4 Trial wholesale market

Early efforts to provide users with a short-term gas market

Establishing efficient arrangements for short-term gas trading has the potential to improve transactional efficiency, provide price transparency, and make it easier for pipeline users to balance the quantities of gas they inject and withdraw from the pipelines.

With this in mind, Gas Industry Co facilitated the establishment of a trial gas trading platform in 2010 for short-term gas trading. However, the trading platform was not supported by pipeline users, and was abandoned. There are different views on why pipeline users did not support the initiative. The structural characteristics of the New Zealand gas market where a high proportion of demand is concentrated among relatively few end-users² may have been a factor. Such end users are generally better able to predict and/or manage their demand. Also, pipeline users had already improved their balancing performance in response to the phase out of the cheap pipeline balancing based on Maui field flexibility, and might not have considered that the extra effort to trade gas on a wholesale market was worth the savings that could be achieved.

However, further changes to balancing incentives are now in train that may increase the appetite for short-term trading. Efforts to improve the efficiency of gas balancing arrangements have led to the pending introduction of back-to-back (B2B) balancing, which aims to target the costs of residual balancing of the pipeline to the parties causing imbalance. B2B balancing will displace the current arrangement where the cost of residual balancing actions are largely 'socialised' among users, allowing 'causers' to avoid full responsibility for their imbalances. The change will give system users a greater incentive to maintain balanced positions, and anticipation of this change may partly account for the renewed interest in a gas trading market.

2.5 Introduction of the NZX and Transpower markets

Recent initiatives to provide users with a short-term gas market

During 2013 two organisations sought to enable gas trading among pipeline users by negotiating arrangements to 'interconnect' their gas trading markets. No physical interconnection is involved, rather 'interconnection' refers to the gas trading market transactions being integrated into the framework of other transactions inherent in the TSO's access arrangements (as provided for in the TSOs' multi-lateral access 'codes').

In the first instance, NZX and Transpower each opened negotiations with MDL to put in place Interconnection Agreements (ICAs). Following negotiations over the period March to September 2013, NZX concluded an ICA with MDL, but Transpower chose

² In 2012, for example, power generation, petrochemical and industrial users were just 0.57 percent of gas customers, but accounted for around 91 percent of consumption. By contrast, most of the gas available for consumption in the UK is used by the numerically high residential and commercial sectors and, in Victoria, residential use accounts for over a third of total consumption.

instead to establish its market on the Vector pipeline by means of signing a Gas Transfer Agreement (GTA).

2.6 Recent gas market trading activity

At the time of writing there are no registered participants on the NZX market and no gas trades have occurred. However, Transpower's emsTradePoint market has traded an average of \$240,000/month since its inception in October 2013, as illustrated in Figure 2.

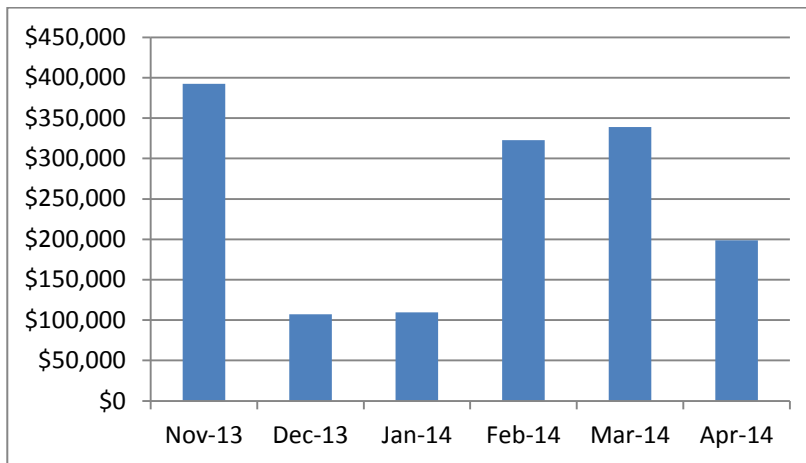


Figure 2 - Value of trades on Transpower's emsTradePoint market

The platform also makes a full set of market trading outcomes publicly available, as illustrated in Figure 3. While a similar set of information is available for trades of balancing gas on the BGX, the number of participants on the BGX is much smaller because it is only available to Maui pipeline users, and is only active when the MDL Commercial Operator wishes to buy or sell balancing gas. It is therefore not such a good indicator of the market price of gas.

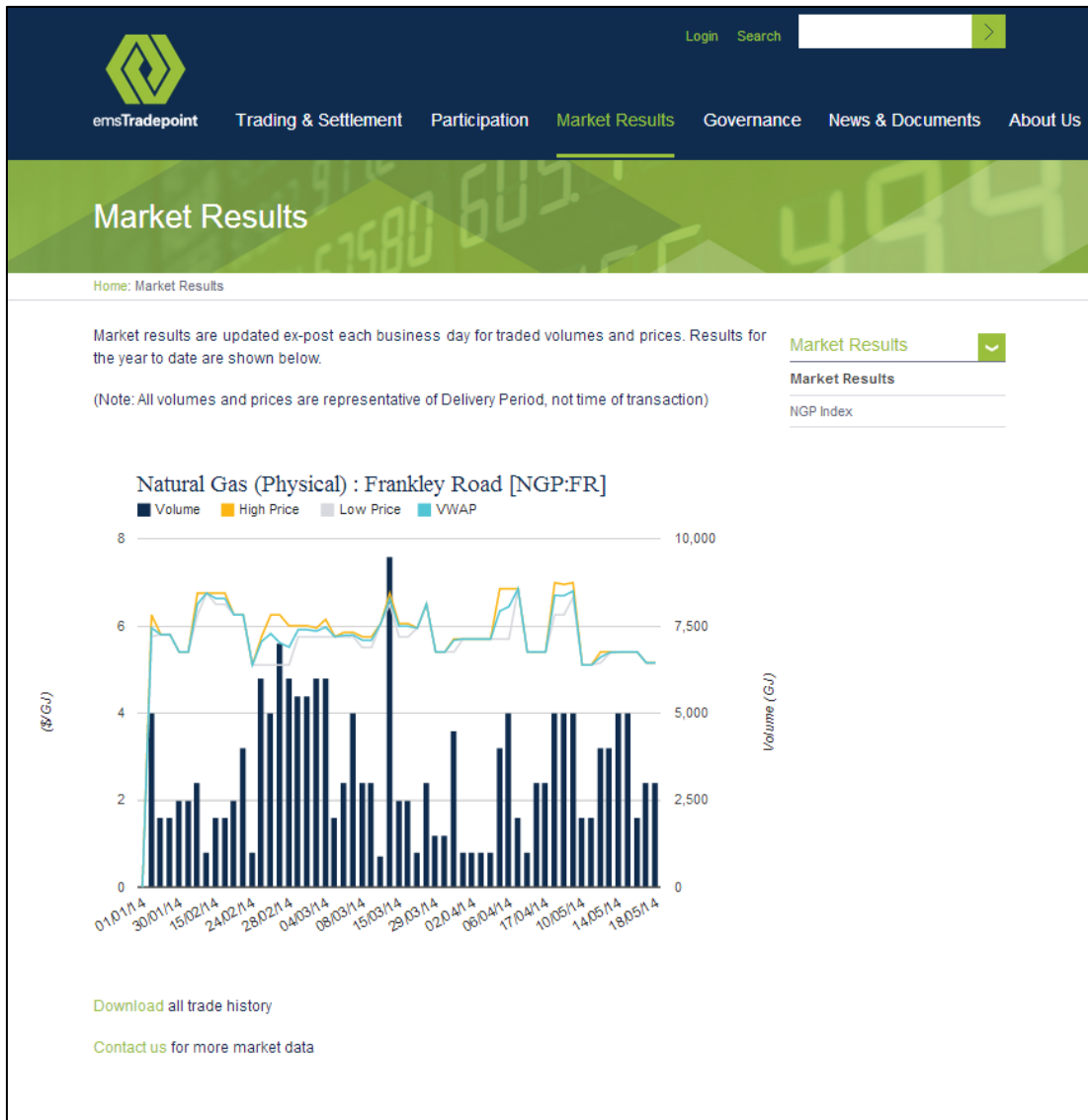


Figure 3 - Market Results page on Transpower's emsTradePoint website

3

Design and implementation of trading markets

In this chapter we describe the essential features of the NZX and Transpower's emsTradepoint market designs, and the arrangements that brought those markets into operation.

3.1 Market designs

In essence, each Participant on the NZX market must be a Maui pipeline shipper and can trade directly with a whitelist³ of other shippers it is willing to trade with. Each Participant on Transpower's emsTradepoint market must be a Vector pipeline shipper but, in contrast to the NZX market, trades are anonymous and are cleared by the market operator, Transpower. Other features of the market are summarised in Table 1.

Table 1 - Market design features

Feature	NZX's NZ Gas Market	Transpower's emsTradepoint Market
Type	Web-based electronic platform to facilitate bi-lateral trading	Web-based electronic trading platform with central counterparty settlement
Counterparty	Each participant specifies 'whitelist'	Market operator (Transpower)
Prudential cover	None	Full cover of credit and physical delivery risk
Trading hours	Open 7 days a week, 8:30am to 10:15am	Open 7 days a week, 9am to 6pm
Trade Location	On the Maui pipeline at a Notional Welded Point ⁴ at Bertrand Road	On Vector pipeline immediately adjacent to the bi-directional Receipt/Delivery point at Frankley Road
Products	Intra-day, daily, weekly and monthly products Traders can enter bids and offers for daily trades (up to 30 days in advance), weekly trades (up to 4 weeks in advance), and monthly trades (up to 6 months in advance)	Inter-day, and day-ahead for future deliveries up to 6 months in advance

³ Each market participant provides a 'whitelist' which is a list of the other pipeline users that it is willing to trade with.

⁴ A Notional Welded Point is the location of a Trading Hub on the Maui pipeline where traded gas is deemed to be received and delivered.

Feature	NZX's NZ Gas Market	Transpower's emsTradePoint Market
Visibility	Once a trade is concluded, the parties will be identified to each other. Until then they have the option of remaining anonymous	The market is anonymous

3.2 Enabling arrangements

The contractual arrangements to enable each market are different. Largely this depends on whether the market operates on the Maui pipeline or the Vector pipeline and, to a lesser extent, depends on the design of the market. The key enabling arrangements are listed in Table 2.

Table 2 - Arrangements enabling the markets

Function	NZX's NZ Gas Market	Transpower's emsTradePoint Market
Arrangements for access to and operation of the markets	New Zealand Gas Market Rules	emsTradePoint Market Rules
Binds the parties to the MPOC, as varied by the provisions of the ICA ⁵	Interconnection Agreement (ICA) between MDL and NZX	
Sets out how Gas Transfer Agent will reconcile and notify quantities		Gas Transfer Agreement (GTA) between each Participant, Transpower and the Gas Transfer Agent
Binds parties to Market Rules	Participant Undertaking between each Participant and NZX	Participant Agreement between each Participant and Transpower
Gives effect to daily cash-out of Participant Variances	Participant Variance Agreement between each Participant and NZX	

Why the enabling arrangements on the Maui and Vector pipelines are different

The terms of use of the Maui and Vector pipelines are set out in the Maui Pipeline Operating Code (MPOC) and the Vector Transmission Code (VTC) respectively. The codes have many significant differences. One is that the MPOC sets out the multilateral terms for parties transporting gas (Maui shippers), and parties who are interconnected with the pipeline (Welded Parties), whereas the VTC only relates to Vector shippers. Another is that the MPOC is based on a 'flow on nominations' concept where pipeline users are required to nominate their intended gas flows and

⁵ For example, the ICA extends MDL's rights to interrupt beyond the situations provide for in the MPOC to permit it to interrupt the market '...for any period which in MDL's opinion as a Reasonable and Prudent Operator is necessary to prevent undesirable pipeline conditions occurring or arising from activities at a Notional Welded Point'.

then match physical deliveries to nominations within defined time periods, whereas the VTC does not mandate nominations.

These differences are reflected in the different approaches MDL and Vector took to enabling a gas wholesale market:

- MDL's approach was to treat the market as a 'Notional Welded Point', so the trading market operator is required to negotiate an Interconnection Agreement (ICA) with it. With the market established, Maui shippers need to nominate flows in and out of the Notional Welded Point to match their settled trades.
- Vector's approach was to treat the market in the same way as other points on its pipeline where gas transfers from one Vector shipper to another. This involved the trading market operator signing a Gas Transfer Agreement (GTA) which specifies how a Gas Transfer Agent is to reconcile settled trades.

From the perspective of a prospective market operator, Vector's approach allows for significantly simpler initial set-up arrangements, requiring much less negotiation (GTA's are standardised, simple, well established, relatively short contracts, whereas Notional Welded Point ICA's are somewhat customised, complex, new, and relatively long contracts). However, the on-going data processing associated with the Maui pipeline arrangements may be simpler since the rules are embedded in the pipeline's information system (OATIS), and the market operator interfaces directly with that system.

Figure 4 illustrates the location of the markets and the involvement of the Gas Transfer Agent in the Vector pipeline data reconciliations.

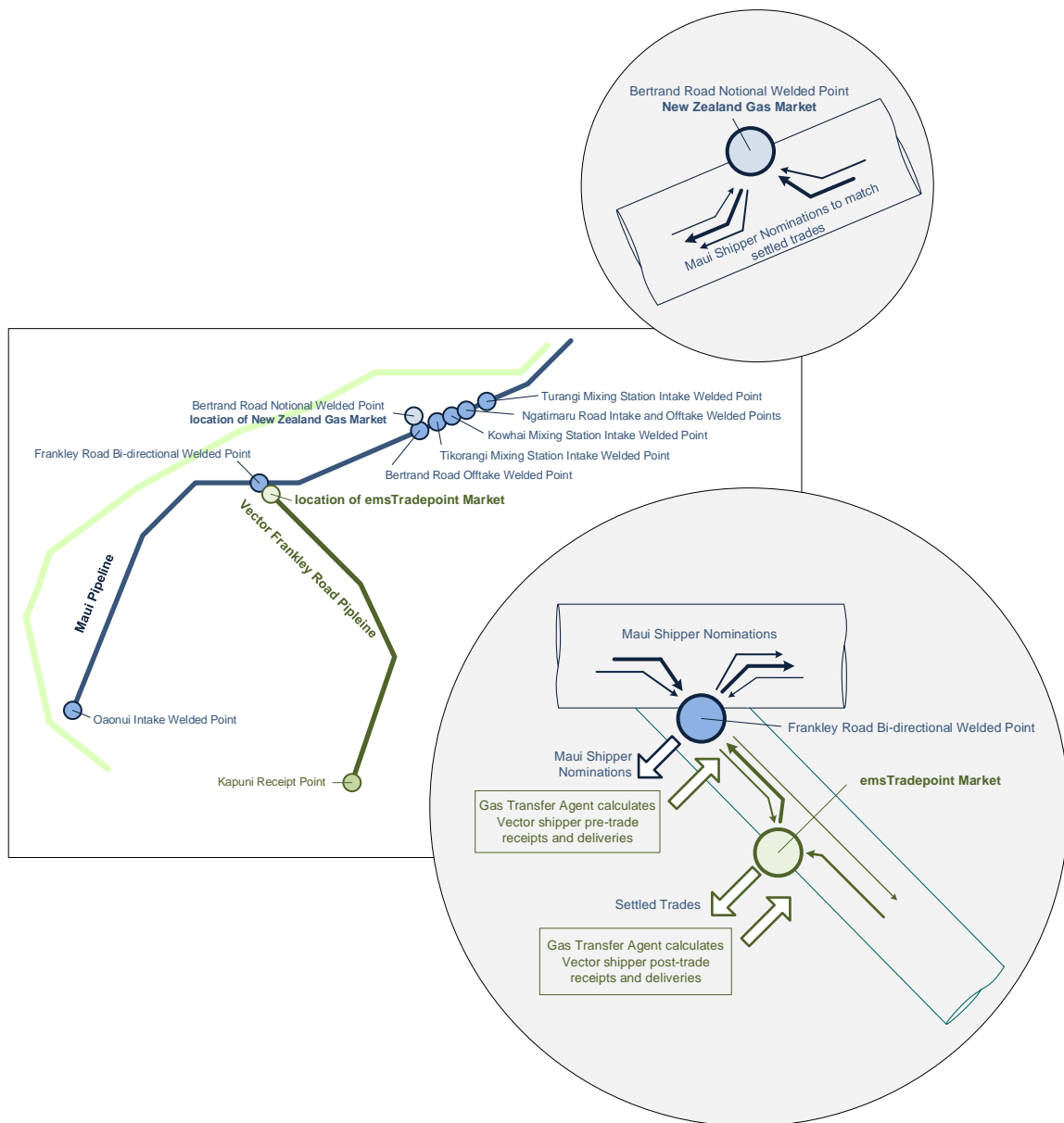


Figure 4 - Location and operation of markets

3.3 Gas Industry Co observations

Transparency

There are a number of public reference points for natural gas prices – the BGX (as discussed in section 2.3), the Energy in New Zealand report⁶ published annually by the Ministry of Business, Innovation and Employment (MBIE), residential price tariffs published by individual retailers, and various financial disclosures under the information disclosure requirements implemented in October 2012 by the Commerce Commission pursuant to Part 4 of the Commerce Act 1986⁷, can all be used to glean a possible value of short-term wholesale gas. But none of these provides such a direct,

⁶ Previously published as the Energy Data File.

⁷ This replaced the Gas (Information Disclosure) Regulations 1997, which also included financial disclosures.

simple, and reliable source of competitive market prices as is now available at Transpower's emsTradepoint website. We believe this represents a significant improvement to price transparency.

Efficiency

Now that pipeline users have the option to buy gas on a wholesale market, they need no longer directly contact other users to see who can offer them the gas they need. Also, by using a market they can be confident that the prices obtained are competitive. In addition, given the ease that gas can now be obtained, it should be easier for pipeline users to balance their positions at lower cost. We consider that these benefits will bring an unambiguous improvement to transactional and operational efficiency.

Access regimes

As noted earlier, each market was enabled by a different set of contractual arrangements, reflecting the different access arrangements on the Maui and Vector pipelines. However, it should be recorded that the main element used to enable the market on the Maui pipeline – the Notional Welded Point ICA – is complex and new, whereas the main element used to enable the market on the Vector pipeline – the GTA – is simple and standard. The reasons for, and significance of, these differences is discussed in Chapter 4.

4

Consideration of possible policy issues

We have described the benefits we expect wholesale gas trading markets to bring, their design features and how they fit with other transmission access arrangements. In this chapter we consider whether they give rise to any public policy concerns.

4.1 'Interconnection' review

Given that the wholesale gas trading platforms were to be 'interconnected' to the pipelines using similar arrangements to physical interconnections, we were interested to understand whether there would be benefit in the Interconnection Guidelines being updated to also cover such non-physical interconnections. In particular we wished to consider whether any issues arose that were of concern from a public policy perspective that could be addressed in a guideline. We commissioned Concept Consulting to advise us on these matters.

Our initial understanding was that the Maui arrangements for enabling a gas market were more closely related to physical interconnection than the Vector arrangements. This view was supported by the fact that the prospective market operators on the Maui pipeline were required to negotiate ICAs with MDL, in the same way as parties seeking physical interconnection. The Vector arrangements did not require an ICA, as explained in Chapter 3. We therefore asked Concept Consulting to focus on the negotiation of the gas market ICAs.

The Concept Consulting review

The Concept Consulting review looked at the March to September 2013 period during which NZX and Transpower were both negotiating ICAs with MDL. These negotiations resulted in NZX concluding an ICA, while Transpower chose instead to operate its market on the Vector pipeline.

The key findings from the Concept Consulting review are:

Potential conflict of interest

- As discussed in section 2.3, at one time the MDL Commercial Operator had a proposal to establish its own gas trading platform through a development of the BGX. This suggested there may have been a conflict of interest. However, the review found that neither MDL nor its Commercial Operator had a conflict of interest during the period March to September 2013 when the Commercial

Operator was negotiating ICAs with NZX and Transpower as, by then, the Commercial Operator's initiative to develop the BGX into a full gas trading platform had ended.

- The review noted that it would have been helpful to the overall process if this absence of any conflict of interest was made clear by March 2013.

MDL Concerns

- MDL has concerns about possible arbitrage or manipulation of tolerances on the Maui pipeline that could be facilitated by platform-based trading markets on the Maui pipeline. It considered that it needed to address these concerns in the ICAs being negotiated in the interests of all shippers on the Maui pipeline and the integrity of the gas market.⁸

Guidelines for gas market ICAs

- It is unlikely that a set of guidelines, of the kind that Gas Industry Co has developed for physical interconnections, would have averted the disagreements that occurred during the ICA negotiation, or that recourse to a third party (in the form of mediation or arbitration) would have assisted agreement.

Negotiation process

- The parallel process of negotiating ICAs with both NZX and Transpower at the same time, and endeavouring to maintain identical or at least similar provisions in the two ICAs, probably slowed the process, and may have restricted the extent to which MDL was prepared to negotiate alternative provisions.
- The six-month timeframe for negotiations was not unreasonable for a commercial negotiation - given that MDL needed to form a view on the importance of its concerns about possible arbitrage and manipulation of Maui pipeline tolerances.

Public Policy outcomes

- The objectives under Part 4A of the Gas Act and the GPS relate to access to essential infrastructure, facilitating competitive market arrangements, and minimising barriers to competition. In this context the process appears to have yielded reasonable outcomes: the establishment of a platform-based wholesale gas trading market designed specifically to meet the needs of pipeline users; reported trading volumes that appear to be reasonable for a fledgling market; potential to lower the barriers to gas trading and the associated search and transaction costs; and increased transparency of gas prices to a wider group of market participants.
- As the New Zealand gas market is very small in international terms, platform-based trading is likely to remain at modest levels, and liquidity goals are more likely to be

⁸ These concerns were not an issue when Gas Industry Co sought interconnection to enable the trial wholesale market in 2010 because MDL considered that Gas Industry Co, as the market operator, would not tolerate such behaviour from market participants.

supported by all trades going through one market. Against this background there appears to be little value in now considering guidelines for the process of parties negotiating Notional Welded Points for the purpose of establishing platform-based gas trading markets.

4.2 Discussion

We accept the findings of the Concept Consulting Report and believe they shed light on the interaction of wholesale market arrangements and other open access arrangements, particularly transmission pipeline balancing. They show a full appreciation of how integrating gas trading with the operation of the pipelines requires an understanding of:

- the Gas Trading Rules;
- the MPOC, that sets out the multilateral terms of access to the Maui pipeline for pipeline users;
- MDL's Transmission Services Agreements (TSAs) and ICAs, that incorporate the terms of the MPOC;
- MDL's residual balancing arrangements, particularly the BGX;
- MDL's Standard Operating Procedures (SOPs), that set out the detail of how MDL will meet its various open access contractual obligations;
- the VTC, that sets out the multilateral terms of access to the Vector pipeline for Vector Shippers;
- Vector's TSAs, that incorporate the terms of the VTC; and
- GTAs, that set out how a Gas Transfer Agent will reconcile and notify quantities of gas transferred between market participants at a particular location.

It is therefore not surprising that negotiations between the prospective market operators and the pipeline owners took six months. In fact, given that their respective board approvals were also required, it can be considered quite a timely outcome.

We note that, in addition to the possible conflict considered in the Concept Consulting review, the Maui pipeline owners can trade gas on the BGX and may be disadvantaged by the introduction of another market that could depress prices and reduce the amount of BGX activity.

Nonetheless, we agree with the Concept Consulting report, that MDL had real concerns about the wider impact of a gas market on its pipeline operations.

MDL concerns

Gas Industry Co understands that MDL is concerned that a wholesale gas trading market could:

- make it easier for pipeline users to trade the imbalance flexibility they are allowed under the MPOC to make a profit, resulting in more unstable linepack (potentially leading to higher residual balancing costs); and
- obscure from MDL which pipeline users were misbehaving;

These concerns are related to MDL's underlying belief that the incentives on Maui pipeline users to physically flow the quantities of gas they have nominated are weak.

MDL sought to address some of these concerns in the ICAs it negotiated. While MDL considers its approach was necessary to ensure the stable operation of its pipeline and to protect pipeline users, at least one of the prospective market operators considered some of these resulting clauses to be unnecessarily intrusive. For example, in the ICA it concluded with NZX:

- Clause 9(e)(iii) requires that the Market Rules must:

...provide MDL with all such records and information concerning each Participant, each Participant's market behaviour, and each Participant's compliance with the Market Rules, which an experienced, diligent and skilled operator of a gas market of the kind described in clause 6(c) is likely to consider would be, or become, material to MDL or in connection with this Agreement or the operation of the Maui Pipeline;

- Clause 10(a)

MDL shall provide written confirmation to the Welded Party as and when MDL considers that the Market Rules meet the requirements of clause 9. MDL shall then at the same time identify the Market Rules that are deemed by MDL to be critical for the purposes of this Agreement, and these shall be listed in Schedule 1 of this Agreement;

- Clause 10(c)

the Welded Party shall fully and promptly advise MDL of each and every actual or alleged breach by a Participant or by the Welded Party:

(i) of any of the Market Rules identified as critical in Schedule 1; or

(ii) of any Market Rule where that actual or alleged breach is such, or of a kind, that an experienced, diligent and skilled operator of a gas market of the kind described in clause 6(c) is likely to consider would be, or become, material to MDL or in connection with this Agreement or the operation of the Maui Pipeline;

- Clause 10(d)

the Welded Party shall fully and promptly advise MDL of each and every act, matter or thing concerning a Participant, a Participant's market behaviour or a Participant's compliance with the Market Rules which an experienced, diligent and skilled operator of a gas market of the kind described in clause 6(c) is likely to consider

would be, or become, material to MDL or in connection with this Agreement or the operation of the Maui Pipeline (Material Matter). Within 10 Business Days after receiving advice from the Welded Party under this clause 10(d), MDL may, acting as a Reasonable and Prudent Operator, request the Welded Party to investigate and report to MDL upon any Material Matter. The Welded Party will comply with any request from MDL under this clause 10(d) as soon as practicable and the last sentence of clause 10(f), adjusted as necessary for the purpose, shall apply in respect of the investigation and report;

The tenor of these clauses gives some indication that MDL was not exactly sure how its concerns would become manifest. Transpower found that it could establish its market on the Vector pipeline with simpler and less intrusive arrangements, and chose to follow that route.

4.3 Gas Industry Co observations

Different approaches to enabling the markets

We note that there has not previously been any gas trading between users on the Maui pipeline, so there were no established arrangements to build on other than those developed with Gas Industry Co for the trial wholesale market in 2010. MDL considered that the arrangements with NZX and Transpower would need to be different to those it had agreed with Gas Industry Co because the motivation of the parties is materially different. This accounts for the very measured and careful approach MDL took to negotiating the ICAs.

By contrast, gas has been traded between users on the Vector pipeline since the beginning of open access in 1996. So the arrangement for enabling this – the GTA – was well established, and no significant negotiation was required. Also, the fact that users are familiar with those arrangements may be a factor in the different levels of participation in the NZX and Transpower markets.

We also note that since it is only MDL who actively balances its pipeline by buying and selling balancing gas, it is more familiar and more concerned with the consequences of users not maintaining their balance positions. This may also have been a factor in its approach to the negotiation.

MDL concerns

As far as we are aware, the MDL concerns referred to above have not been more widely debated in the industry. Although MDL went some way towards addressing its concerns in the ICA it concluded with NZX, it seems that this will have little effect since Transpower chose to establish its market on the Vector pipeline, where an ICA was not required. It is Transpower's emsTradepoint market that is currently operating, so MDL's concerns have not been addressed.

Gas Industry Co understands that MDL remains very concerned that Transpower's emsTradepoint market will adversely affect balancing on the Maui pipeline. If its fears

materialise, the result will be more residual balancing actions on the Maui pipeline or, in the worst case, more critical contingency situations occurring. At present Gas Industry Co is not persuaded that this is a significant risk, but welcomes further industry focus and discussion. We note that Vector has not raised similar concerns, although we would expect it to be very concerned if the introduction of the market resulted in an increased number of contingencies. In our view the prudent approach is to track the balancing metrics in the immediate future to judge whether MDL's concerns have substance that may lead to inefficient outcomes.

If it proves that stronger rules are necessary, we will work with industry participants to determine what they should be and how they should be enforced.

Role of guidelines or similar policy instruments

We agree with Concept Consulting's advice that developing Gas Industry Co's Interconnection Guidelines would not be helpful in relation to gas market 'interconnections'. Although there is some overlap, gas market interconnections give rise to some significantly different issues than physical interconnections. Also, as Transpower is not an 'Interconnected Party' under the VTC (since it does not have an Interconnection Agreement with Vector), it would be confusing if Transpower was subject to the Interconnection Guidelines. In any case, given the market size, there are unlikely to be any further gas market interconnections, so we do not consider that a further or amended guideline would be helpful.

5

Key findings and next steps

5.1 Key findings

Key findings are:

- (a) Gas Industry Co considers that the introduction of a gas trading market is a significant step towards achieving Government's policy objective of efficient arrangements for short-term trading of gas;
- (b) an independent review of the process for achieving gas trading market interconnection arrangements on the Maui pipeline found no issues requiring intervention, but did identify a number of concerns the Maui pipeline owner has about pipeline balancing that could be exacerbated by the introduction of a gas trading market;
- (c) we recognise the Maui pipeline owner's concerns, but we consider that the risks arising from the introduction of the market are manageable. However, we believe it is prudent to keep track of balancing metrics in the immediate future and to be alert to any adverse consequences; and
- (d) the on-going industry efforts to improve transmission access arrangements in response to recent recommendations from a Panel of Expert Advisers under the Gas Transmission Investment Programme (GTIP) may also have consequences for pipeline balancing. Gas Industry Co will continue to encourage and monitor these developments.

5.2 Next steps

Gas Industry Co will:

- monitor gas market and pipeline balancing activity in the immediate future;
- encourage and monitor the work of industry participants in responding to the recommendations from the Panel of Expert Advisers; and
- report to the Minister and stakeholders on the impact of the gas market as necessary.

Glossary

BGX	Balancing Gas Exchange, a gas market that allows MDL's Commercial Operator to call for bids to buy or sell balancing gas (when there is respectively too much or too little gas in the pipeline), and for BGX participants to post offers to meet those requests.
MDL	Maui Development Limited, agent and trustee for the joint venture between Shell (83.75%), OMV (10%) and Todd (6.25%, collectively known as the Maui Mining Companies (MMC). MDL, acting on behalf of these companies, is the contracting party for all who wish to obtain gas transport services from, or establish interconnection services with, the Maui pipeline.
Nomination	Forecast advice of the quantity of gas a party advises the pipeline system operator that it wishes to transport
MPOC	Maui Pipeline Operating Code
VTC	Vector Transmission Code