think differently

nova energy

14 December 2010

Ian Wilson
Gas Industry Company
Wellington

Dear Ian,

Supplementary Submission re GIC Statement of Proposal regarding Allocation of Capacity on Constrained Pipelines.

Please find attached an independent expert review of the consultation paper regarding proposed changes to the current method of allocating transmission capacity on constrained pipelines.

The review has been performed by Mike Smart of the Sapere Research Group[1] who has extensive experience in the area of competition and gas transport arrangements.

The conclusions of the review align closely with our own thoughts regarding the Statement of Proposal and in particular that the transfer of capacity rights to end users:

- Results only in a transfer of rights from one participant group to another without any public benefit;
- Will result in existing end users having a beneficial competitive position over new end users and competing retailers;
- Reduces the ability of aggregators to reduce transaction costs associated with managing transmission capacity (particularly when there are transmission capacity constraints);
- Increases barriers to investment in new transmission capacity by Vector or consortiums of users and aggregators;

Nova believes that the best way forward is to ensure that pipeline transmission arrangements support:

- development of new retail products that encourage peak demand management by all consumers as there is significant underutilisation of capacity for most of the time during off peak periods;
- investment in incremental capacity;

[1] Sapare Research Group was formerly known as LECG until recently.

The proposal to transfer capacity to existing end users will only undermine the principle economic objectives of ensuring that scarce resources (capacity) are allocated to the highest value use and that new investment is appropriately encouraged and funded by those expected to benefit.

Yours sincerely

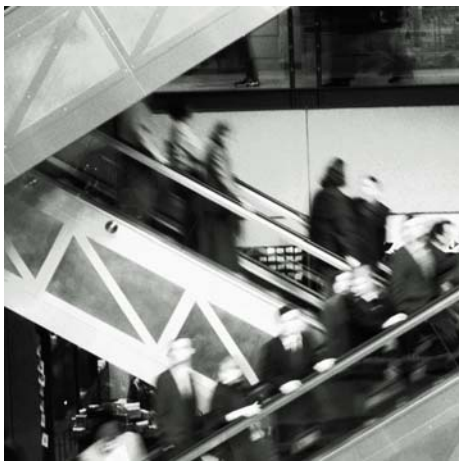
Charles Teichert

sapere research group

GIC Proposal for Retail Competition and Transmission Capacity

Mike Smart

December 2010



About the Author

Mike Smart is an economist specialising in competition law and regulation of networks. He advises industry leaders in telecommunications, rail, gas, logistics, mining, electricity and aviation. Mike has given expert evidence in the Federal Court of Australia and the Australian Competition Tribunal. He is a member of the Competition and Consumer Committee of the Law Council of Australia.

About Sapere Research Group Limited

Sapere Research Group is one of the largest expert consulting firms in Australasia and a leader in provision of independent economic, forensic accounting and public policy services. Sapere provides independent expert testimony, strategic advisory services, data analytics and other advice to Australasia's private sector corporate clients, major law firms, government agencies, and regulatory bodies.

Wellington
Level 9, 1 Willeston St
PO Box 587
Wellington 6140
Ph: +64 4 915 7590
Fax: +64 4 915 7596

Auckland
Level 17, 3-5 Albert St
PO Box 2475
Auckland 1140
Ph: +64 9 913 6240
Fax: +64 9 913 6241

Sydney
Level 14, 68 Pitt St
GPO Box 220
NSW 2001
Ph: + 61 2 9234 0200
Fax : + 61 2 9234 0201

Canberra
Level 6, 39 London Circuit
PO Box 266
Canberra City
ACT 2601
Ph: +61 2 6263 5941
Fax: +61 2 6230 5269

Melbourne
Level 2, 65 Southbank Boulevard
GPO Box 3179
Melbourne, VIC 3001
Ph: + 61 3 9626 4333
Fax: + 61 3 9626 4231

For information on this report please contact:

Name: Mike Smart

Telephone: +61 292340210

Mobile: +61 407246646

Email: msmart@srgexpert.com

Executive Summary

On 12 November 2010, the Gas Industry Company Limited ("GIC") published a report entitled "*Retail Competition and Transmission Capacity: Statement of Proposal*" (the "GIC report".) The GIC report was motivated by the following considerations. First, Vector announced that the North Pipeline reached its physical capacity limit in mid-2009. Second, large end users seeking bids for gas supply reported a drop in the level of competition. Third, unconditional offers to supply these large end users can only be made by retailers that have contractual entitlements to sufficient haulage capacity to serve them. Fourth, the scarcity situation on the pipeline means that existing retailer-end user arrangements are effectively locked in to some extent,[1] despite the theoretical contestability of those contracts.

The GIC report sets out a specific proposal to alter the status quo in the following way. It is proposed that scarce transmission capacity on Vector's North Pipeline follows the end user when the end user elects to change suppliers. This proposal represents a marked departure from the default option wherein transmission capacity remains with the retailer that holds a contractual entitlement to it.[2] GIC's proposal is founded on the notion that by allocating the right to assign capacity entitlements to end users,[3] competition to supply them will be intensified. It is implied that, therefore, superior economic efficiency outcomes will be obtained throughout the New Zealand economy.

---

1 That said, the GIC report does note (p. 11) that in the year since Vector announced the capacity constraint, 20 end users supplied from the North Pipeline with demand of more than 10 TJ/yr switched retailer.

2 To be precise, retailers hold one-year rolling pipeline capacity contracts to which they hold rights of first refusal on any renewals. It is this 'grandfathering' of annual contracts that is the subject of proposed policy changes.

3 It is recognised that under the GIC proposal the transmission capacity entitlement would probably be held in a formal sense by a retailer. Nevertheless, because the Large End User would gain the right to allocate that entitlement to a retailer of its own choosing, the economic analysis here proceeds as if the Large End User held the capacity entitlement directly.

This note identifies several important problems with GIC's economic analysis. Specifically, the evidence of a competition problem is weak. There is an inordinate focus on a single stage in the gas supply chain. The transfer of capacity rents from retailers to Large End Users that is recommended by GIC has not been properly analysed. The problem of "cliff-edge" effects intrinsic to the definition of Large End Users is obscurely acknowledged but not dealt with adequately. There is significant confusion about how to apply the relevant economic principles.

As a result of these problems, GIC fails to recognise the new downstream competition problems that its proposal would create. Most of the existing competition issues are created by the fact of capacity constraints on the North Pipeline—a circumstance that GIC acknowledges its proposals will do nothing to solve. While greater retail competition is desirable, all else being equal, so is greater competition in gas production, in transmission, in distribution, and in many of the gas-using industries in New Zealand. Unfortunately, all else is not equal. Any proposal to change the status quo at one stage in the vertical supply chain will have consequences for competition at other stages.

Finally, the GIC proposal would transfer capacity rents from retailers to a small group of Large End Users. This transfer would have the following unintended consequences:

1) It would diminish the ability of retailers to aggregate demand and would therefore increase transaction costs across the supply chain;

2) It would create an opportunity for Large End Users to resell pipeline capacity[4] and compete with existing retailers in an advantaged manner by virtue of their newfound grandfathering rights; and

3) It would make it more difficult for Vector to raise the funds needed to invest in pipeline capacity augmentation by fragmenting Vector's customer base.

---

[4] Admittedly there would be some complexities involved in reselling pipeline capacity. Nevertheless, by giving the Large End Users the ultimate discretion as to which retailer holds that capacity, the door is opened to a range of commercial initiatives that have not so far been observed in New Zealand.

Table of Contents

1 Problems with GIC approach to retail contestability

The economic analysis presented in the GIC report is deficient in several important respects. As a result, the welfare impact of GIC's recommendations is unclear. At any rate, the case for change has not been made out on economic grounds. This section elaborates on the most serious problems with GIC's analysis.

1.1 Lack of analysis identifying a competition problem

GIC asserts in chapter 3 that there is a competition problem: 'grandfathering' rights to North Pipeline capacity give the incumbent retailer a competitive advantage when end-user contracts come up for renewal. Apart from disputed claims from industry participants and a small number of ambiguous confidential case studies, GIC presents no analysis to support this assertion.

In fact, GIC notes (p. 48) that it has done no quantitative evaluation of efficiency gains that might arise from its proposal: "*It is clear that increased competition will lead to efficiency gains. Although it is not possible to put a value on those gains, the cost of fixing the competition problem by means of the Capacity Follows End User option is minor. We therefore consider it unnecessary to numerically evaluate the efficiency gains in this instance.*"

Instead of analysis, GIC presents two confidential examples to support a claim that competitive activity has reduced (pp. 11-12). In both examples, the incumbent retailer lost the tender—suggesting the possibility of churn. Nevertheless, GIC attaches great importance to the fact that fewer bidders participated than was expected by the broker. The reader of the GIC report is in no position to evaluate the reasonableness of the unnamed broker's expectation. More generally, no analysis is presented to support the inference that a tender with 7 offers would yield superior welfare outcomes than one with only 4 offers.

1.2 Inordinate focus on a single stage in supply chain

GIC has chosen to examine only a single stage in the gas supply chain, namely the relationship between a gas retailer and its customers. Taking steps to increase competition at that stage alone may have no effect on allocative efficiency in the supply chain overall if, as seems likely, bottlenecks persist at other functional layers. In essence, the GIC proposal risks sub-optimising supply chain performance by failing to examine impacts across the entire chain. This important subject is considered in detail in section 2 below.

1.3 Lack of analysis of transfer of capacity rents to end-users

GIC observes that the pipeline constraints create capacity rents. It makes no bones about the fact that it actively seeks to transfer those rents from their current holders—the retailers with grandfathering rights—to a certain subsection of end-users who meet an as-yet-unspecified threshold of gas consumption (pp. 15-16). Three major pitfalls with this plan to redistribute rents are not even discussed in the GIC report:

1) It would diminish the ability of retailers to aggregate demand and would therefore increase transaction costs across the supply chain;
2) It would create an opportunity for Large End Users to resell pipeline capacity and compete with existing retailers in an advantaged manner by virtue of their newfound grandfathering rights; and
3) It would make it more difficult for Vector to raise the funds needed to invest in pipeline capacity augmentation by fragmenting Vector's customer base.

This subject is considered in detail in section 3 below.

1.4 Insufficient attention to "cliff-edge" effects

GIC does not say what threshold of consumption will be applied to distinguish between large end users, who would be entitled to grandfather their own pipeline capacity and capture the associated rents, and small end users, who would not.

Clearly this is an important question. GIC notes in footnote 29 in Appendix D on p. 92, "*The different situations for large and small end users create a 'cliff edge' issue. Small end users just smaller than the Large End Users threshold could potentially be paying a substantially higher retail gas price than those Large End Users just above the threshold. The threshold needs to be clearly defined.*"

A footnote in an appendix hardly does justice to this issue. If it were the case, for example, that two industrial gas users competed with each other and one qualified

as a "Large End User" but the other did not, then GIC's policy would give the large end user a significant competitive advantage relative to the other firm, whose retail gas price would be substantially higher.

Clearly the setting of the threshold is regarded as an implementation issue to be dealt with at a later stage. Presumably the setting of this threshold would be done in a manner that avoided tilting the playing field in any of the many downstream markets. There is some risk, however, that there may be no threshold value that would avoid current or future competition problems among gas users.

1.5 Confusion about relevant economic principles

GIC's rationale for intervention is based partly on its characterisation of the retail market as an example of its franchise model. GIC's critique of the franchise model (s4.4, pp. 19-20) includes the following erroneous statements:

"Under the franchise model, retail gas prices may vary according to end users' willingness to pay. The deadweight losses in the franchise model do not arise from the capacity rent, because this exists in some form in both models. Rather, they arise from the loss of a uniform, retail gas price in the franchise model. End users are charged based on their willingness to pay. So end users for whom gas has a low value may be using scarce capacity at the expense of end users who value gas more highly."

As a matter of economics, these statements are incorrect in two respects. First, price discrimination (of the sort GIC criticises) reduces deadweight losses compared to uniform pricing. Second, contrary to what GIC says, when end users are charged what they are willing to pay, users with higher valuations receive gas allocations at the expense of those for whom gas has a low value. The GIC criticisms of the franchise model are incorrect.

2 Competition issues upstream and downstream of pipeline

The gas industry in New Zealand, as in most other countries, involves the following functional layers:

- Exploration and production;
- Transmission;
- Distribution;
- Retailing; and
- End users.

Each of these functional layers, apart from end users, is highly concentrated in New Zealand (and in other comparable jurisdictions, like Australia). There are few gas producers, few transmission pipeline owners and operators, few gas distributors, and relatively few retailers.

While the number of end users is large, the number of "Large End Users" is small. GIC notes (p. 20) that the large end users who are affected by the pipeline capacity shortage are "*small in number compared with the myriad 'mass market' end users*". In other words, the large end user functional layer is also highly concentrated.

It is likely the case that the gas supply chain is characterised by sequential oligopolies at each of many stages. This fact is highly pertinent to the competition analysis of the industry, yet GIC has not acknowledged it. Instead, GIC places great emphasis on the oligopoly situation in retailing, while saying nothing at all about the oligopolies in gas production, transmission, distribution, and among large end users.

The economic literature recognises that sequential monopolies are worse in welfare terms than a single vertically-integrated monopoly because the former puts a monopoly mark-up on the marginal cost at each of many stages, multiplying the total mark-up. Profit-maximising prices are actually lower in a vertically integrated monopoly situation.

It is important to recognise that GIC's proposal to hand grandfathered pipeline capacity rights to a particular group of end-users does not address the problem of sequential oligopoly in any way. After this change is made, production, transmission, and distribution will still be bottlenecks. While the bottleneck posed by retailing will be diminished somewhat, the bottleneck posed by existing large end users with grandfathered rights would be correspondingly enlarged. The reduction in the retailers' market power will increase the market power of Large End Users.

GIC's proposal would merely shift rents. It would not eliminate them, or pass them on to New Zealand households. GIC accepts the first point, but fails to acknowledge the second:

"*So the first round impact will be largely a transfer from retailers to end-users. Those end-users operating in competitive markets will tend to pass on a share of the transfer benefit to their own customers however, so there are likely to be allocative efficiency gains in markets downstream from the gas markets.*" (p. 47)

The critical point is that Large End Users who hold grandfathered rights to pipeline capacity will wield a significant competitive advantage relative to their own rivals in their own industries. They could, for example, use these grandfathered rights to block entry of new competitors, or to increase the operating costs of their current and future competitors. The advantage given to these Large End Users by the GIC proposal would mean that they are not operating in competitive markets and

therefore will not tend to pass on the transfer benefit to their own customers. The allocative efficiency gains will not materialise, precisely because of the windfall that GIC proposes to give to a small group of large end users.

A further, related point is that Large End Users could in theory resell some of their pipeline capacity to new users. This (so far hypothetical) situation is similar in some ways to the notion that a retailer would allocate spare pipeline capacity to new users. The difference between the newly proposed rule and the existing rule is that:

- A Large End User is unlikely to sell pipeline capacity to one of its own competitors, while a retailer would have been happy to sell to that entrant under the old rules; and
- Under the new rule, a retailer may be unable to sell spare capacity that is created by the loss of a customer because that capacity would move with the customer to a new retailer.

For these reasons, the GIC proposal is likely to be detrimental to new entry and competition among gas-using firms in New Zealand.

In summary, there are competition issues and bottleneck problems both upstream and downstream of the pipeline haulage contract interface. As a result of these issues, the GIC's economic analysis is simplistic and incomplete. A more thorough analysis of the vertical linkages in the supply chain would show that the proposed solution would be ineffective in addressing the problems it seeks to deal with because these other bottlenecks would preclude the emergence of the hoped-for level of increased competition. The proposal would merely shift market power from retailers to certain end users, but may do so in a way that is ultimately more damaging to competition within the New Zealand economy generally since a range of gas-using industries may become less competitive as a result.

3 Transferring capacity rents from retailers to end-users

The previous section explained why any transfer of capacity rents from retailers to a select group of large end customers would be welfare-neutral at best on competition grounds. Against that doubtful welfare gain, one must balance the cost of implementing the proposed plan. According to GIC (p. 48), "*the cost of fixing the competition problem by means of the Capacity Follows End User option is minor.*" Unfortunately, this assessment fails to take into account three important shortcomings that are intrinsic to the proposal:

1) It would increase transaction costs and administrative inefficiencies;
2) Large End Users may compete in retailing with an advantage; and
3) It would make it more difficult for Vector to obtain customer funding for further investments in pipeline capacity.

The three subsections below explain these problems in more detail.

3.1 Effect on transaction costs, administrative efficiency

Gas retailers perform an important function in aggregating demand from diverse sources. Aggregation of demand facilitates pooling the risks created by peaky demand profiles of individual customers. For example, retailers can manage non-coincident peak loads, meaning that the system peak load is lower than the sum of user peak loads. It permits contractual interfaces between gas customers and gas producers, and between customers and pipeline operators to be simpler, and cheaper to administer. Retailers possess specialised competencies and scope economies in contracting.

The GIC proposal to permit a small number of existing end users to grandfather pipeline capacity would inevitably fragment the customer base of retailers. Scale and scope economies of retailing would be diminished by such a move. An example of the loss of these economies is that the management on non-coincident peaks would become less efficient. Each Large End User would endeavour to preserve its own peak entitlement, meaning that the system peak load would move closer to the sum of user peak loads. Inefficient use of resources and increased transaction and administrative costs would place upward pressure on delivered gas prices and exacerbate the problems caused by pipeline capacity constraints.

3.2 Large End Users as advantaged competitors in retailing

Large End Users may find it commercially attractive to resell pipeline capacity (where they are permitted to do so.) They may have commercial incentives to overstate their own pipeline capacity needs in order to expand into the space

occupied currently by retailers. It is recognised that a series of contractual complexities would need to be navigated before this possibility became a reality. Nevertheless, the GIC proposal opens the door to such commercial opportunities.

This type of development may well result in greater competition within the retail industry, but it would be an unequal form of competition. Existing retailers would be competing without the grandfathering rights that GIC proposes to hand to Large End Users, some of whom may elect to enter the retail space.

3.3 Impact on funding for pipeline enhancements

As everyone recognises, the only medium-term solution to the underlying problems is to enhance the pipeline capacity serving the North Island. That solution would require significant investment by Vector or some other pipeline operator. Investment in new pipeline capacity tends to be lumpy and subject to significant uncertainties over future demand and the willingness of customers to pay.

Gas retailers play an important role in minimising the uncertainty that might otherwise paralyse needed pipeline investments. Retailers represent an important class of financially sound counterparties that are capable of underwriting pipeline expansion—potentially the most important class of such counterparties.

The GIC proposal would do two things that may undermine the capacity of retailers to play this vital underwriting role. First, it would fragment the base of parties that hold pipeline contracts. The larger the number of pipeline contract holders that must agree on any specific enhancement proposal, the more unlikely it is to occur in a timely manner. Some contract holders may elect to pursue a "hold-up" strategy in order to drive a better bargain for themselves.

Second, and possibly more importantly, it would undermine the capacity of retailers to commit to pipeline expansions because the certainty of access to pipeline capacity in future years that is provided by current grandfathering arrangements would be lost. While Large End Users would also have an interest in promoting pipeline expansion, their interests are necessarily narrower than the retailers' so they are less likely to commit to funding pipeline expansions.