

CHIEF EXECUTIVE'S OVERVIEW

Welcome to this edition of Gas Industry Co's Quarterly Report. The quarter to December 2017 signalled a mix of challenges and opportunities for the gas sector.

A key development was the election of a Labour-led Coalition Government. Gas Industry Co looks forward to working with the new Government, and particularly welcomes the Hon Dr Megan Woods as the new Minister of Energy and Resources. While the Government's policies are still unfolding, it is clear that new climate policies will be highly influential on the energy sector. Coalition agreements provide for introducing a Zero Carbon Act and an independent Climate Commission, based on the recommendations of the Parliamentary Commissioner for the Environment, and for gradual inclusion of the agriculture sector in the Emissions Trading Scheme. The Labour/Greens Agreement includes requesting the Climate Commission to plan the transition to 100 percent renewable electricity by 2035 in a normal hydrological year.

Gas Industry Co has been promoting discussion for some time about the changing role of gas in New Zealand, driven by climate change response, new energy technologies and the low international oil price in recent years. While acknowledging the new Government's policy directions, two early themes that Gas Industry Co is keen to highlight to the Minister are:

- The nation's substantial current reliance on gas - gas contributes around 22 percent of New Zealand's primary energy, and provides over 280,000 New Zealand homes, businesses and other organisations such as schools and local authority entities with secure and affordable energy. Additionally, there are around 150,000 LPG consumers served by 45kg or larger bottles and by South Island pipeline networks.
- The importance of the Government's unfolding policy decisions affecting ongoing investment in gas supply.

In this Quarterly Report, we also highlight good progress in the development of a new Gas Transmission Access Code (GTAC) to replace the existing Maui and Vector Codes. Stakeholders have been engaging closely with First Gas over recent months, and I want to acknowledge both their

Contents	Page
Highlights from the Quarterly Industry Performance Measures Report	03
Developments in the Quarter	04
Industry Performance Measures & Explanatory Notes	06
Gas Industry Co progress towards objectives and outcomes	40

Workstream developments during the quarter are summarised in this Quarterly Report. Further details of the developments have been reported previously through Gas Industry Co's periodic News Bulletins and are available on our website www.gasindustry.co.nz

substantial commitment and their positive intent. Most recently, we have released our Preliminary Assessment Report on the GTAC submitted to us in December 2017 for review, implications of which are discussed in this Report.

Finally, some of you will have noted my resignation as Chief Executive of Gas Industry Co back in November. I am particularly proud of what the Company has achieved in recent years, and acknowledge our capable board and team as the drivers for that. I'd also like to thank our industry colleagues for their commitment and support for the industry and Gas Industry Co. The ability under the co-regulatory model for us to work more closely with our stakeholders has been key to delivering to successive Ministers (5 in my time!) a well-functioning downstream gas industry. The Company's success is perhaps best measured by the way our share register has grown; industry leaders have put themselves forward in numbers for board elections; and our Maui room is regularly full for workshops and other meetings. After seven years in the role, I am pleased to pass the baton and the interesting ongoing challenges to a new pair of hands. The board's recruitment process for my replacement is well under way.

Steve Bielby
Chief Executive

HIGHLIGHTS FROM THE QUARTERLY INDUSTRY PERFORMANCE MEASURES REPORT

- There are over 3,600 not withdrawn switches completed per month, which translates to an annual churn rate of about 15.8 percent.
- 75 percent of customer switches in 2017 were completed within three business days.
- 64 percent of residential consumer sites have switched retailer at least once in the past eight years; 67 percent of small commercial and 55 percent of large commercial sites have switched at least once.
- Over 99 percent of gas customers are connected to a gate where seven or more retailers trade, suggesting that the gas retail sector is generally competitive throughout the North Island.
- Average annual unaccounted-for gas (UFG) over the past year stands at about 0.9 percent (compared with about 2 percent in 2009).
- Genesis is the largest retailer by customer share. Nova has the largest share of commercial and industrial customers.
- Nova is the largest retailer by volume market share.
- This report now also contains a newly created section that shows two new measures: the change in the number of customer sites by region; and meter ownership by distribution system.

A comprehensive *Industry Performance Measures Report* is found on page six.

DEVELOPMENTS IN THE QUARTER

The new gas transmission access code progressing

Development of a single new Gas Transmission Access Code (GTAC) began after First Gas took ownership of the two gas transmission systems, previously owned by Maui Development Limited (MDL) and Vector Gas Limited in August 2016.

First Gas wishes to replace the MPOC and Vector Transmission Code (VTC) with a single new access regime that will cover the combined gas transmission system, with effect from 1 October 2018.

The development of the proposed GTAC has been a lengthy process, commencing in August 2016, comprising a series of scoping papers, 17 workshops, and successive consultations on versions of the GTAC. In parallel with the development of the GTAC itself, First Gas has been making other arrangements, one of which was to provide an unambiguous implementation path.

At the time of writing this Quarterly Report, Gas Industry Co has been preparing its preliminary assessment of the proposed GTAC submitted by First Gas on 8 December. Gas Industry Co's assessment will consider whether the GTAC is materially better than the existing codes whilst having regard to the objectives and outcomes set out in the Gas Act 1992 and Government Policy Statement on Gas Governance 2008 (GPS).

While First Gas has been responsible for the design and drafting of the new arrangements, Gas Industry Co has facilitated the consultation process, and provided independent analysis of key documents and submissions. In addition, Gas Industry Co recently supported a change to the Maui Pipeline Operating Code (MPOC) aimed at providing a transition from the MPOC to a new GTAC if certain conditions are met.

Gas Industry Co will present its preliminary assessment at a further workshop with stakeholders in February 2018.

Further background information on the GTAC work can be found on our website [here](#).

Gas Industry Co FY2019 proposals progressing

Gas Industry Co has set out its proposed strategy, work programme and levy requirements for the year ended 30 June 2019 (FY2019). The *Consultation on Gas Industry Co FY2019 Work Programme and Levy (Consultation Paper)*, was published in December for stakeholder submissions, which closed on 5 February.

The FY2019 proposals include meeting statutory requirements, such as the administration of existing gas governance regulations, and seeks to address Government and stakeholder priorities through committed and ongoing projects.

The FY2019 proposals have been developed in consultation with stakeholders. The *Consultation Paper* takes into account stakeholder feedback received on the draft proposals presented to the industry at the Company's annual Co-regulatory Forum in November 2017.

At the completion of the consultation process, a formal recommendation for levy regulations will be made to the Minister of Energy and Resources. The work programme, and an indication of further activities for the following two financial years, will be formally set out in Gas Industry Co's 2019-2021 Statement of Intent, which will be published before the start of the next financial year.

Gas Industry Co 2017 Annual Meeting.

Amongst other matters discussed, in his address at the Annual Meeting held in November 2017, Gas Industry Co Chair Rt Hon Jim Bolger acknowledged the enormous progress being made in the development of the new GTAC, at the same time recognising stakeholders' close engagement with the Company and First Gas over the year.

Mr Bolger also acknowledged the change of Government, and welcomed the new Energy and Resources Minister, the Hon Dr Megan Woods. He said that climate change policies included in the new Government's list of priorities will undoubtedly be a significant influence on upstream investment. The Chair noted that the Company looked forward to working with the new Government, including to ensure it has a good understanding about the substantial role that gas plays in New Zealand and the benefits it can continue to deliver.

The meeting passed resolutions receiving Gas Industry Co's annual report for the year ended 30 June 2017, including the financial statements and the auditor's report; re-electing as Directors Messrs Robin Hill (Independent Director) and Nigel Barbour (Industry-Associated Director, Powerco); and reappointing the Company's auditors.

Progress against objectives and outcomes.

Good progress continues to be made in achieving the objectives and outcomes for Gas Industry Co and the industry in Part 4A of the Gas Act and the Government Policy Statement on Gas Governance 2008, through the Work Programme included in the Company's *FY2018-20 Statement of Intent*. An updated summary of progress is included on page 40 of this Quarterly Report.

INDUSTRY PERFORMANCE MEASURES

1 OCTOBER TO 31 DECEMBER 2017

1 Summary

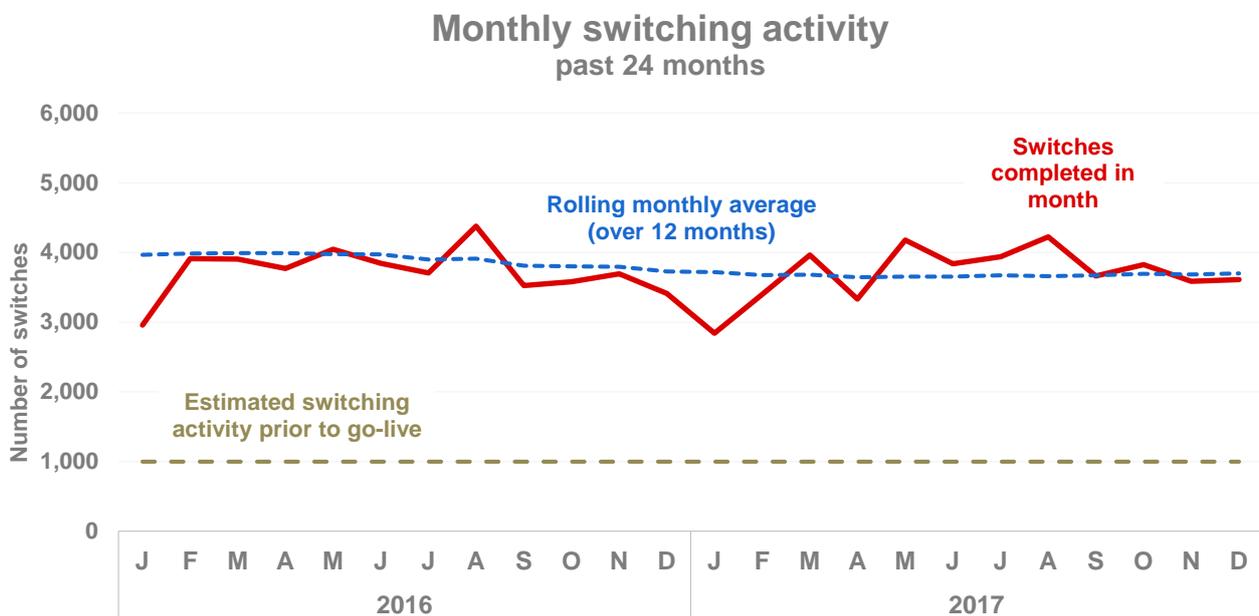
This report provides an update on the performance measures that Gas Industry Co monitors on a regular basis. The purpose of these measures is to track the performance of the Gas (Switching Arrangements) Rules 2008 (the Switching Rules), the Gas (Downstream Reconciliation) Rules 2008 (the Reconciliation Rules), and the Gas Governance (Critical Contingency Management) Regulations 2008 (the CCM Regulations), both in terms of activity related to these governance arrangements and the competitive outcomes that they foster. The Report also tracks transmission pipeline balancing measures, as a means of informing Gas Industry Co's work on this issue.

Explanatory details about the charts can be found in the Appendix to this report.

This report also contains a newly created section that shows two new measures: the change in the number of customer sites by region; and meter ownership by distribution system.

2 Switching performance measures

Chart 1: Monthly switching activity



- This chart shows the number of switches that have occurred on ICPs that have a status of either active-contracted (ACTC) or active-vacant (ACTV) at the time of switching. The statistics exclude switches that have been withdrawn.¹
- There are over 3,600 not withdrawn switches per month, which translates to an annual churn rate of about 15.8%. Gas customers can switch retailers for many reasons, but the high level of activity in the gas retail market suggests that customers find changing retailer easy and can put pressure on retailers to offer competitive terms and pricing.
- These figures exclude the transfer of Energy Direct customers to Trustpower from August – October 2016.
- See Chart A-1 in the appendix for a chart of switching activity since the start of the registry.

¹ Withdrawn switches are those that have been reversed, either because they were originally entered in error or because the customer decided not to go ahead with the switch (this latter situation is a “win-back” when the current retailer persuades the customer to stay). On average, about 5.5% of initiated switches are subsequently withdrawn.

Chart 2: Regional switching activity

Monthly regional and overall switching, past 24 months

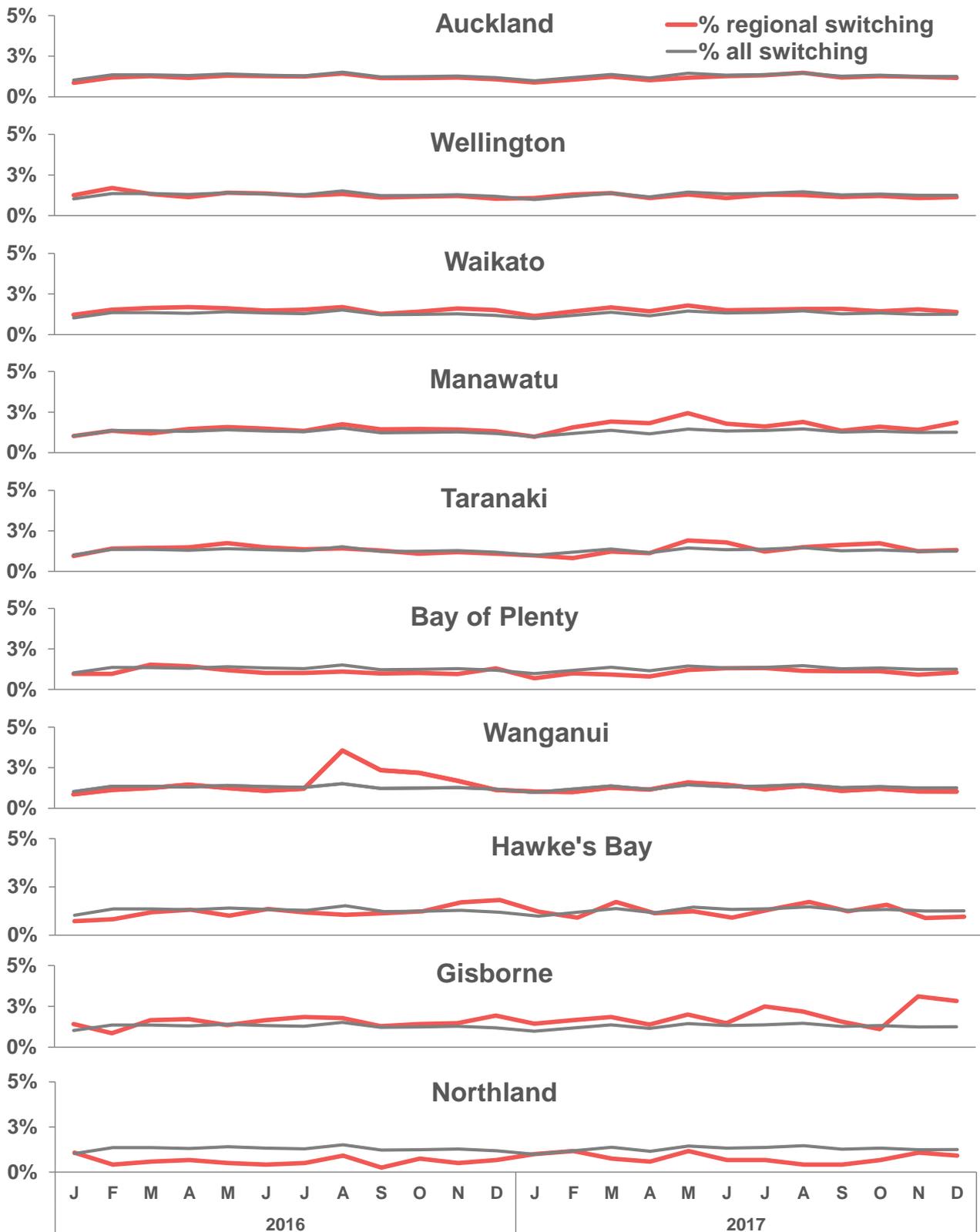
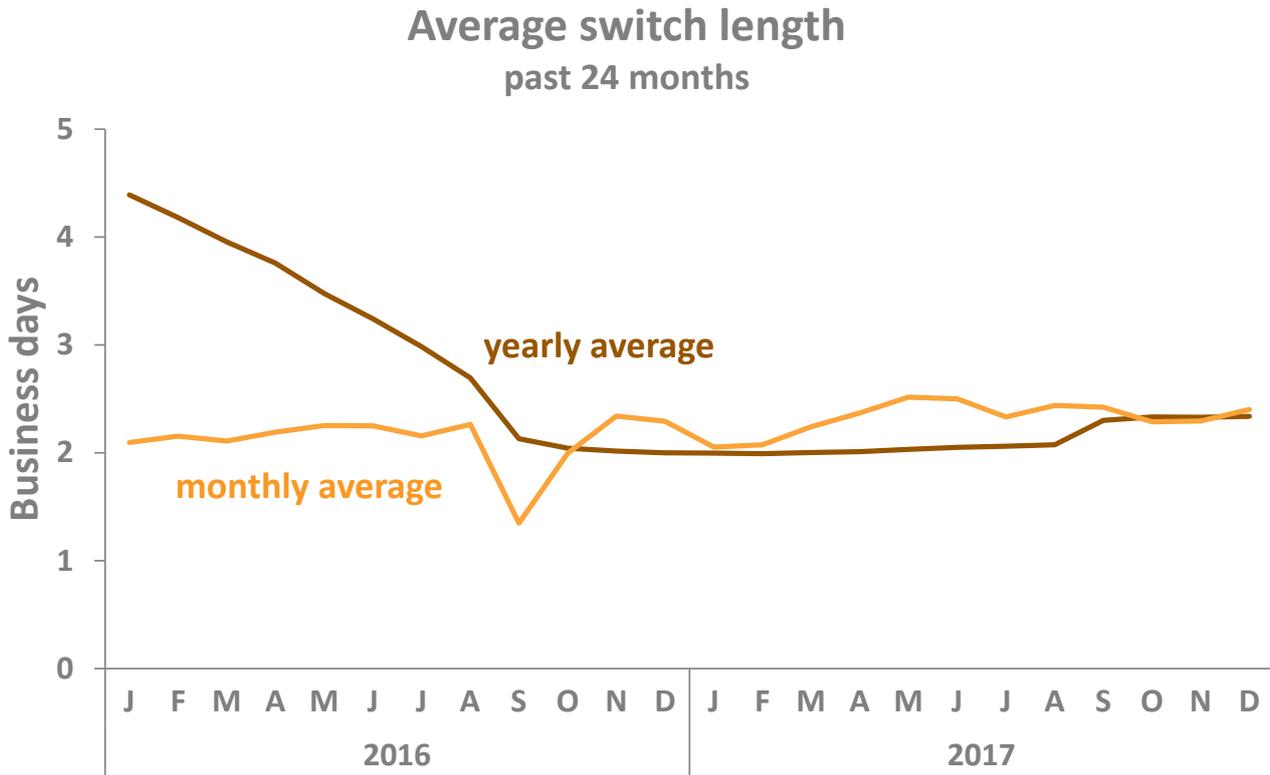
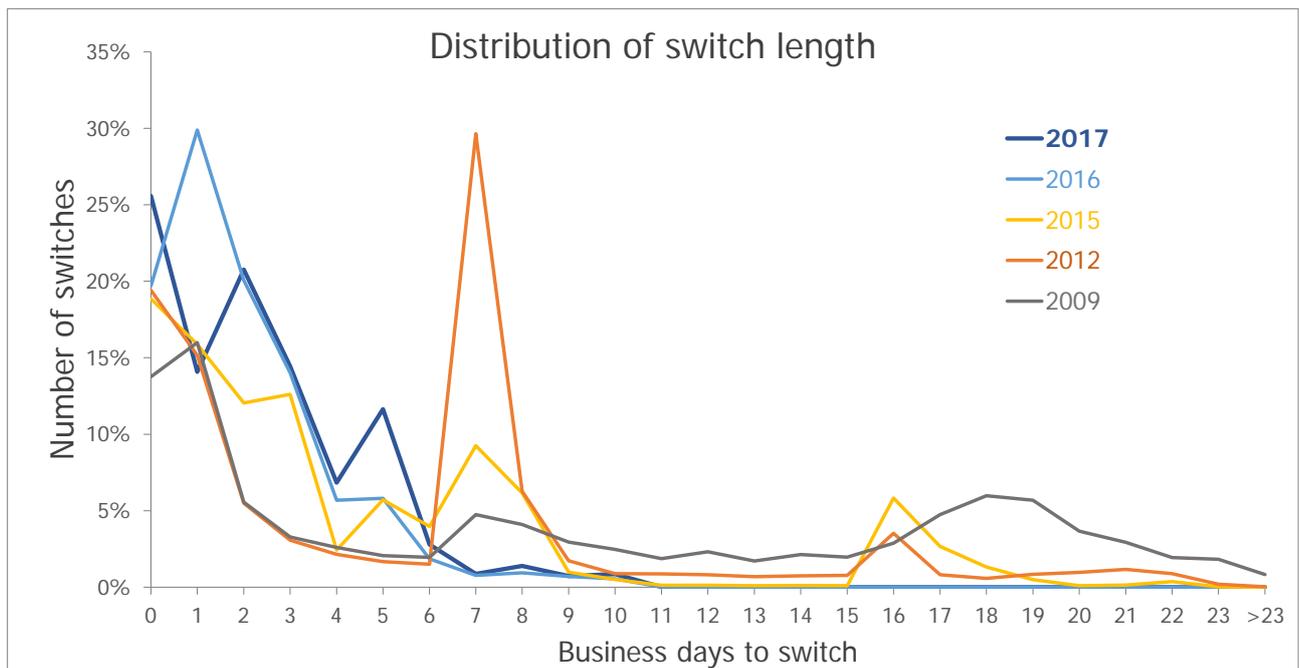


Chart 3: Time to process switches



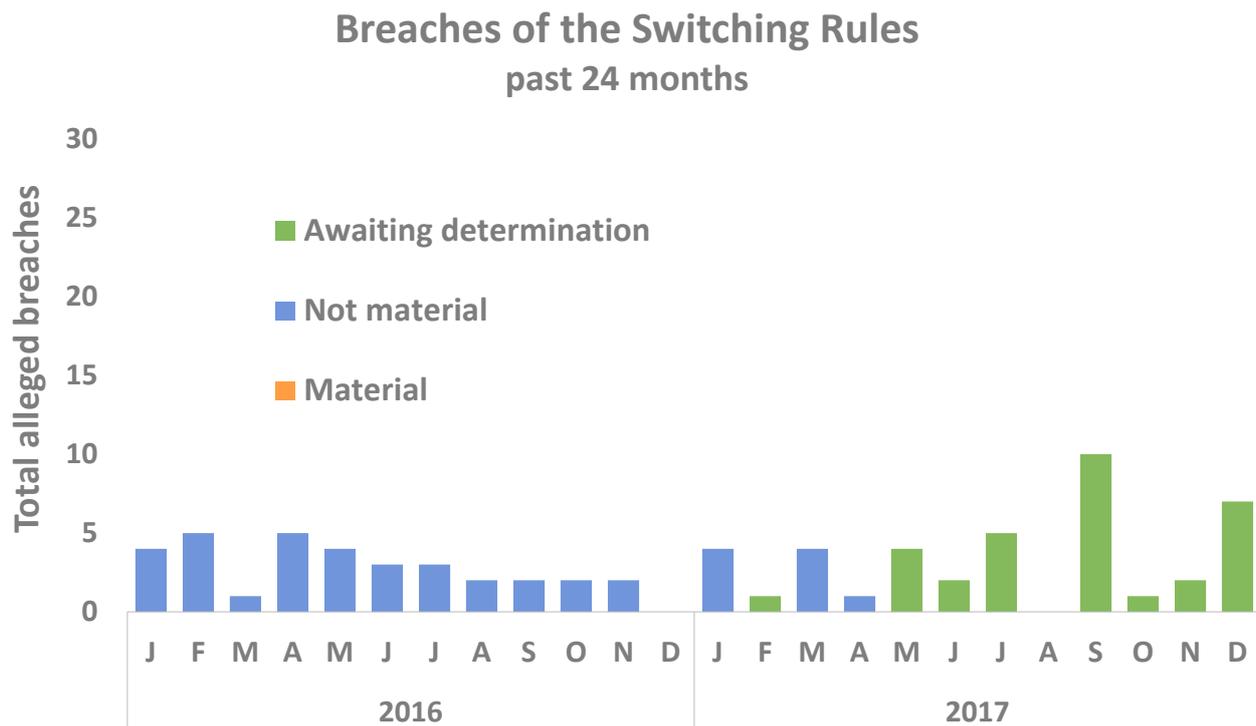
- Switching times have fallen markedly in the past two years. At the start of 2015, switches took a little over six days, on average. Switching times now average between 2 and 2.5 business days.
- Data are for switches of ICPs with a status of either active-contracted (ACTC) or active-vacant (ACTV) at the time of switching.

Chart 4: Distribution of switching length



- This chart shows the distribution of switching times for the calendar years of 2009, 2012, 2015, 2016, and 2017.
- The chart shows the change in switch length over time. In 2009, half of the switches were completed within seven days, while a quarter of switches took 17 days or more. By 2012, three-quarters of switches took place in seven days or less. In 2015, there was a shift to completion within three days. In 2016, 84% of switches were completed within three days. In 2017, another pattern emerged, where about a quarter of switches happen in less than a day and another third are completed in two business days.

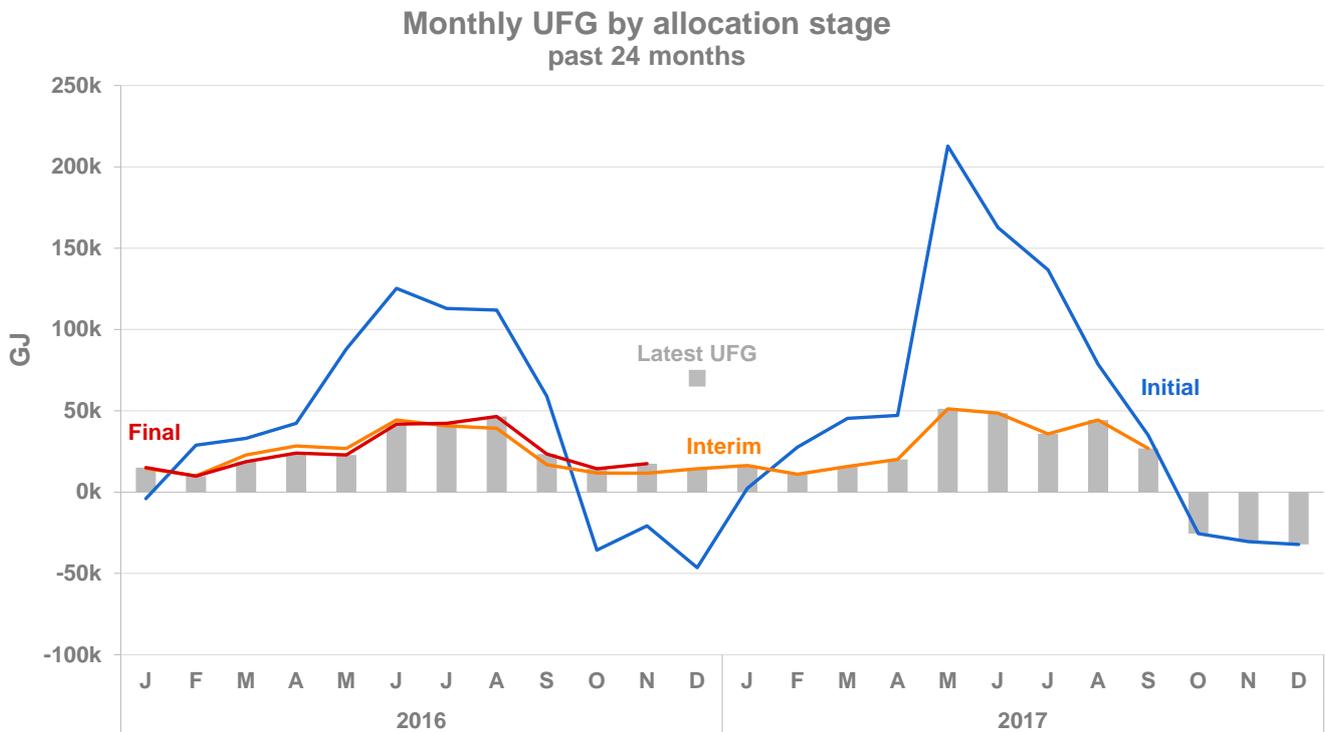
Chart 5: Number and severity of breaches of the Switching Rules



- This chart shows the breaches alleged each month by the registry operator. These allegations are generally for breaches of the rules that govern the mechanics of switching a gas consumer and include such things as late responses to switching notices.
- The chart does not show the breaches alleged in the course of performance audits, which tend to be related to the accuracy of information on the registry and the procedures that participants follow to maintain this information. Errors in registry participants' data handling procedures can give rise to hundreds of individual instances of rule breaches, which would be misleading to include in the chart above.

3 Allocation and reconciliation performance measures

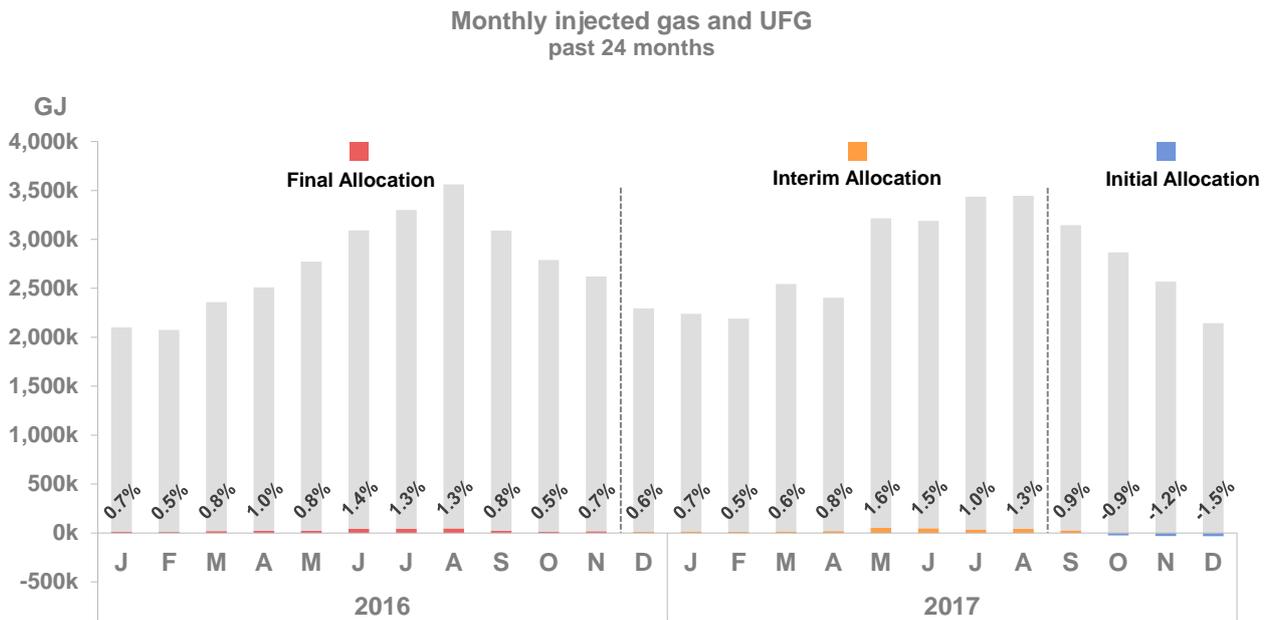
Chart 6: Volumes of unaccounted-for gas (UFG)



- Note that this chart uses the initial allocation produced by the allocation agent at the end of the month, not the D+1 allocation results.²
- See Chart A-2 in the appendix for a chart of UFG since the start of the Reconciliation Rules.

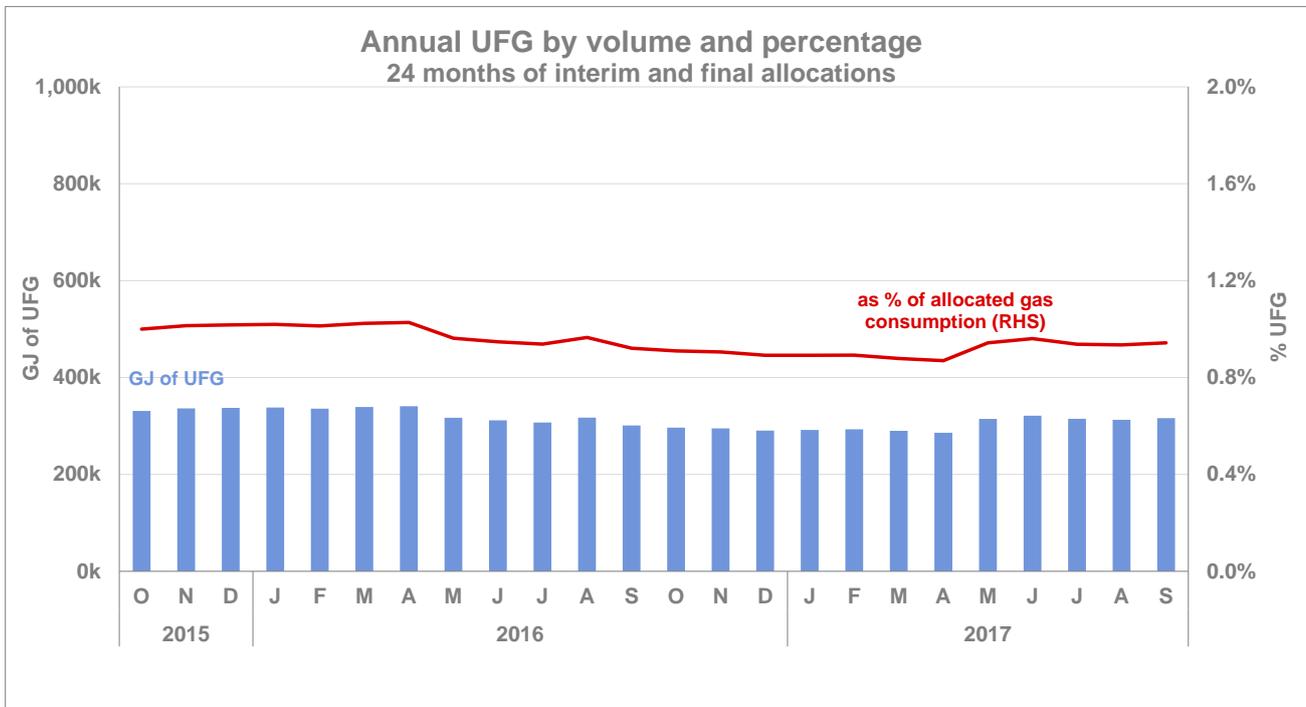
² The initial allocation produced by the Allocation Agent is a “bottom up” approach whereby each of the retailers submits data based on a combination of actual meter readings (historical estimates) and consumption estimates since the last meter reading (forward estimates). In that context, UFG is a meaningful measure of the difference between the aggregate estimates and the volumes that have entered the network. By contrast, D+1 is a system for dividing the network volumes among retailers and that process does not produce UFG figures that are comparable with the bottom-up approach to allocation.

Chart 7: Percentage of UFG



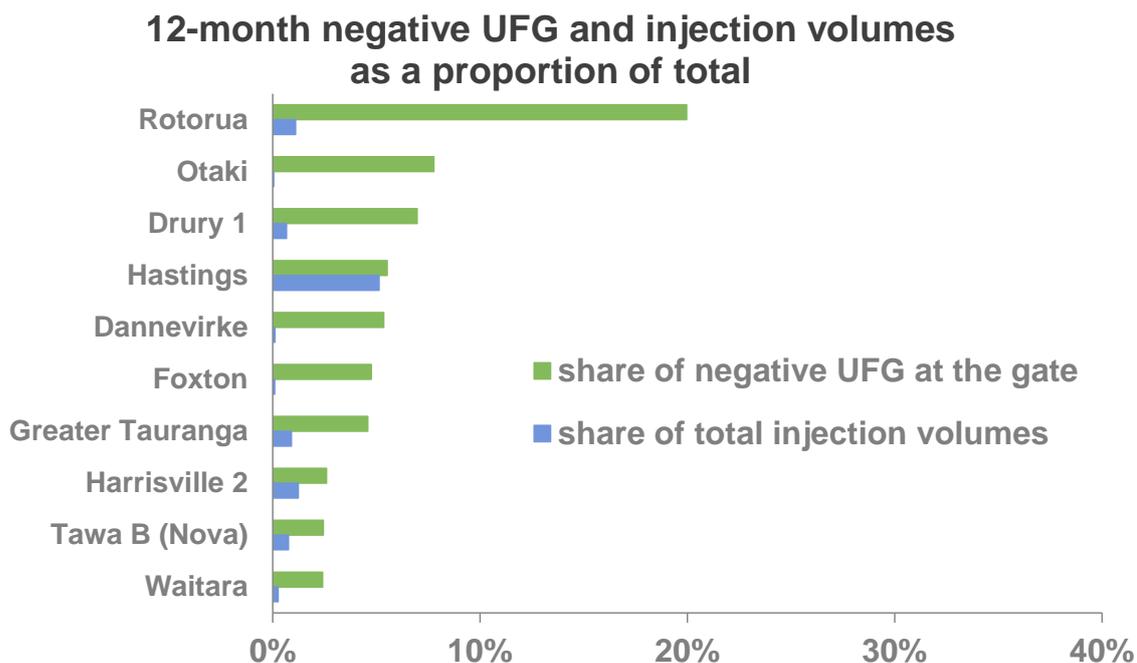
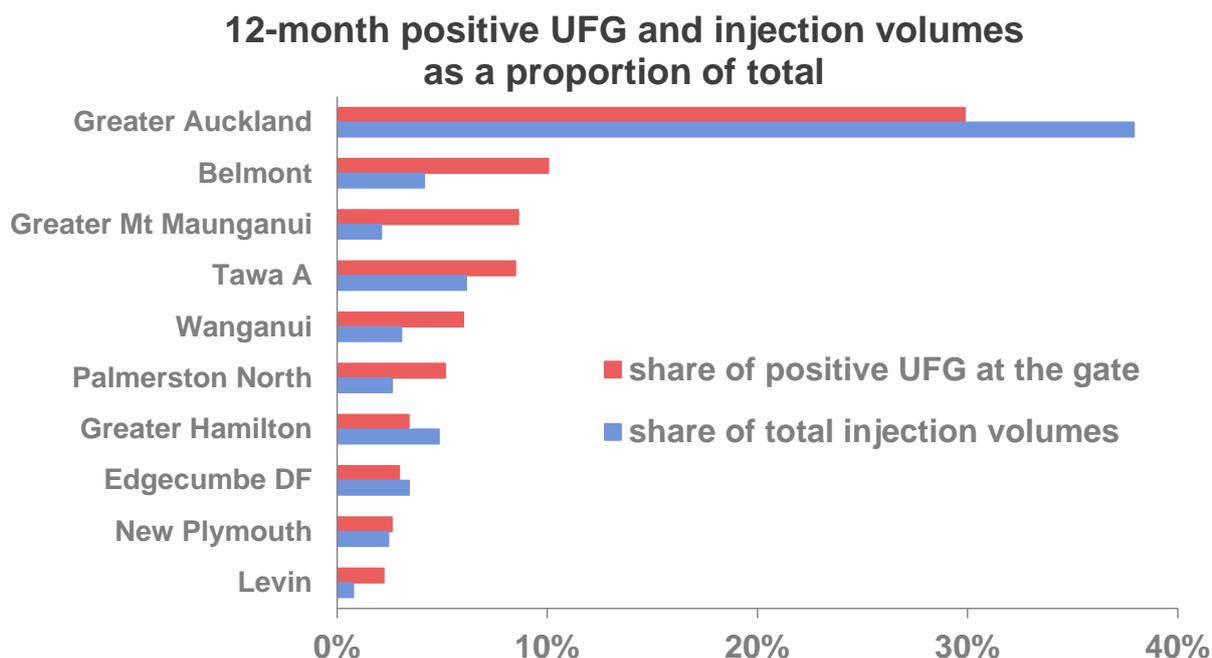
- UFG tends to be higher as a percentage when total volumes are high. This trend most likely due to UFG attributable to mass market consumption.

Chart 8: Rolling 12-month UFG



- In volume terms, annual UFG has decreased dramatically since 2009, when UFG was about 600,000 GJ per year. In the past 12 months, UFG totalled about 316,000 GJ, about 0.9% of allocated gas consumption.

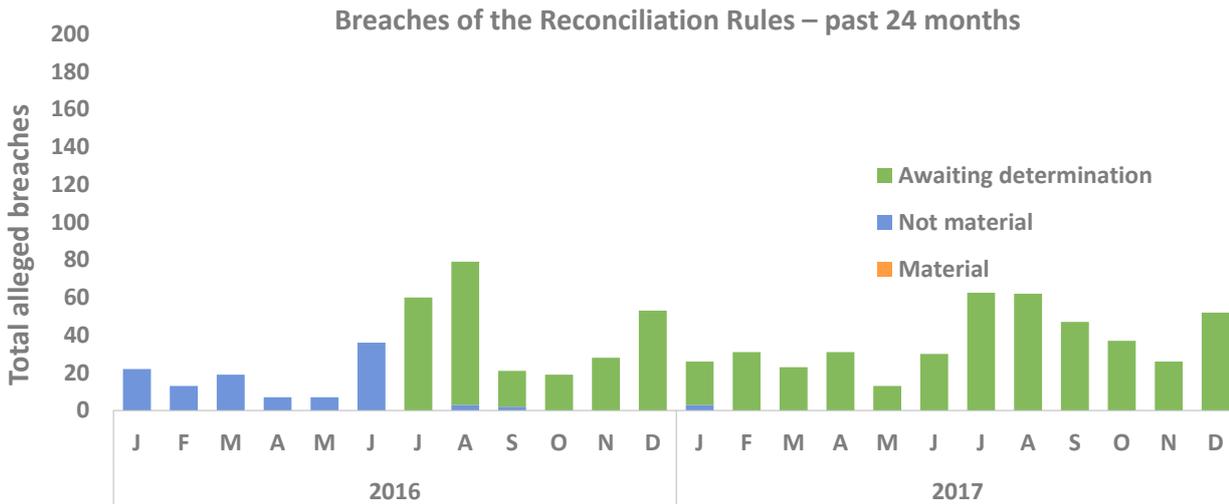
Chart 9: Gas gates where UFG is the highest



- These charts show the gates that experience the largest share of total UFG, compared to their share of total gas gate deliveries at shared gas gates. These charts use 12 months of the most recent interim and final allocation data available: in this case, October 2016 through September 2017.
- The 10 gates shown in the top chart account for 79% – about 296,000 GJ – of the positive UFG experienced over the past 12 months.
- The 10 gates shown in the bottom chart account for about 62% (about 35,000 GJ) of the negative UFG experienced in the past 12 months.

- A number of the gas gates shown have been determined to be global one-month gates, since, among other things, they have a high proportion of industrial load. The global one-month methodology assigns a share of the actual UFG experienced in a month to industrial consumers, in contrast to the usual calculation method, which assigns industrial load an annual average amount of UFG.
- In the first chart, Edgecumbe DF is a global one-month gates; Harrisville 2 is in the second chart.

Chart 10: Number and severity of breaches of the Reconciliation Rules



- This chart shows the breaches alleged by the allocation agent. Most are in relation to rule 37 – the rule that requires initial consumption information submitted by retailers to be within a percentage of accuracy of the consumption information submitted for the final allocation.
- It has proven efficient for the market investigator (or, more recently, Gas Industry Co) to attempt to reach a settlement on batches of rule 37 breaches. The settlement of the 23 months up to and including the consumption month of April 2015 (alleged in June 2016) is now complete. The final batch of settlements will be for the May 2015 to November 2015 consumption months.
- Beginning in December 2015, the end-of-month initial allocations have been replaced with day-after daily allocations (known as D+1), which eliminate the need for rule 37 breach settlements. The market administrator will continue the established process of determining the breaches in batches.
- The chart excludes about 170 breaches alleged in relation to the audit of the Greater Tauranga and Greater Mount Maunganui gas gates, many of which related to ICP mapping errors. These breaches have now been determined to be not material by the market administrator.
- The chart also excludes the breaches alleged in the course of performance audits. These allegations relate to such things as metering requirements and procedures for converting meter readings to energy.

Audits commissioned

Event audits

No event audits were commissioned in this quarter.

Performance audits

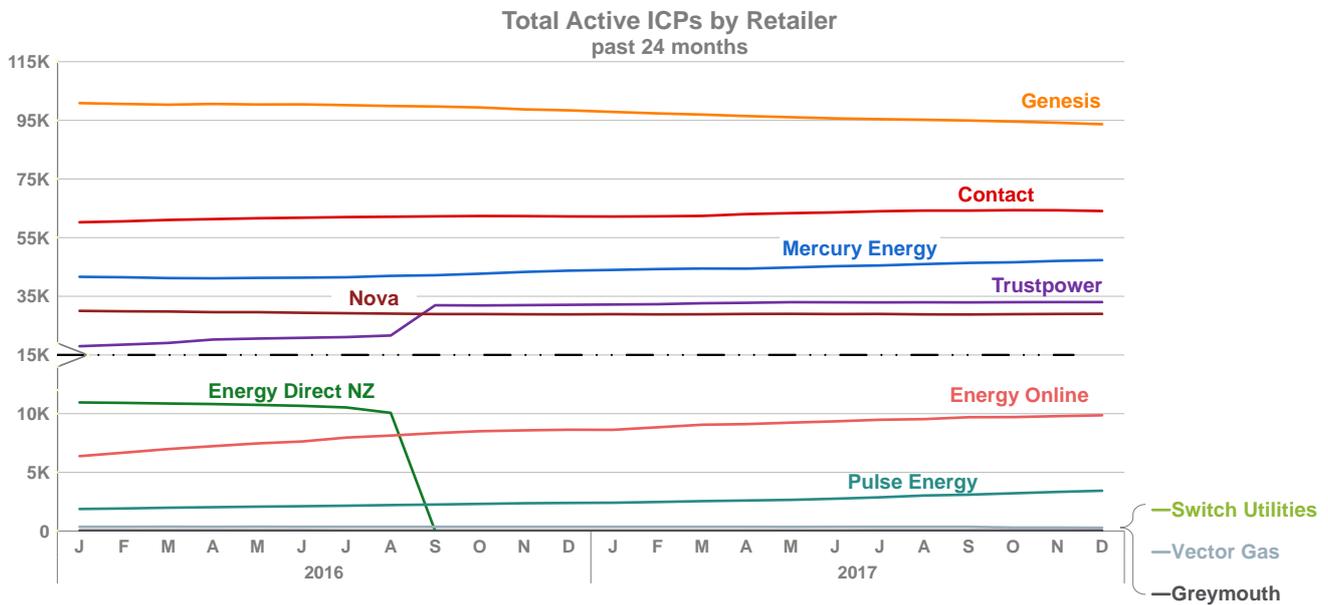
Gas Industry Co is continuing the current round of performance audits under the Switching Rules and the Downstream Reconciliation Rules, which provide for regular performance audits of registry participants, defined as retailers, distributors, and meter owners.

With the exception of Pulse Energy, retailer audits for the current cycle have been completed. These retailer audits have not found any significant compliance issues, although they have identified a considerable amount of minor alleged rule breaches, particularly under the Switching Rules. These alleged breaches are currently being processed.

Audits of distributors and meter owners are now being conducted. The audits for First Gas and Powerco have recently been completed, with Vector and GasNet currently underway.

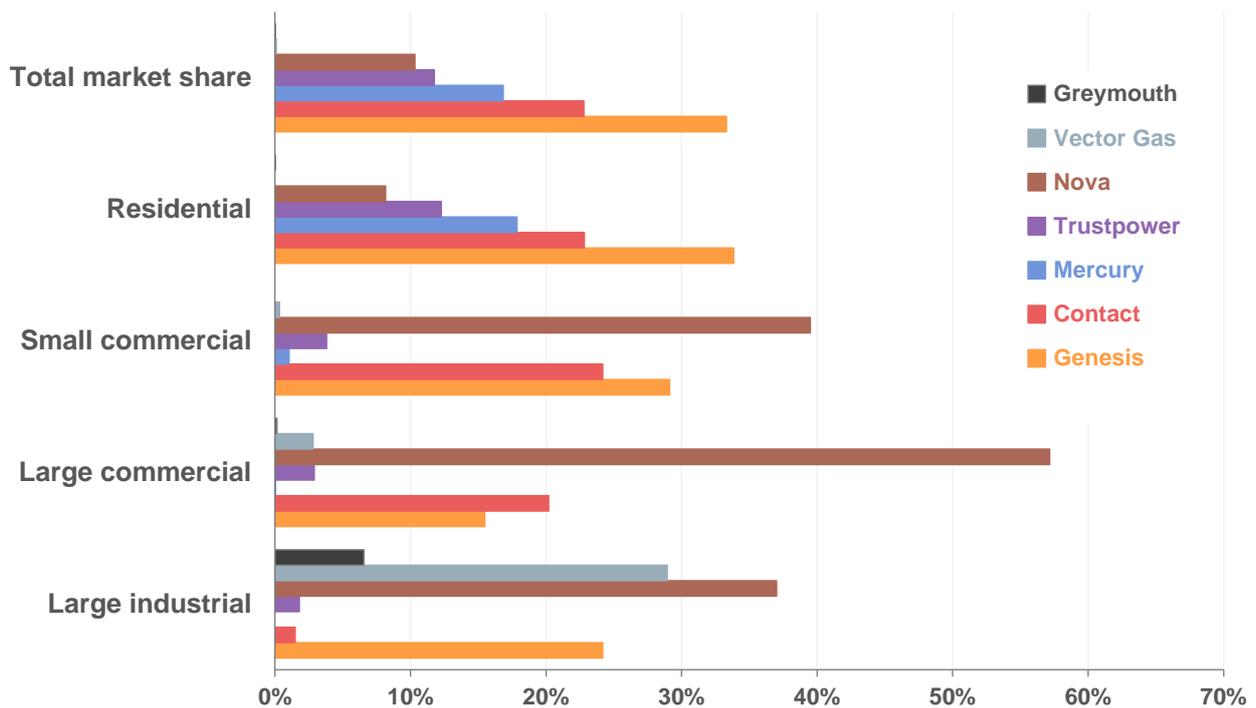
4 Market competition performance measures

Chart 11: Market share of ICPs by retailer



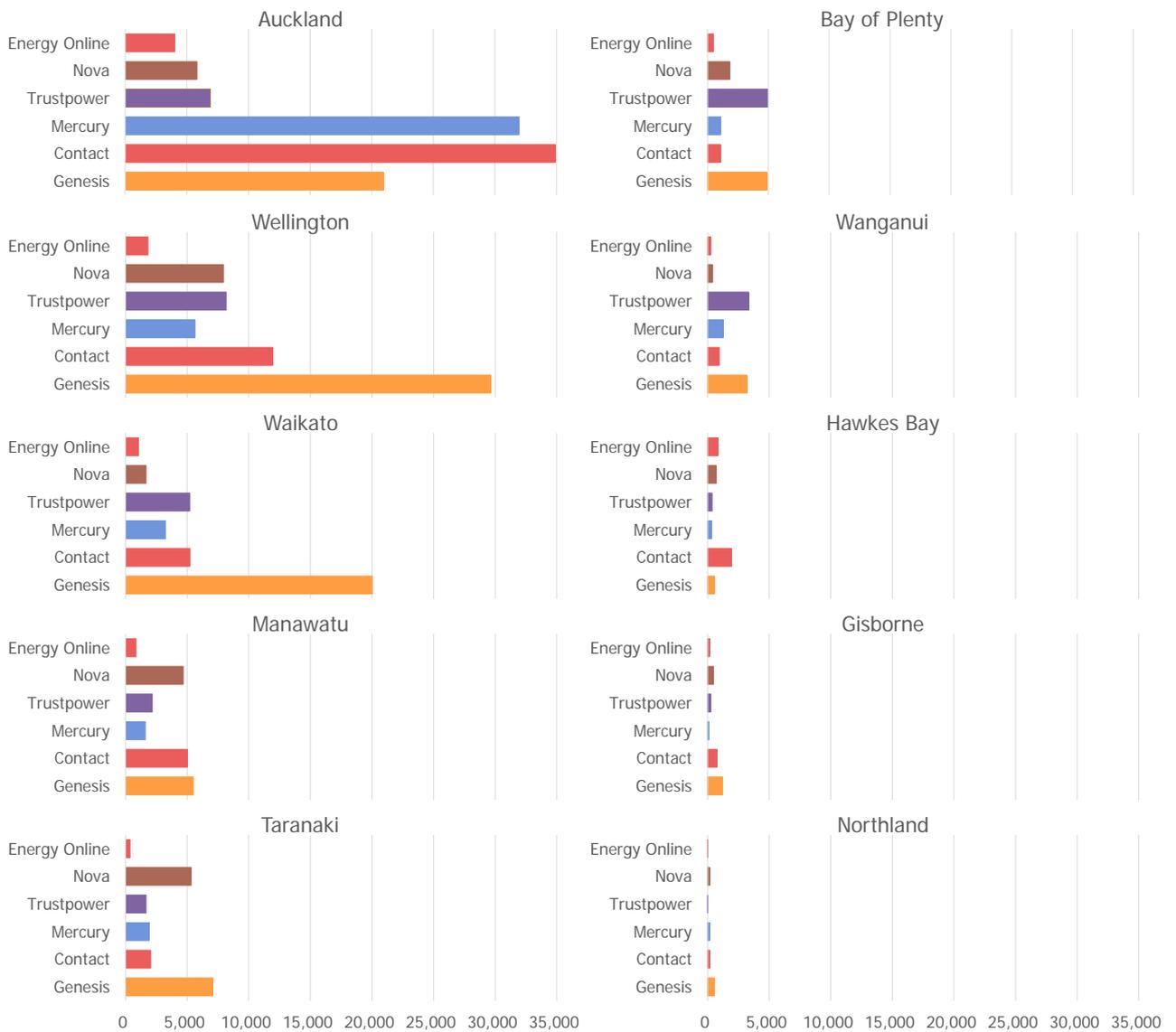
- This chart shows the contrast between the relative stability of customer numbers for the established retailers versus the growth of the new entrant retailers:
 - Trustpower, which entered the retail gas market in November 2013, is now the fourth largest retailer by customer share;
 - Pulse Energy entered the market in October 2014;
 - Switch Utilities entered in July 2015.
- Energy Online is a retail brand of Genesis Energy and has also been experiencing growth in customer numbers.
- There are 10 distinct retail brands, owned by nine different retail companies (Energy Online is owned by Genesis Energy).

Chart 12: Customer market share by consumer segment



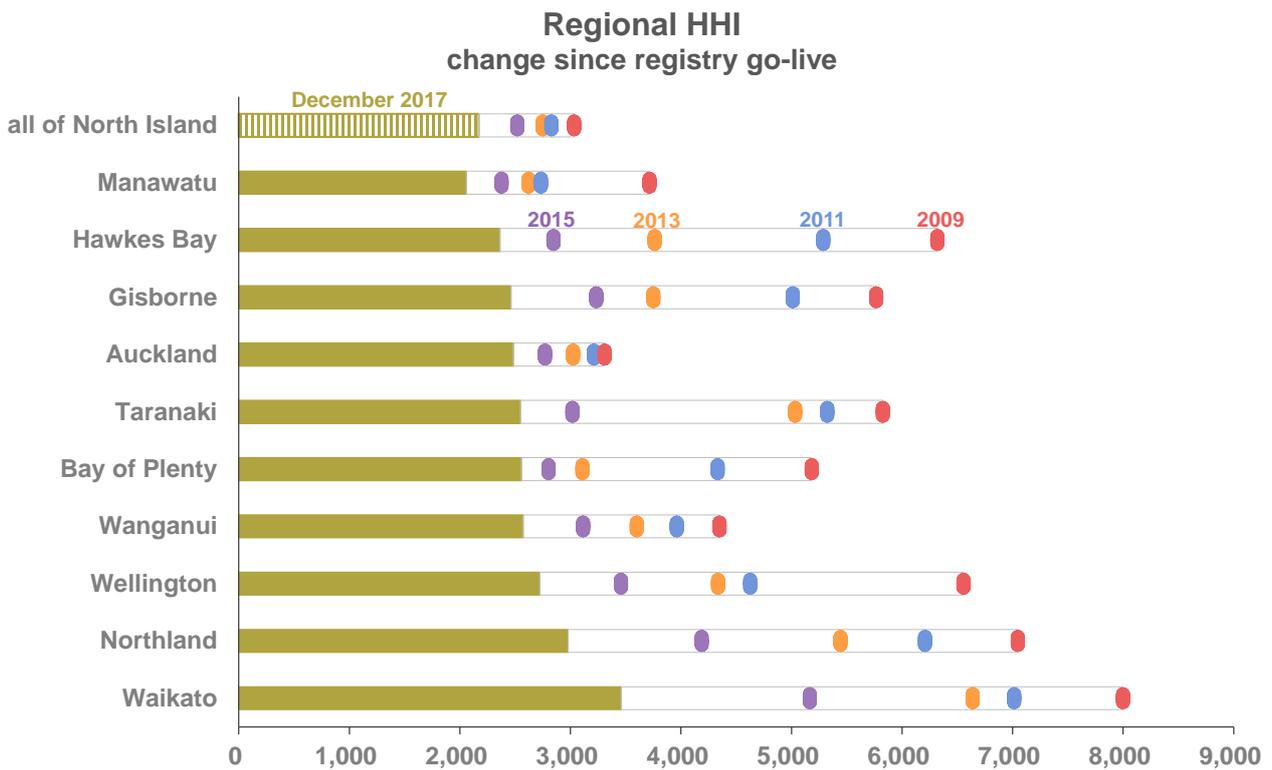
- In this chart, consumer segment is determined by the load shedding category listed on the gas registry for each consumer site. The top set of bars shows the same set of data as the previous chart. The other sets of bars show how some retailers are more dominant in specific sectors of the retail gas market. Vector Gas, for example, focusses on large industrial and large commercial customers, while Greymouth has a focus on large industrial customers.
- The chart includes the retail brands that have more than 5% of market share in a category.

Chart 12a: Customer market share by region



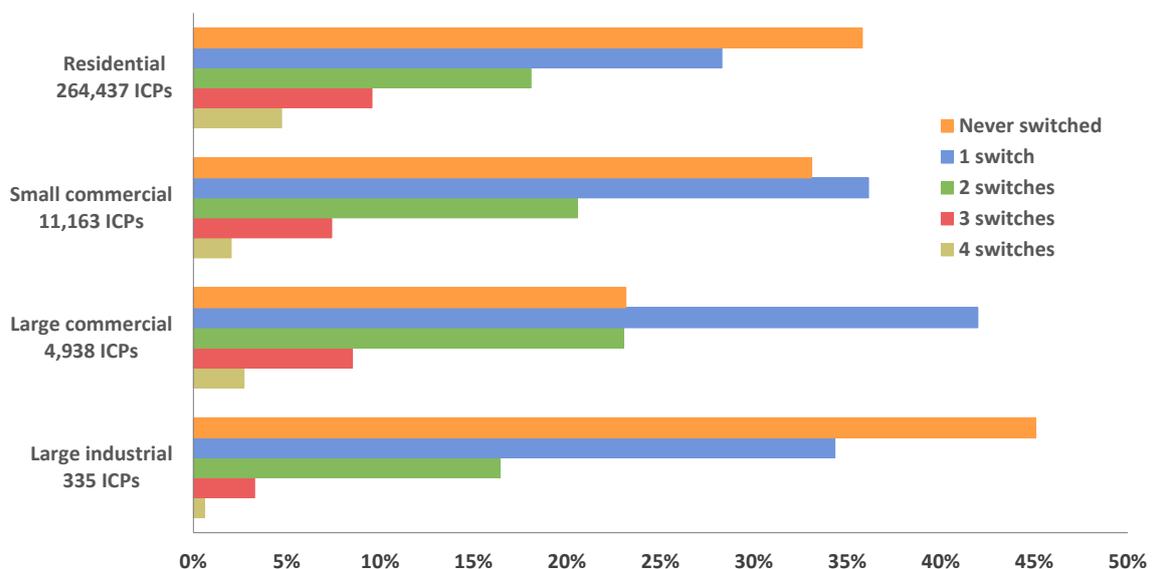
- This chart shows the number of ICPs for each retailer in each geographical region. The retailers shown each have over 3% of total customer market share.

Chart 13: Herfindahl–Hirschman Index (HHI)



- The HHI has decreased in all regions since 2009, indicating that the retail market is becoming less concentrated across the North Island.
- Nationally, the HHI stands at 2,169, in comparison to 3,033 in February 2009 (the start of the registry).

Chart 14: Switching by consumer sites since 2009



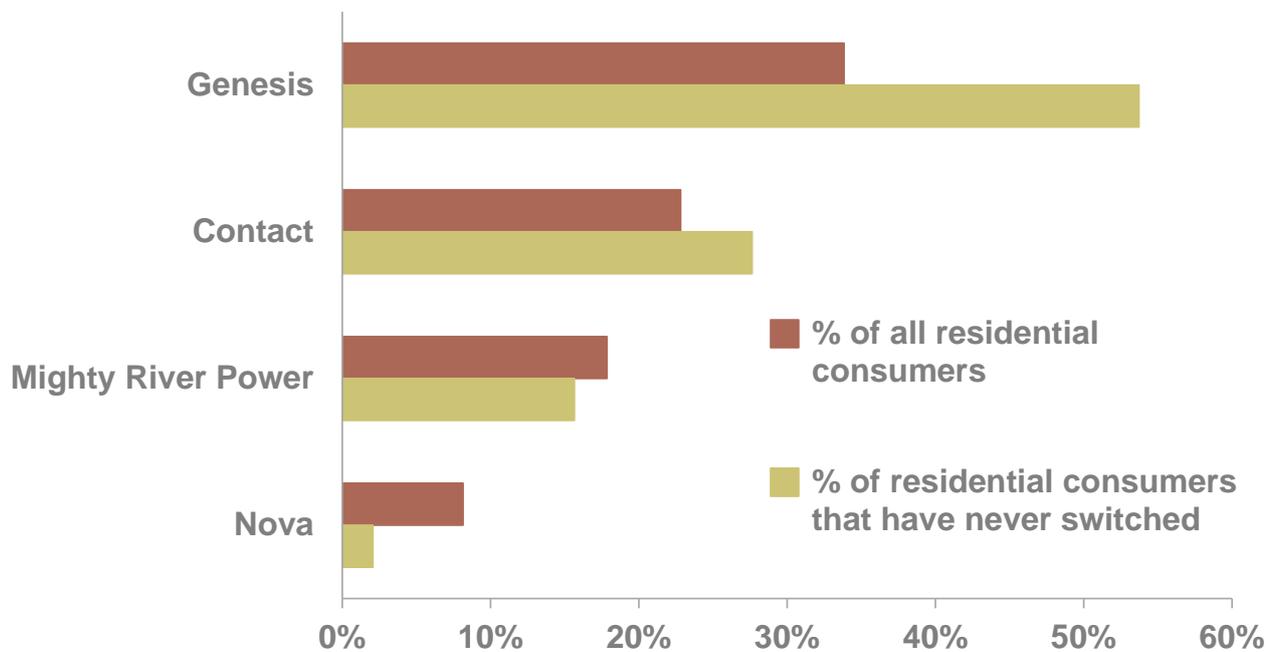
As with Chart 12, consumer sites in this chart and Chart 15 are categorised based on the load shedding category recorded in the gas registry.

- 64% of residential consumer sites

- 67% of small commercial sites
- 77% of large commercial sites; and
- 55% of large industrial sites

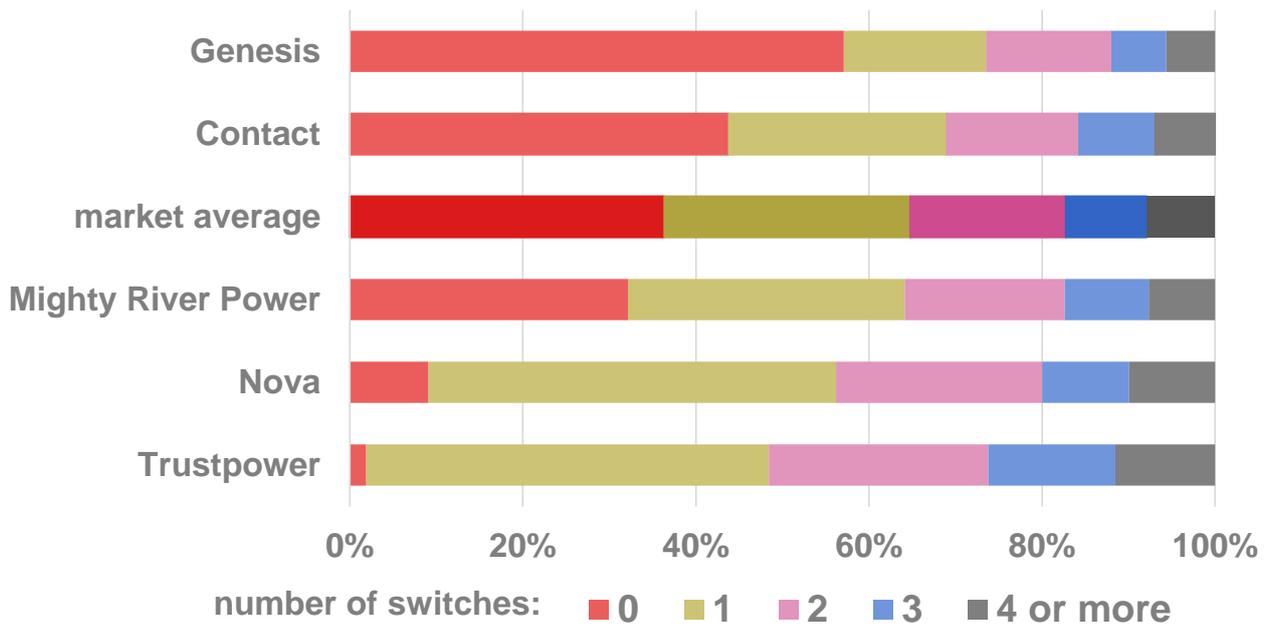
have switched retailer at least once since the start of the gas registry (February 2009).

Chart 15: Residential consumer sites that have never switched



- This chart compares retailers' market share of all residential consumers with their share of residential consumers that have never switched. It shows, for example, that Genesis has about 34% of the total residential market, and about 54% of the residential consumers that have not switched retailer since the start of the gas registry in February 2009.
- The chart focuses on the incumbent retailers that were in operation at the start of the gas registry.

Chart 15a: Residential customers by number of switches



- This chart provides another way to think about residential customer switching. The third bar repeats the data on residential switches from chart 14 above: 36% of residential consumer sites have never switched retailer; 28% have switched once; 18% have switched twice; 10% three times, and 8% four or more times.
- The other bars enable comparison with retailers' residential customer bases. 57% of Genesis customers, for example, have never switched; the proportion is 43% for Contact customers.
- In contrast, Trustpower has built its customer base almost entirely through switching: 46% of its customers have switched once; 25% twice; and 15% three times. (Trustpower is also retailer to a small number of newly-created ICPs that have never switched.) Note that the transfers from Energy Direct are counted as switches in this context.

Chart 16: Switching activity by retailer

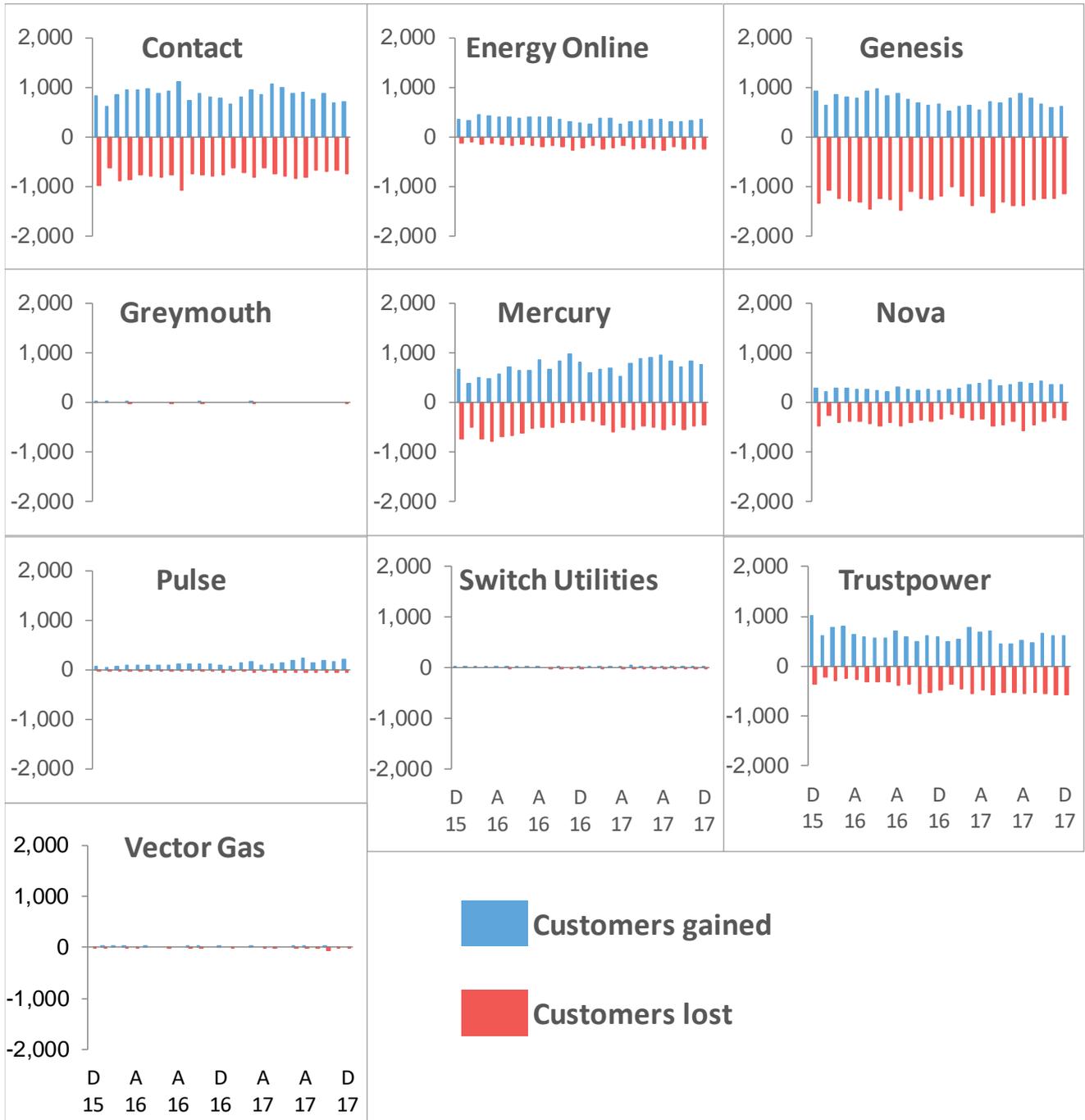
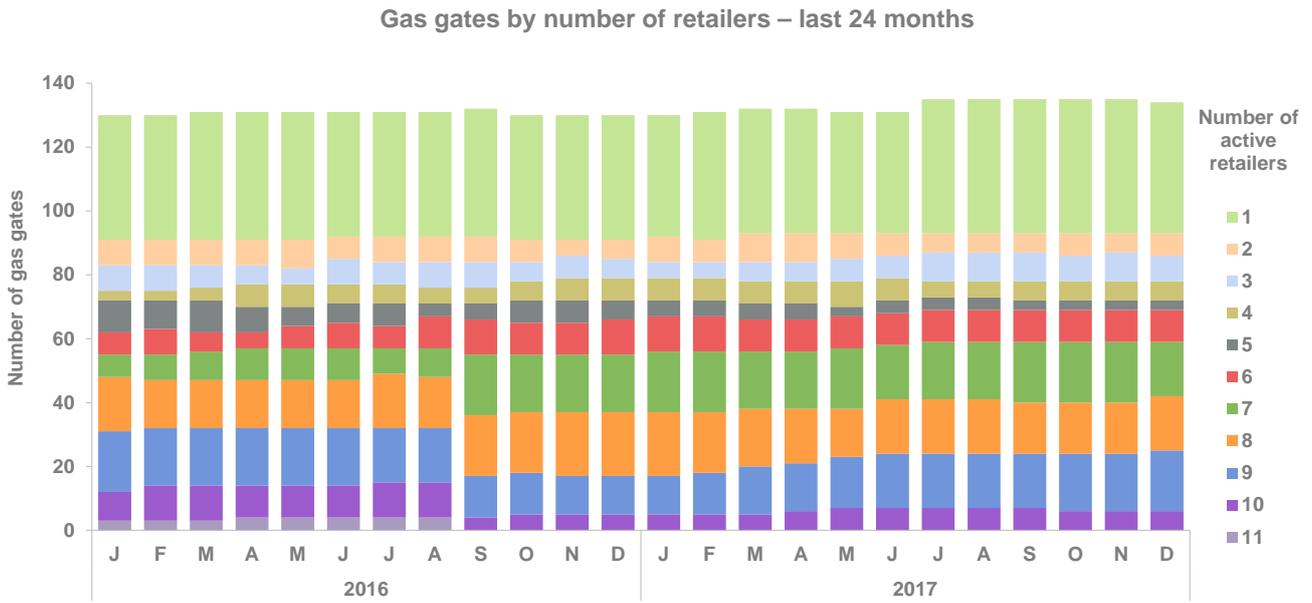
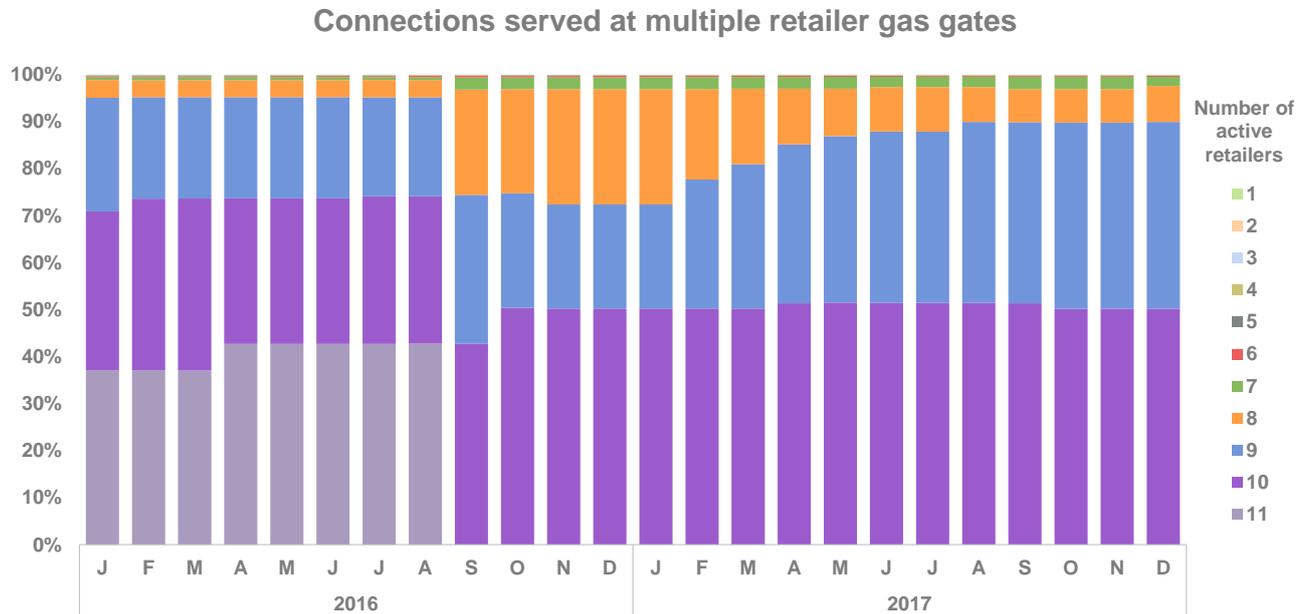


Chart 17: Gas gates by number of retailers



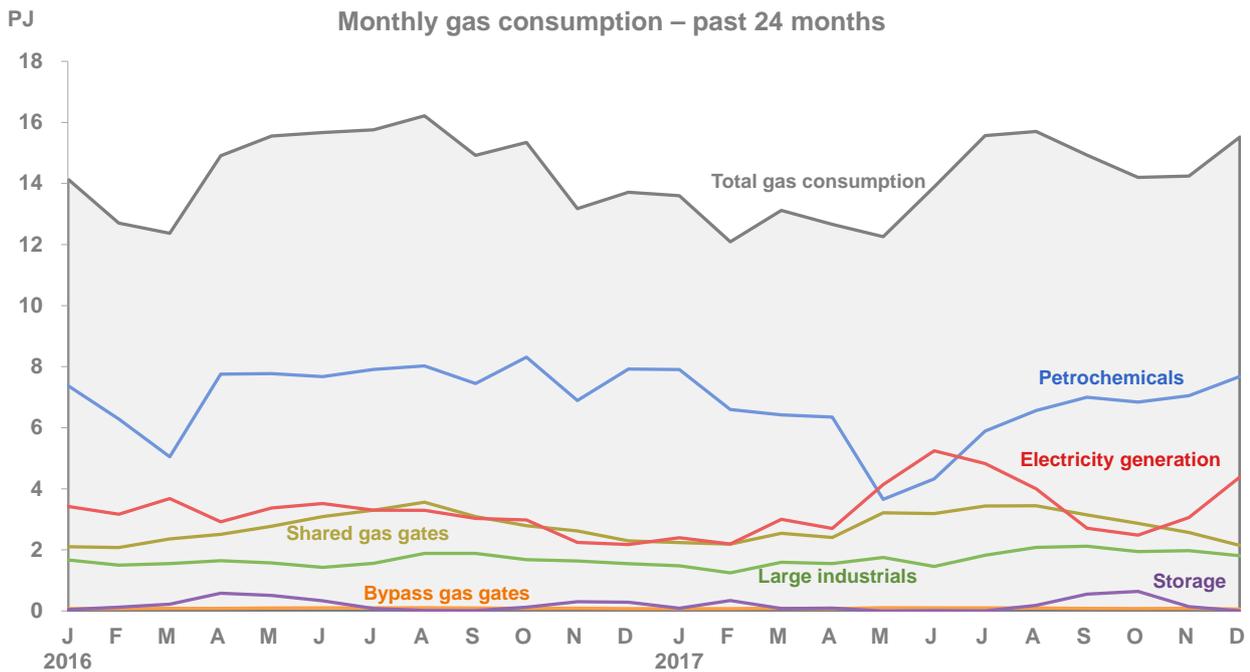
- With the amalgamation of Energy Direct and Trustpower, there are now ten retailers trading at a number of gas gates.

Chart 18: Connections served by multiple retailers



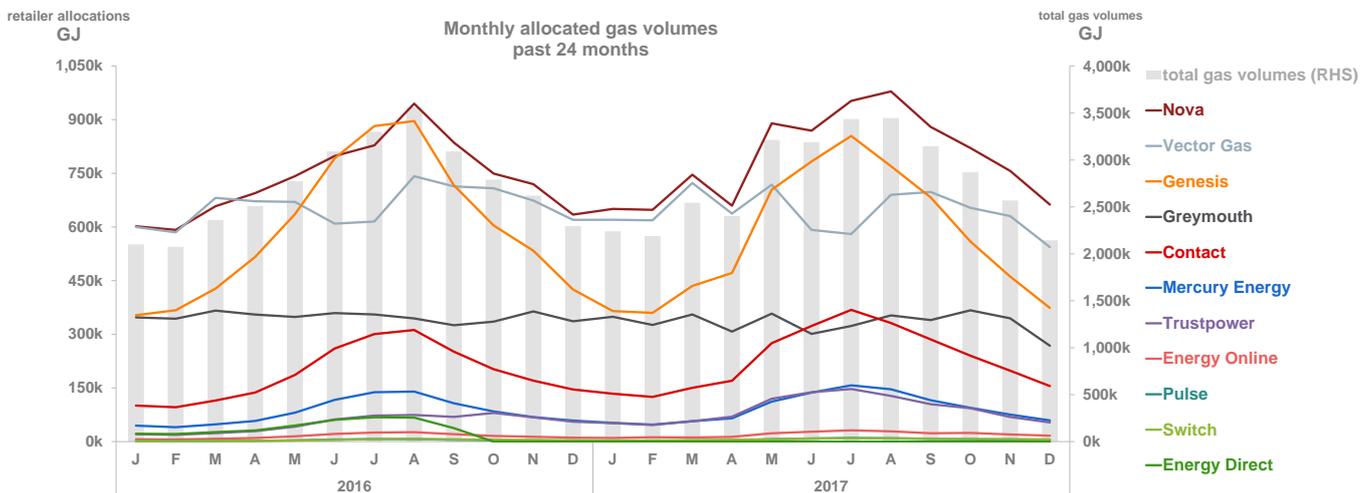
- Over 99% of gas consumers are connected to a gate where seven or more retailers trade.

Chart 19: Total gas volumes



- This chart shows the increase in gas-fired electricity generation over the dry winter and summer of 2017 and the decrease in gas used for petrochemicals due to planned maintenance at Methanex in May 2017.
- Note that these data reflect only the gas delivered through the Maui and First Gas transmission pipelines. Gas volumes flowing through private non-open access pipelines, such as to Methanex, are not included.

Chart 20: Allocated gas volumes



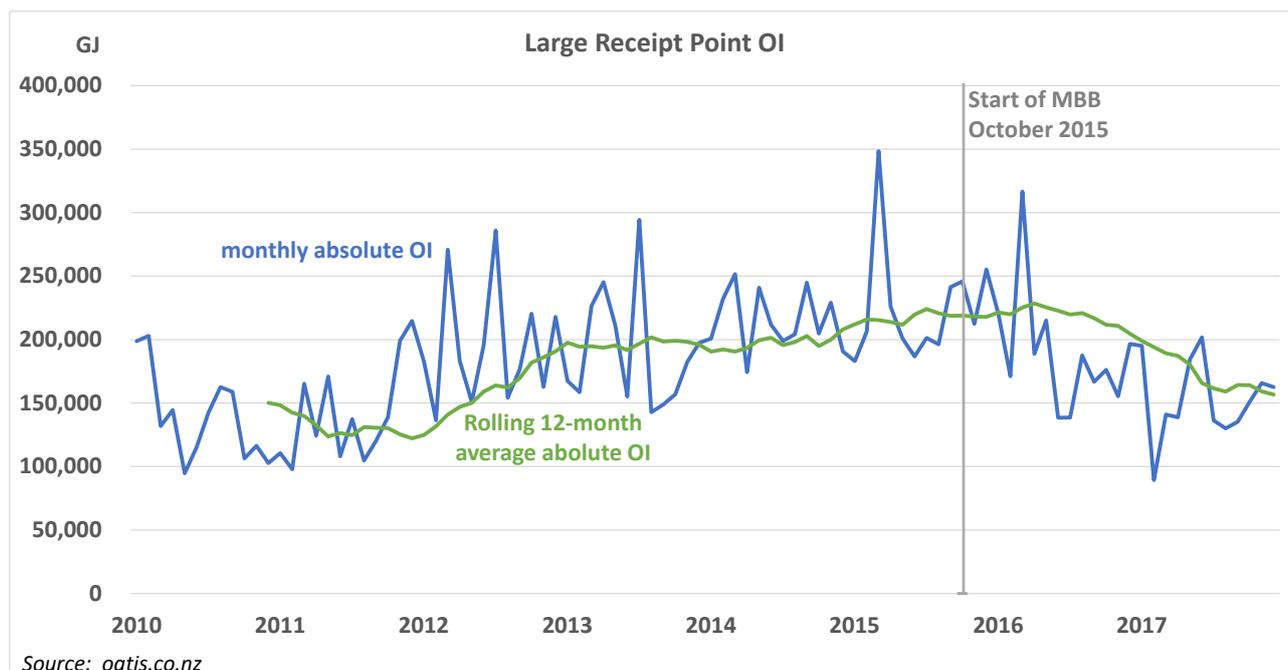
- The data are from a mix of allocation stages: Final through November 2016; Interim for December 2016 through September 2017; and Initial for October through December 2017. Note that the initial allocation data are those initially produced by the allocation agent, not the D+1 allocations that were used to replace the initial allocations.

5 Pipeline balance

Chart 21: Balancing gas volumes (no longer tracked)

Gas Industry Co no longer tracks balancing gas volumes in this report, as changes to pipeline operations and the transition to market-based balancing (MBB) in October 2015 mean that secondary balancing volumes are no longer relevant as a performance measure. Instead, this report focusses on primary balancing in the following two charts.

Chart 22: Receipt point operational imbalance



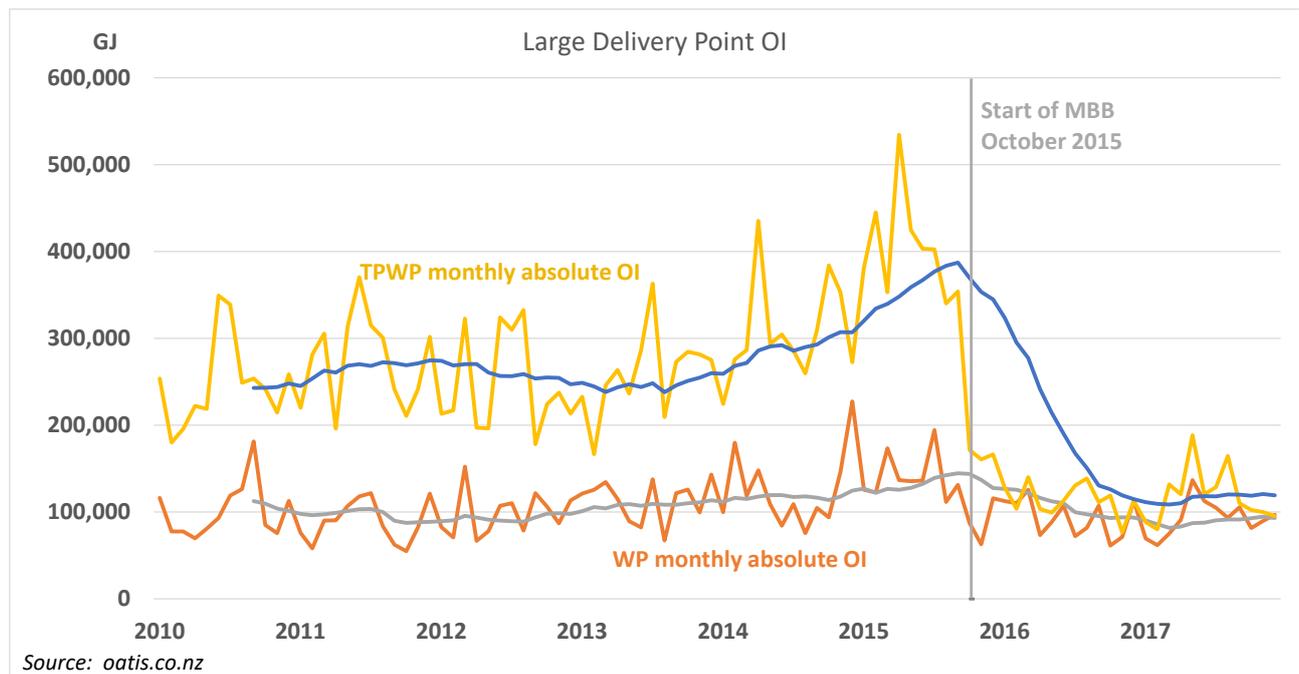
One of the expectations of MBB was that it would improve primary balancing; that is, that pipeline users would strive to match their actual gas flows with the quantities of gas that they scheduled. For welded parties on the Maui pipeline, the daily difference between the two quantities is termed operational imbalance (OI).

The chart above was constructed by calculating the absolute value of OI on a daily basis for each large receipt welded point on the Maui Pipeline (with the exception of Frankley Road). These values were then summed by month and plotted as the blue data series above. The data plotted in green represent the rolling average of the previous 12 months of monthly OI data.

As observed in Gas Industry Co's *Review of Market-Based Balancing*,³ dated November 2016, management of the receipt welded points changed very little with the introduction of MBB. More recent data do show a downward trend in OI, commencing about June 2016.

³ Available at <http://www.gasindustry.co.nz/dmsdocument/5420>

Chart 23: Delivery point operational imbalance



This chart shows the OI at large delivery welded points on the Maui pipeline: the yellow line shows data from the transmission pipeline welded points (TPWPs) Pokuru and Rotowaro; the orange line shows the Bertrand Road, Faull Road, Ngatimaru Road, Mokau Compressor Station, and Huntly Power Station delivery points. The Frankley Road bi-directional point is again excluded from this analysis.

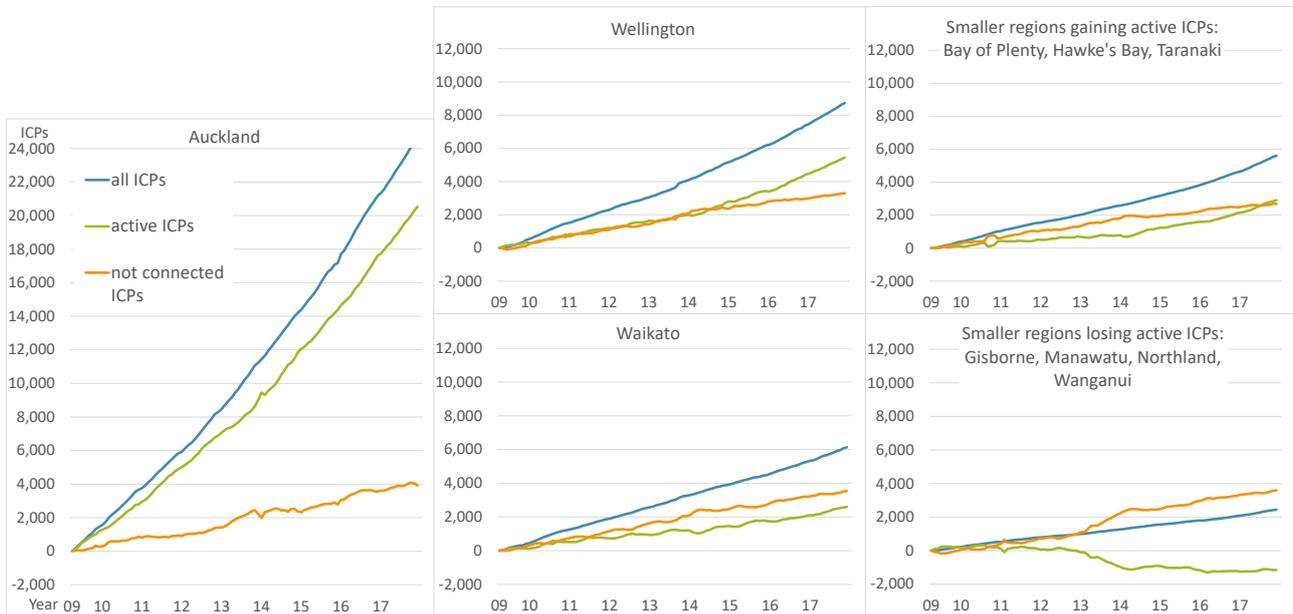
Unlike the previous chart, this chart does show a marked difference in OI from October 2015, the start of MBB, particularly in the TPWP OI. In *Review of Market-Based Balancing*, Gas Industry Co considered that there were two likely causes of these changes: the incentive provided by mandatory daily cash-outs and the improved information available as a result of D+1 allocations and notifications of cash-out shares, which probably increased shippers' ability to manage their daily positions.

6 Critical contingency management performance measures

There were no critical contingencies during the quarter.

7 Distributor and meter owner performance measures

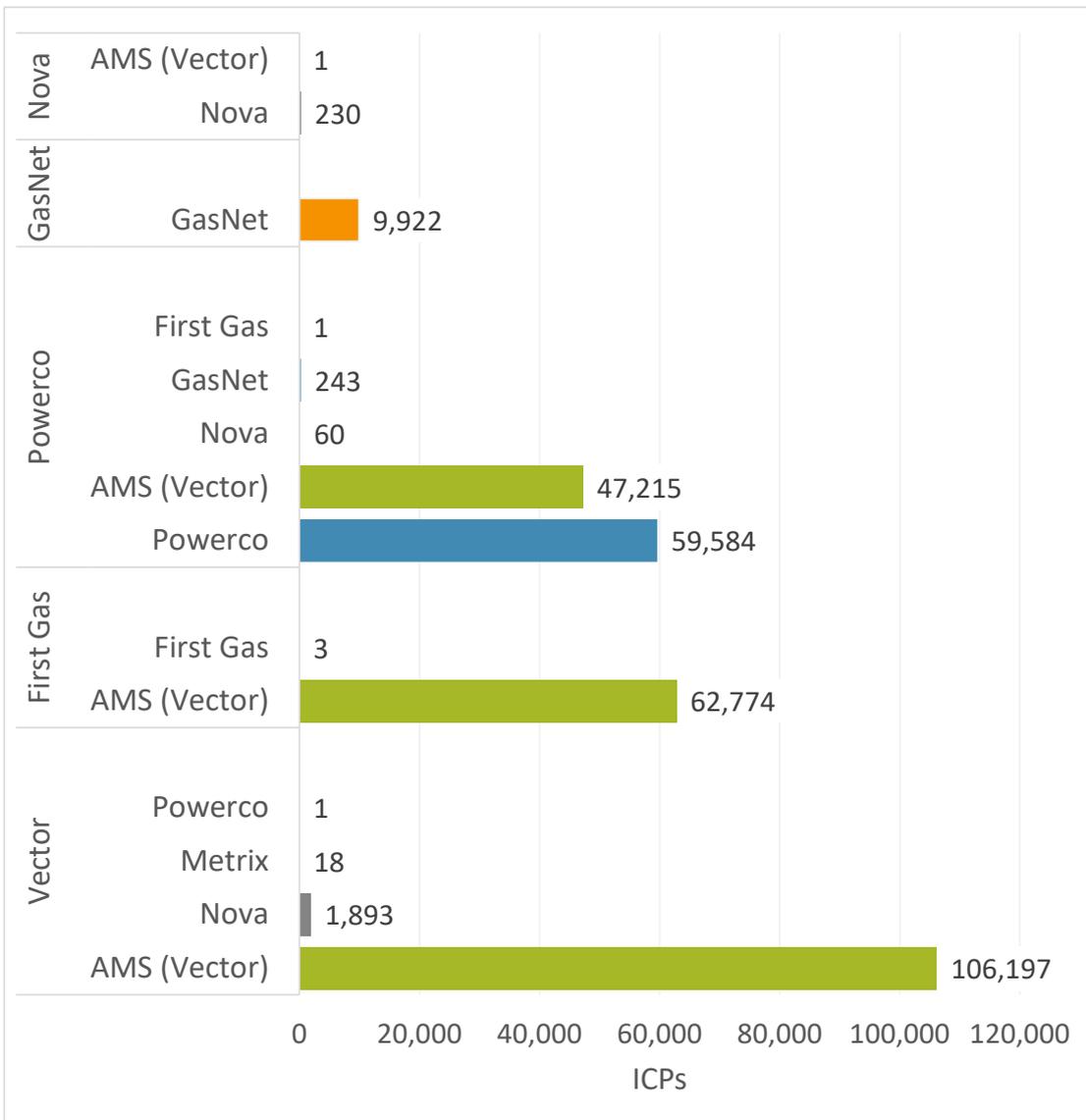
Chart 24: Regional ICP activity



This series of charts shows regional changes in ICP numbers. The blue data series shows the cumulative increase in total ICPs since the start of the gas registry in 2009. The green data series shows the cumulative increase in active ICPs – ICPs that have a status of either active-contracted (ACTC) or active-vacant (ACTV). The orange data series is the difference between the two and shows the cumulative increase in ICPs that are not connected and inactive, either because there is no longer a gas consumer at that site or because the site was never connected to a consumer in the first place.

The five charts all use a similar scale, so that the data can be compared between regions. The largest increase in ICPs has been experienced in Auckland, the region with the largest number of gas consumers. This region has also experienced a relatively low rate of disconnections. Wellington, the second largest region, has had nearly the same number of disconnections as Auckland, but only about one-fourth the number of new active ICPs in the past eight years. In Waikato, the third largest region, disconnections have outnumbered the increase in active ICPs by one-third. In the smaller regions of Bay of Plenty, Hawke's Bay, and Taranaki, the number of new active ICPs is approximately equal to the number of new disconnections. The regions of Gisborne, Manawatu, Northland, and Wanganui have all experienced a net decrease in active ICPs, despite the creation of about 2,400 new ICPs in those regions.

Chart 25: Meter ownership by distribution system



This chart shows the number of active ICPs (with a status of either active-contracted (ACTC) or active-vacant (ACTV) in the gas registry) by meter owner within each distribution network. While there are a number of metering providers in the gas market, the chart shows that, in most distribution networks, there is a dominant provider.

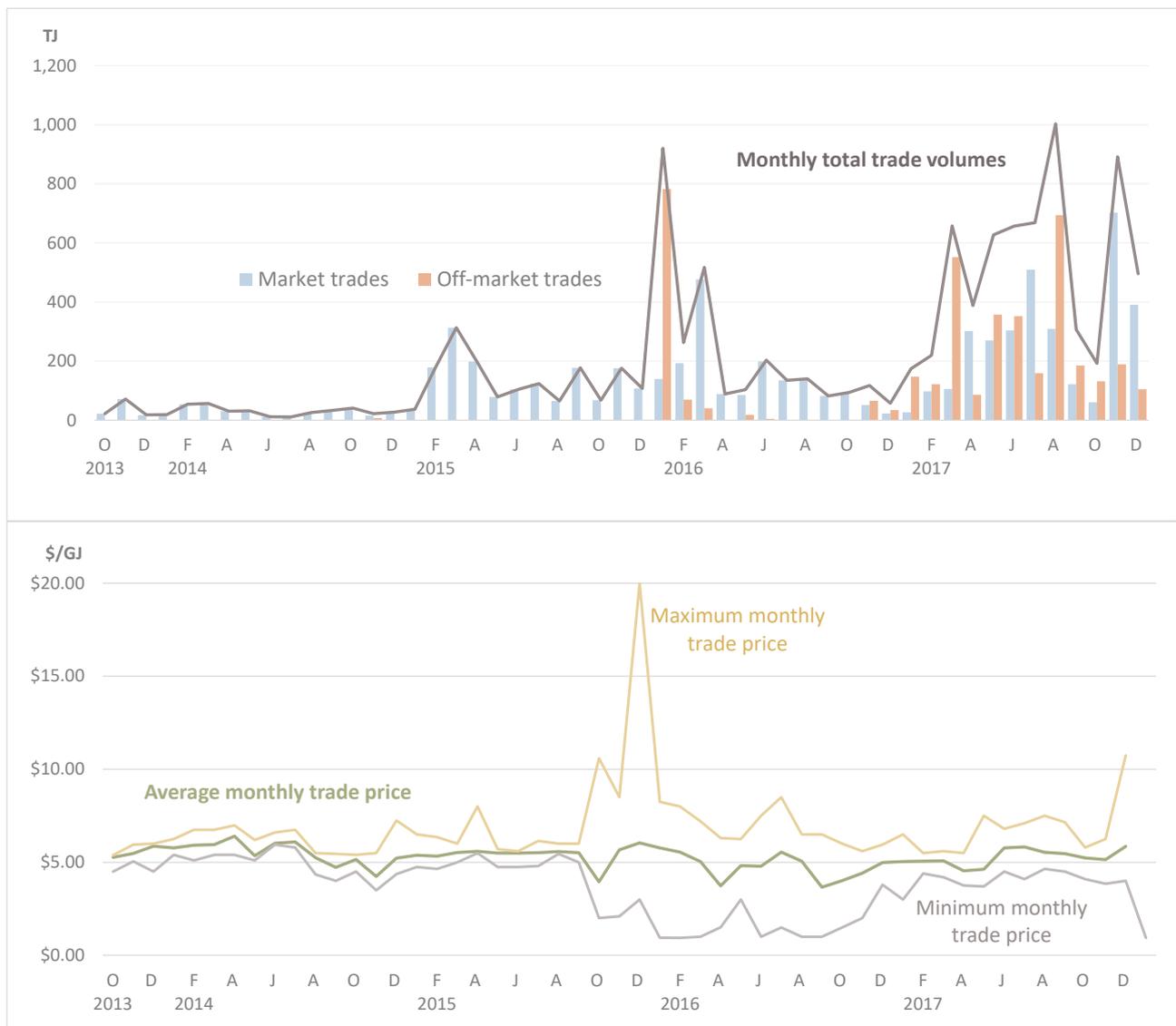
8 Natural gas trades on emsTradeport

emsTradeport is an online platform established in 2013 that enables the anonymous trading of natural gas. It also provides a clearing and settlement service for gas trades that are made off the market. Since its inception, annual volumes of gas traded on emsTradeport have increased over eightfold.

Another feature of emsTradeport is that it provides a mechanism for price discovery. Monthly volume-weighted average prices on emsTradeport have ranged from about \$3.60 to \$6.40 per GJ since October 2013.

The charts below show gas volumes conducted on emsTradeport – both traded volumes and off-market trades – as well as monthly average, maximum, and minimum prices.

Chart 26: Monthly trade volumes and prices on emsTradeport



APPENDIX – EXPLANATORY NOTES

1 Introduction

This appendix provides context and additional information about the industry performance measures contained in the body of the report. Section numbering is consistent with the main report.

2 Switching performance measures

All of the switching charts include only switches that occurred on open-access distribution networks; switches from open-access to bypass networks (or vice versa) would not be recorded as a switch in the gas registry. Additionally, the charts include only those switches that occurred to customer sites that had a status of active-contracted (ACTC) or active-vacant (ACTV) in the registry (so as to exclude the transfer of vacant sites from one retailer code to another). The charts also exclude switches that were subsequently withdrawn; that is, switches that were reversed, either because they were originally entered in error or because the customer decided not to go ahead with the switch. (On average, about 5.5% of switches are subsequently withdrawn.)

The charts also exclude bulk transfers of customers associated with events such as retailer amalgamation or the purchase of a retail customer base. Specifically, the charts exclude the transfer of E-Gas customers to Nova Energy in November 2010; the amalgamation of Auckland Gas (June 2011) and Bay of Plenty Energy (March 2013) with Nova Energy; and the transfer of Energy Direct customers to Trustpower (August-October 2016).

Chart 1: Monthly switching activity

Prior to the gas registry going live in March 2009, there were approximately 1,000 switches per month, and the annual churn rate was approximately 4.8%.

For the past four years, there have been more than 3,500 switches per month. The churn rate (defined as the number of switches in 12 months divided by the total number of gas consumers) has varied in that time from 15.7% to 17.7%. By comparison, electricity switching rates have varied from about 18% to about 21% in the same time period.

For context, the chart below shows customer switching trends since March 2009, when the registry went live.

Chart A- 1: Monthly switching since March 2009

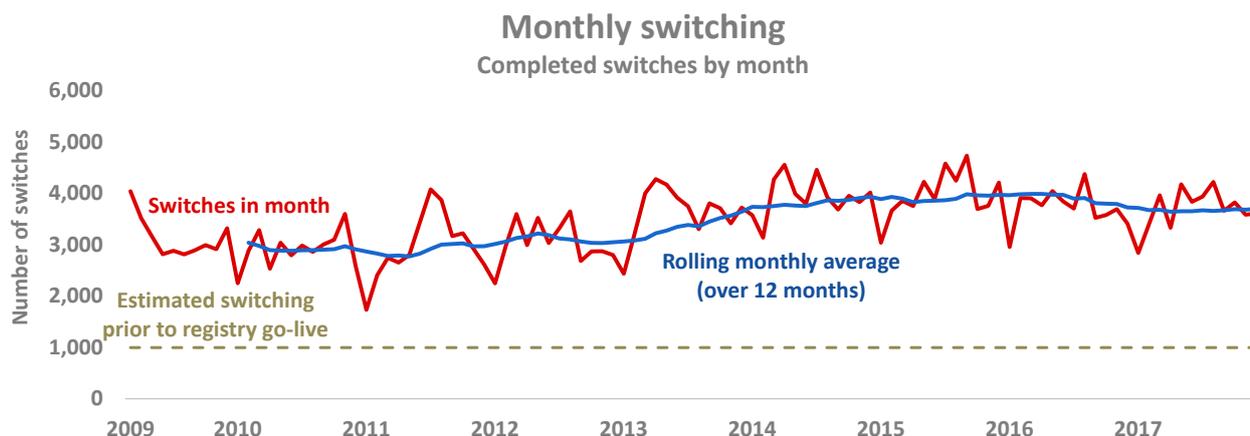


Chart 2: Regional switching activity

These charts compare regional switching rates with total switching rates. The grey line is the same in all the charts and shows the number of switches in a month as a percentage of active customer sites (ACTC and ACTV ICPs) across all North Island gas consumers. The data include both move switches (where a property is switched at the request of an incoming tenant or homeowner) and standard switches (where a gas customer decides to switch the retailer that supplies their existing location). As that grey line shows, monthly switching generally involves between about 1.0% and 1.5% of total North Island gas customers in a month.

The red line in each chart shows the number of switches in that region as a percentage of ICPs in that region. Auckland and Wellington switching rates tend to be similar to the North Island rates, since a large proportion of gas customers are located in those regions. Differences emerge in the smaller regions and show both long-term trends and the effects of regional marketing campaigns.

Chart 3: Time to process switches

The time to process switches has fallen markedly since the commencement of the Switching Rules and the associated inception of the gas registry. Prior to those events, switching could take weeks or months to complete. Once the registry went live, switching times dropped to about 10 days, and since then, switching times have dropped further, to an average of about 2.5 business days.

Chart 4: Distribution of switching length

These charts show the distribution of switching length since the start of the gas registry by calendar year. Since the start of the registry, switches have tended to occur within two days; or in seven days. Historically, switches taking zero to two business days were generally move switches (where a property is switched at the request of an incoming tenant or homeowner), while the majority of switches taking three or more business days were standard switches (where a gas customer simply decides to switch the retailer that supplies their existing location). Now, the majority of switches occur within three days.

Chart 5: Number and severity of breaches of the Switching Rules

Most breaches of the Switching Rules are alleged by the registry operator, though some have been alleged by other market participants. Breaches can also be reported by an auditor following an event audit or performance audit.

3 Allocation and reconciliation performance measures

Chart 6: Volumes of unaccounted-for gas (UFG)

Under the Reconciliation Rules, the amounts of gas that retailers estimate their customers have used are subtracted from the amounts of gas leaving the transmission system. The difference is UFG, which arises from technical losses on the system, metering inaccuracies, and retailer estimation errors. UFG imposes a cost on the market: it is gas that retailers are allocated and must pay for, but cannot sell. Tracking UFG is a way of monitoring these costs and the efficiency of the retail market. This transparency should assist the industry to take steps to reduce UFG where it is efficient to do so.

The chart compares total UFG quantities by consumption month and allocation stage (initial, interim or final). The grey bars show UFG based on the most recent data available.

Changes in UFG from one allocation stage to another are largely due to mass market retailers' consumption submissions becoming more accurate at later allocation stages. UFG tends to be most extreme at the initial allocation stage: in summer, UFG tends to be negative due to retailers' overestimations of customer consumption; and in winter, UFG tends to be positive due to retailers underestimating consumption. Generally, UFG volumes diminish considerably from the initial to the interim allocation stages. The final allocation stage reflects further minor adjustments to retailers' data, which can result in slightly more or less UFG, as shown by the orange and red lines in the chart below.

For context, the chart below shows UFG trends since October 2008, when the Reconciliation Rules went into effect.

Chart A- 2: UFG since October 2008

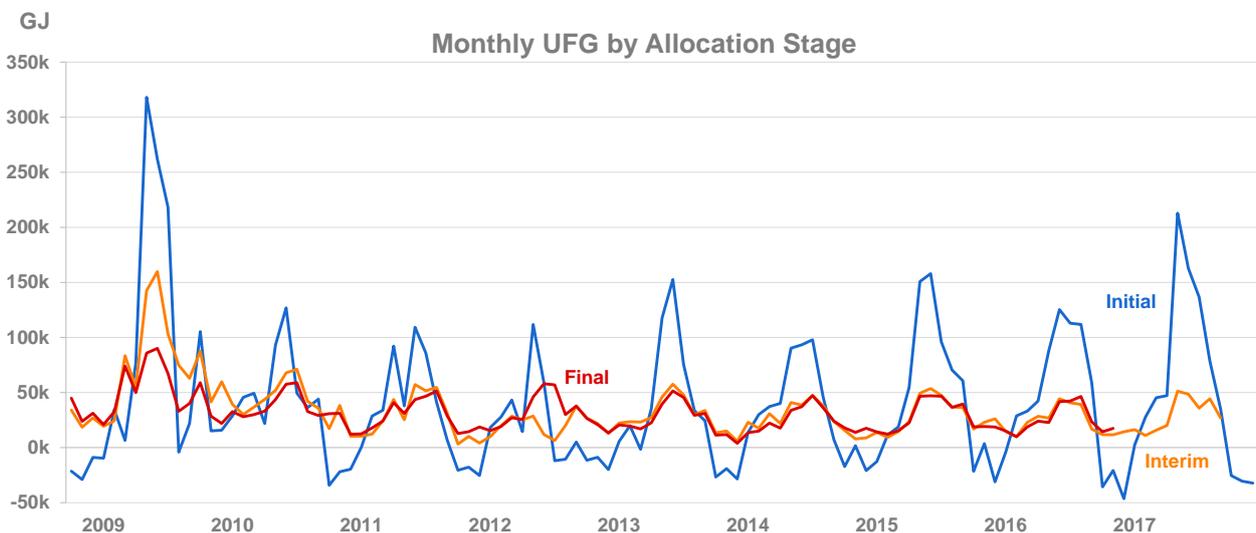


Chart 7: Percentage of UFG

This chart shows the amount of UFG in comparison with the total amount of allocated gas consumed each month. The grey bars show gas consumption at allocated gas gates, while the coloured bars show UFG volumes by allocation stage. The labels show the percent of UFG as a proportion of total allocated gas.

Chart 8: Rolling 12-month UFG

Another way to think about UFG is the amount recorded over a 12-month period. This chart shows rolling 12-month UFG figures, both as a GJ total and as a percentage of gas consumed. That is, each data point shows the amount of UFG recorded for that month and the preceding 11 months. As initial data are often inaccurate, the chart includes only consumption months for which interim or final data are available. The figures in the chart are based on the most recent data available at the time of publication.

Chart 9: Gas gates where UFG is the highest

These charts show the gates with the largest volumes of positive and negative UFG over 12 months, according to the most recent final and interim data.

The first chart shows the 10 gas gates that had the highest volume of UFG, in terms of the percentage of total positive UFG experienced over the same time period. As a comparison, the chart also includes the percentage of total gate injections each gate represents; that is, the proportion of total gas consumption that is drawn from those gates.

The second chart shows negative UFG compared with gate injections.

Chart 10: Number and severity of breaches of the Reconciliation Rules

Most breaches of the Reconciliation Rules are alleged by the Allocation Agent. Breaches can also be reported by an auditor following an event audit or performance audit. Rule 37 breaches tend to be considered and settled in batches.

4 Market competition performance measures

Chart 11: Market share of ICPs by retailer

This chart shows the number of active contracted customer sites associated with each retailer over the past two years, as recorded by the gas registry.

Chart 12: Market share by consumer segment

This chart shows market share by consumer type, as shown in the gas registry. Note that the chart shows retailers that have more than 5% of the market share of any category.

Chart 12a: Market share by geographical region

This chart shows the number of customers served by each retailer by geographical region. For simplicity, the charts include only those retailers with over 3% of total customer market share.

Chart 13: Herfindahl–Hirschman Index

The Herfindahl–Hirschman Index (HHI) is one way of measuring market concentration by using size and number of competing firms. The index ranges from 0 to 10,000. A low score indicates a low level of market concentration, which arises when there are a large number of small firms in the market, each with a small proportion of market share. Conversely, an HHI score of 10,000 represents a market with a single retailer. The measure is used because market concentration is often inversely related to market competition; that is, the more retailers there are, and the more that market share is spread among them, the greater the competition for customers is thought to be.

As a point of reference, the United States Department of Justice considers markets in which the HHI is between 1,500 and 2,500 to be moderately concentrated. Markets with an HHI of greater than 2,500 are considered highly concentrated.⁴

The bars in the chart shows the HHI of the retail gas market as at December 2017; for comparison, the HHI for the beginning of 2009, 2011, 2013, and 2015 are also shown. In all regions, the HHI has decreased, indicating that the retail gas markets in these regions have become less concentrated.

Until 1992, when the new Gas Act disestablished local exclusive franchise areas, gas retailing occurred through local vertically-integrated monopolies. With the consequent onset of retail competition, these former monopoly providers became 'incumbents', subject to competing retailers vying for customers in their areas. (A similar change occurred in the electricity sector). In most regions, there is still a dominant retailer, but the decrease in HHI shows that they have become less dominant in the past seven years. With the introduction of the Switching Rules, new retailers have entered the market and smaller retailers have increased their market share.

Chart 14: Switching by consumer sites since 2008

This chart shows the proportion of active contracted consumer sites by the number of times they have switched since the start of the registry, broken down by consumer type (as indicated by load shedding category in the registry). Note that in the past two years, the number of consumers in each category has fluctuated, due partly to retailers correcting misclassified sites.

Chart 15: Residential consumer sites that have never switched

This chart shows, for the residential consumer sites that have never switched retailer (since the start of the gas registry in February 2009), the proportion served by each retailer, compared to that retailer's market share of residential consumers.

Chart 15a: Residential customers by number of switches

This chart breaks down retailers' residential consumers by the number of times they have switched and compares those proportions with switches for the residential consumer market as a whole.

Chart 16: Switching activity by retailer

This chart shows the numbers of ICPs gained and lost by retailers over the past two years. The blue bars show the number of customers gained by the retailer each month, and the red bars show the numbers of customers lost.

As shown by these charts, although the net changes in number of customer ICPs may not change significantly from month to month for some retailers, there is a lot of underlying switching activity, particularly for the mass market retailers Contact, Genesis, Mercury, and Trustpower.

Chart 17: Gas gates by number of retailers

This chart shows, by month, numbers of gas gates by the number of active retailers. In this case, an active retailer means a retailer that has at least one active contracted ICP at that gas gate. About 40 gas gates are direct connect gates, meaning that they serve only one consumer, generally a large industrial consumer, and can have only one retailer active at that gate.

The majority of gas gates – about 100 – serve multiple consumers. The greater the number of retailers that trade at a gas gate, the greater is the potential competition for customers.

Chart 18: Connections served by multiple retailers

This chart plots the proportion of gas consumers who are served from the gas gates in the chart above; that is, consumers served at gas gates where multiple retailers trade. This chart shows, for

⁴ <http://www.justice.gov/atr/public/guidelines/hhi.html> accessed 1 May 2014.

example, that while nine or ten retailers are active at only a handful of gas gates, those gates tend to be the largest ones, since about 90% of all gas consumers are connected at these gates.

Chart 19: Total gas volumes

This chart shows the total amount of gas delivered by open-access transmission pipelines and consumed over the past two years by all gas users. The consumption data by use is from direct connect gas gates and gates where industrial load is greater than 80% of gate volumes (G1M gates). There are also some industrial consumers connected to gas gates where the industrial load is less than 80%; these volumes are included in the shared gas gates data.

The top grey line shows total consumption; the coloured lines provide a breakdown by type of use.

- Consumption for petrochemicals is shown in blue.
- Gas usage for thermal electricity generation is shown in red.
- The tan line shows the amount of gas used by consumers connected to shared gas gates. This represents the majority of commercial and residential consumers. There is a seasonality trend to the consumption, higher in winter and lower in summer.
- The green line represents volumes of gas used by large industrials, including steel, wood products, dairy processing, and oil refining.
- The purple line shows the volumes of gas going to storage.
- The orange line represents gas used by consumers connected to the private pipelines owned by Nova.

Gas used by consumers connected to distribution pipelines (the tan line) is allocated by retailer and shown in the next chart.

Chart 20: Allocated gas volumes

This chart shows the gas volumes allocated to retailers at shared gas gates over the past two years, i.e. gas gates connected to a network that supplies multiple consumers. This includes gas used by industrial, commercial, and residential consumers, but it excludes gas volumes from direct connect gas gates; that is, from gas gates that supply a single consumer directly from the transmission system. For this reason, gas volumes supplied through direct connect gas gates to such industrial sites as thermal power stations, the oil refinery, and paper and chemical factories are not included in the chart.

The grey bars in the chart show total volumes of allocated gas (using the right-hand scale); company volumes are denoted by coloured lines and use the left-hand scale. The bars show the seasonality of gas consumption: higher in winter and lower in summer, and many of the retailers show similar patterns in their allocated volumes.

Nova Energy is generally the largest retailer by allocated volumes. Genesis has a load profile that strongly peaks in winter and troughs during the summer. Contact and Mercury show similar – but less pronounced – winter peaking patterns. Greymouth's share of allocated gas, in contrast, is relatively steady throughout the year, reflecting its position as largely a supplier to industrial loads.

5 Pipeline balance

Chart 21: Balancing gas volumes (no longer tracked)

The volume of gas in a pipeline relates to the gas pressure in the pipeline and needs to be maintained below the safe operating pressure limit for the pipeline and above the minimum required to maintain

the supply of gas to consumers. On the Maui pipeline, pressures rise or fall as parties who inject gas into the pipeline over- or under-inject, and as parties who receive gas from the pipeline under- or over-take relative to their respective scheduled volumes. When a transmission owner or operator manages the gas inventory in a pipeline, it is referred to as *secondary* or *residual balancing*. Maui Development Limited (MDL) buys and sells balancing gas in order to manage gas volumes and thus maintain gas pressure within safety and operational limits.

Prior to 2008, secondary balancing services were essentially free to holders of legacy Maui gas contracts, but changes implemented at the end of 2008 to the Maui Pipeline Operating Code, together with the arrangements in the Vector Transmission Code, meant that the costs associated with secondary balancing were generally recovered from pipeline users. In 2009, MDL instituted the Balancing Gas Exchange, an online platform that displayed pipeline balance conditions and enabled parties physically interconnected to the Maui pipeline to post offers to buy and sell balancing gas. These two changes provided gas transmission customers with an incentive to self-balance and greater information on which to base their balancing decisions.

The outcome was the significantly reduced volumes of gas needed to be purchased or sold by MDL to balance the Maui pipeline.

On 1 October 2015, MDL introduced market-based balancing (MBB) on the Maui pipeline, wherein welded points are cashed out at the end of each day for imbalances over a tolerance limit. The rationale for the change was to provide welded parties with even greater incentive to self-balance – that is, to engage in primary balancing, rather than relying on secondary balancing by the pipeline.

In January 2017, First Gas announced that it was changing the operation of its compressors across the transmission system, in order to reduce overall fuel gas costs and to increase the ability of the transmission pipeline to cope with unplanned production station outages. Two related aspects of this change were the increased use of the Mokau compressor station, which increased the use of fuel gas, and increased linepack on the Maui pipeline, which decreased the need for balancing gas transactions. Since not all purchases of fuel gas are publicly available, it is difficult from the available data to see an overall picture of the effect of the operational changes.

For these reasons, Gas Industry Co no longer tracks balancing gas volumes in this quarterly report, focussing instead on primary balancing as shown in charts 22 and 23.

Chart 22: Receipt point operational imbalance

On the Maui pipeline, shippers nominate gas to flow from a receipt welded point, a point where gas is injected into the transmission pipeline, to a delivery welded point, where it is either consumed by a large gas consumer such as Methanex or the Huntly Power Station, or transferred into another pipeline for delivery to smaller downstream customers. Once entered into the pipeline scheduling system and approved, these nominations become scheduled quantities.

Measured quantities, on the other hand, are the amounts of gas that physically flowed through a metering device at a welded point. Scheduled quantities are forecasts; measured quantities are what actually happened. Inevitably, there are differences between the two: forecasts may inaccurately predict actual demand on the day, or there are physical reasons why production stations or large users could not inject or offtake the volumes scheduled.

The difference between measured and scheduled quantities at a welded point is called operational imbalance. Positive imbalance at a welded point indicates that gas is being stored in the pipeline; negative imbalance shows that gas is being drawn from pipeline inventory (called linepack). Excess imbalance on a transmission pipeline can incur costs inefficiently, as it may require the pipeline operator to take a balancing action by buying or selling gas to make up for the change in linepack.

As noted above, MBB was implemented in October 2015, and a key component of the change was the introduction of daily cash outs for operational imbalance. This change was projected to increase the incentives for primary balancing and thus reduce daily operational imbalance.

Chart 22 shows operational imbalance at large receipt points on the Maui pipeline excluding the bi-directional Frankley Road welded point.

Chart 23: Delivery point operational imbalance

This chart shows operational balance at large delivery points on the Maui pipeline (again excluding Frankley Road). The yellow line shows data from the transmission pipeline welded points (TPWPs) Pokuru and Rotowaro, which feed the distribution networks in Bay of Plenty and Auckland, respectively. The orange line shows the Bertrand Road, Faull Road, Ngatimaru Road, Mokau Compressor Station, and Huntly Power Station delivery points, which are direct connections to large consumers.

6 Critical contingency management

The purpose of the CCM Regulations is to achieve the effective management of critical gas outage and other security of supply contingencies without compromising long-term security of supply. A copy of the CCM Regulations can be found at <http://www.gasindustry.co.nz/work-programmes/critical-contingency-management/current-arrangements/regulations/>. Information related to critical contingency management can be found on the CCO's website at <http://www.cco.org.nz/>.

7 Regional and meter owner market share

Chart 24: Regional ICP activity

This series of charts tracks the number of ICPs listed on the registry by date, region, and status. The green series shows active ICPs; that is, those with a status of ACTC and ACTV. The orange series shows all other statuses: NEW, READY, INACT (inactive-transitional), INACP (inactive-permanent), and DECR (decommissioned). NEW and READY statuses are used when an ICP has been newly created (prior to service installation) and when an ICP is ready to flow gas, respectively. In all regions, the number of NEW and READY ICPs has decreased compared to the start of the gas registry.

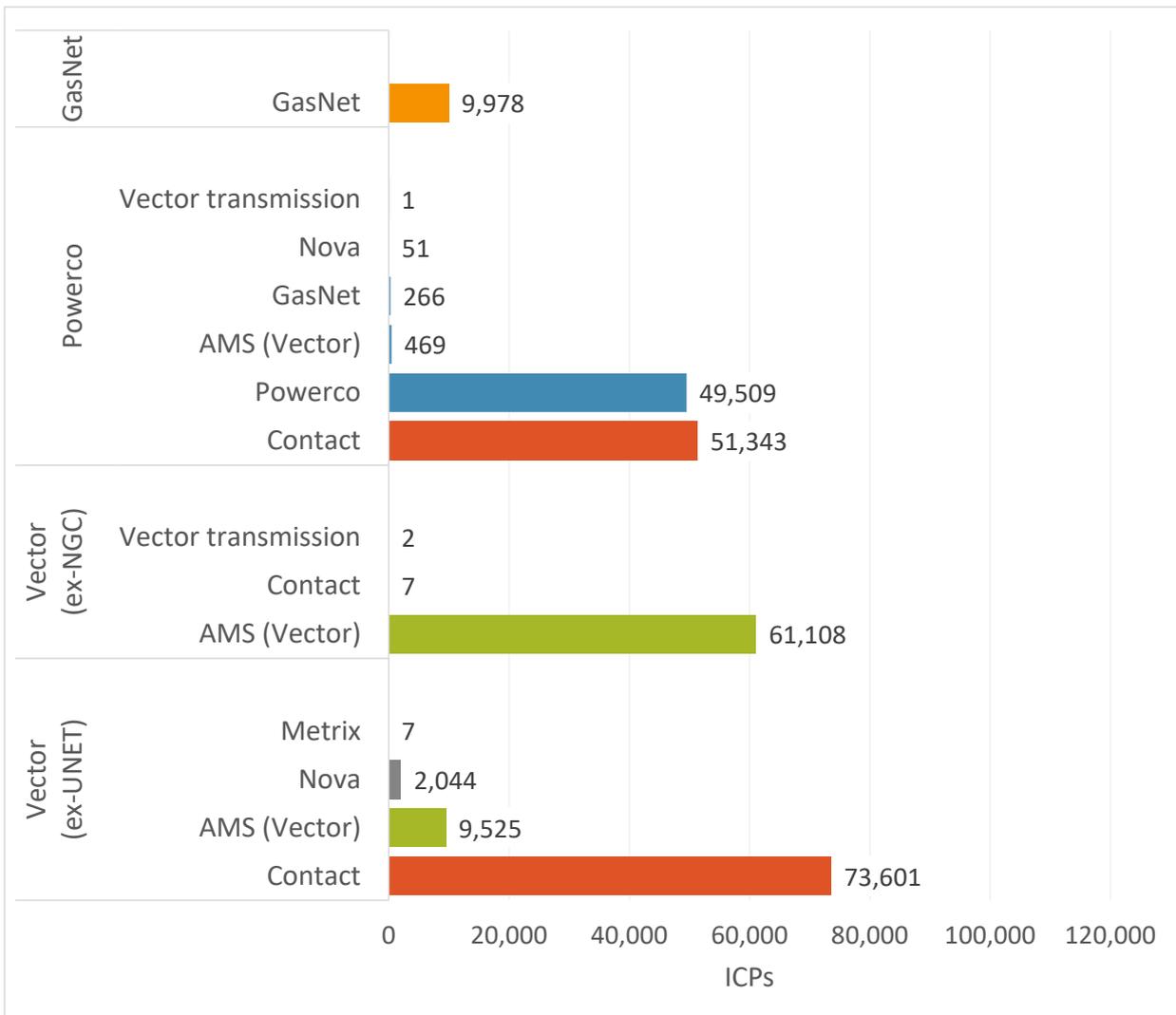
The other three statuses denote stages of disconnection. INACT denotes a transitional (non-permanent) disconnection; INACP is for a permanent disconnection; and DECR means that the ICP has been decommissioned, and the meter and service pipe have been removed.

Chart 25: Meter ownership by distribution system

There are two possible contributing factors to the apparent low level of metering competition within the distribution systems. A review of metering arrangements in 2016 revealed that, as there was little service differentiation between metering providers, retailers found it more efficient to contract with a single party to provide both network and metering services. Note that these circumstances are no longer applicable to First Gas's distribution system, as First Gas acquired the network from Vector but not its associated meters in 2016.

A second factor is the acquisition by Vector AMS of Contact's gas meters in 2013, which led to consolidation in the market. The chart below shows metering market shares as at April 2009, shortly after the start of the gas registry and prior to the sale of Contact's meters.

Chart A- 3: Historical meter ownership (as at April 2009)



8 Natural gas trades on emsTradepoint

Chart 26: Monthly trade volumes and prices on emsTradepoint

This chart reflects all the trades that have occurred on emsTradepoint since it began in October 2013. The top chart shows total monthly gas volumes, broken down into market trades and off-market trades (where emsTradepoint was used to settle and clear the trades).

The bottom chart shows the monthly volume-weighted average price, as well as the maximum and minimum prices of trades during the month. These prices include all the trades listed on emsTradepoint; that is, they include both market and off-market trades.

GLOSSARY

Critical contingency	A state of emergency on the transmission system characterised by falling or extremely low gas pressures. In such situations, the critical contingency operator has the authority to require consumers to stop using gas in order to balance the system, as set out in the Gas Governance (Critical Contingency Management) Regulations 2008.
Direct connect consumers	Large industrial consumers who are supplied gas directly from the transmission system via a dedicated gas gate.
Distribution system	System of lower pressure pipelines conveying gas from the transmission system to consumer sites.
Gas gate	A place where gas leaves the transmission system. Gas gates (most commonly) lead to distribution systems, which supply a number of different consumers. Some gas gates are direct connects, meaning that they supply a single large industrial consumer. A few gas gates supply private gas networks, which supply the customer of a single retailer.
GTAC	The new gas transmission access code that is currently being developed.
Herfindahl–Hirschman Index (HHI)	Measure of market concentration. Generally, markets in which the HHI is between 1,500 and 2,500 are considered moderately concentrated. Markets with an HHI of greater than 2,500 are considered highly concentrated. For more information, see the Appendix.
ICP	Installation Control Point: the point where a consumer installation is connected to the distribution system. Used to describe a consumer site.
Move switch	A switch where the retailer supplying gas to a consumer site is changed to another retailer at the request of an incoming tenant or homeowner.
MPOC	The Maui Pipeline Operating Code
Reconciliation	The processes by which the volume of gas leaving the transmission system is allocated on a gate-by-gate basis to retailers with consumers at those gates; governed by the Gas (Downstream Reconciliation) Rules 2008. Reconciliation is done on a monthly basis, and each consumption month is calculated three times: in the month immediately after consumption month (<i>initial allocation</i>); four months after consumption month (<i>interim allocation</i>); and 13 months after consumption month (<i>final allocation</i>).
Registry	Database of information on consumer sites, including metering information, associated gas gate, and responsible retailer. Used to facilitate efficient and accurate switching.
Standard switch	A switch where a gas customer decides to switch the retailer that supplies its existing location.
Switching	The processes by which the retailer supplying a customer site is changed to another retailer, governed by the Gas (Switching Arrangements) Rules 2008.
Transmission system	System of high pressure pipelines that convey gas from gas processing facilities to the distribution system or to a direct connect consumer.
Unaccounted-for gas (UFG)	The difference between the amount of gas leaving the transmission system and retailers' estimates of their consumers' consumption. It is made up of technical losses on the system, metering inaccuracies, and retailer estimation errors. For more information, see the Appendix.
VTC	The Vector Transmission Code

PROGRESS TOWARDS OBJECTIVES AND OUTCOMES

1 OCTOBER – 31 DECEMBER 2017

This section provides an update of progress towards objectives and outcomes for Gas Industry Co the gas industry body, as set out in the Gas Act 1992 and the April 2008 Government Policy Statement on Gas Governance, particularly as implemented through the Company's *FY2018-2020 Statement of Intent*.

Project	Rationale	Activity	Status
Strategic Objective 1: Promote efficient, competitive and confident gas markets			
Retail Gas Contracts Oversight Scheme	<ul style="list-style-type: none"> Enhanced consumer outcomes by providing clarity around the respective roles and obligations of consumers and industry participants involved in the supply of gas to small consumers. 	<ul style="list-style-type: none"> Administer the Retail Gas Contracts Oversight Scheme. Conduct a full review of retail contracts every 3 years. Review retailers' contracts otherwise on an exceptions basis (ie new entrants and changed contracts). Provide additional information to assist new entrant retailers to understand their obligations and governance processes. 	<ul style="list-style-type: none"> Fourth assessment of retailers' standard published contracts with small consumers published in October 2015; showed further improvements in alignment with the contract benchmarks. Since the Retail Scheme's introduction in 2010, retailers' overall rating has increased from 'Moderate' to 'Substantial' alignment with the benchmarks. The next full review is scheduled for 2018.
Gas Distribution Contracts Oversight Scheme	<ul style="list-style-type: none"> Gas industry participants and new entrants are able to access distribution pipelines on reasonable terms and conditions. Ensure consistency in distribution services arrangements. 	<ul style="list-style-type: none"> Monitor and report to the Minister on the status of distribution arrangements. Develop and publish distribution contract Principles. Encourage publication of network services agreements. 	<ul style="list-style-type: none"> Report on the second assessment of distribution contracts issued in May 2014 showed that overall alignment improved from 'Moderate' to 'Substantial'. Gas Industry Co continues to monitor industry participants' progress with executing new distribution contracts consistent with the Distribution Scheme principles.

Project	Rationale	Activity	Status
Gas Quality	<ul style="list-style-type: none"> • Maintain an acceptable standard of gas quality. • Ensure costs of gas quality incidents are met efficiently. • Achieve improved transparency on gas quality incidents. 	<ul style="list-style-type: none"> • Ongoing review of industry arrangements for managing gas quality. • Consider options for improving gas quality arrangements. 	<ul style="list-style-type: none"> • Gas Quality: Requirements and Procedures Document was issued in 2015, and will be reviewed and updated by Gas Industry Co as required. • The Gas Quality Update that Gas Industry Co released in June 2017 proposes that additional time is allowed for a new GTAC to take shape before reconsidering matters relating to gas quality.
Rule Changes	<ul style="list-style-type: none"> • Improved industry governance through regular review of existing arrangements and recommending changes where appropriate. 	<ul style="list-style-type: none"> • Maintain rule change registers. • Review Switching, Reconciliation, and CCM rules/regulations once the new GTAC design is sufficiently advanced. 	<ul style="list-style-type: none"> • A pilot of day-after (D+1) gas allocation and daily balancing and peaking pool (BPP) information delivery is continuing successfully. The pilot will be reviewed in light of the development of the new GTAC, and changes may be made to the Reconciliation Rules proposed where appropriate.
Gas Measurement	<ul style="list-style-type: none"> • Workstream arose from industry stakeholder discussions at annual Co-Regulatory Forums undertaken in context of GPS outcome of providing efficient market for metering services. 	<ul style="list-style-type: none"> • Develop a a minimum voluntary standard for advanced metering. 	<ul style="list-style-type: none"> • In September 2017, Gas Industry Co published an analysis of submissions on two gas metering review papers. • As part of its next steps, Gas Industry Co established a technical advisory group to develop a minimum voluntary standard for advanced metering.
Information Gathering	<ul style="list-style-type: none"> • Protocol established in 2012 as an industry arrangement rather than a formal regulated process. 	<ul style="list-style-type: none"> • If required, due to non-compliance, Gas Industry Co can consult on regulations for mandatory supply of information by participants to inform relevant issues. • Subject to outcome of this consultation, Gas Industry Co may make recommendation to the Minister for regulations for the provision of information. 	<ul style="list-style-type: none"> • Information was provided under the Protocol in relation to review of market-based balancing and metering contracts review.

Project	Rationale	Activity	Status
Strategic Objective 2: Facilitate efficient use of, and investment in, gas infrastructure			
Transmission Access	<ul style="list-style-type: none"> Ensure transmission pipeline access arrangements transparently provide for the efficient utilisation of physical capacity and effectively signal any need for efficient investment in additional capacity. 	<ul style="list-style-type: none"> Address, using regulatory and/or non-regulatory options, any lessening of competition due to transmission constraints. Improve the quality and availability of pipeline security and supply/demand information. Promote changes to transmission access arrangements. 	<ul style="list-style-type: none"> Former Vector and Maui transmission systems under the ownership of First Gas. Gas Industry Co and First Gas co-leading a process for developing a new GTAC to replace the VTC and MPOC. Gas Industry Co is currently assessing the new GTAC to determine whether it is materially better than the current MPOC and VTC.
Gas Supply/Demand Study	<ul style="list-style-type: none"> <i>Long-Term Gas Supply and Demand Scenarios</i> commissioned to provide industry stakeholders with information that may be useful for making business decisions. 	<ul style="list-style-type: none"> Update the supply/demand study biannually. 	<ul style="list-style-type: none"> Third edition of Report released October 2016 and was presented to the industry. Next report will be released in 2018.
Transmission Pipeline Balancing	<ul style="list-style-type: none"> Improved industry arrangements. Gas industry participants and new entrants are able to access transmission pipelines under reasonable terms and conditions. 	<ul style="list-style-type: none"> Assess balancing market developments. 	<ul style="list-style-type: none"> Market-Based Balancing (MBB) introduced on 1 October 2015 with associated new trading of balancing gas on emsTradepoint wholesale market. Post-implementation review of MBB identified efficiency improvements. Gas Industry Co, First Gas and stakeholders are considering balancing in context of new GTAC development.
Transmission Code Change Requests	<ul style="list-style-type: none"> Ensure ongoing relevance and efficiency of multilateral terms of access to transmission pipelines. 	<ul style="list-style-type: none"> Transmission Code Change Requests processed as required. 	<ul style="list-style-type: none"> On 31 October 2017 Gas Industry Co published its decision to support First Gas's proposed change to the MPOC to provide for termination of transmission services agreements (TSAs) and interconnection agreements (ICAs) when certain conditions are met.

Project	Rationale	Activity	Status
Interconnection	<ul style="list-style-type: none"> Improved industry outcomes. Gas industry participants and new entrants are able to access transmission pipelines under reasonable terms and conditions. 	<ul style="list-style-type: none"> Review interconnections as required. Address any concerns regarding reasonable access. Amend Interconnection Guidelines if needed. 	<ul style="list-style-type: none"> Interconnection Guidelines have been in place since 2009. Transmission System Owner policies are largely consistent with those guidelines. Gas Industry Co and First Gas are to consider interconnection arrangements in context of the development of a new GTAC.
Security and Reliability	<ul style="list-style-type: none"> Gas Industry Co's 2015/16 review of transmission pipeline security and reliability found arrangements were generally appropriate but noted several opportunities for improvement under current arrangements (mainly development of first combined First Gas Transmission Asset Management Plan) and several areas where arrangements were evolving (Commerce Commission price-quality regulations). 	<ul style="list-style-type: none"> Gas Industry Co will continue to review developments and work with stakeholders on further improvements. 	<ul style="list-style-type: none"> Gas Industry Co published an assessment of First Gas's Asset Management Plan and other security and reliability related documents in March 2017. First Gas's adoption of Gas Industry Co's suggestions will be assessed in the next Asset Management Plan.
Wholesale Market Monitoring	<ul style="list-style-type: none"> emsTradepoint wholesale gas market (eTp) makes a significant contribution to GPS outcome for 'efficient arrangements for the short-term trading of gas'. 	<ul style="list-style-type: none"> Gas Industry Co continues to monitor activity and developments in the wholesale spot market as well as having a role with the eTp's Operational Working Group Gas Industry Co monitors wholesale market activity and developments, particularly in relation to Market-Based Balancing. 	<ul style="list-style-type: none"> Gas Industry Co considers that no further analysis on the MBB data should be undertaken at this stage. Further analysis may be undertaken once new transmission arrangements are in place. Supporting the new Energy Trader Forum.

Project	Rationale	Activity	Status
Strategic Objective 3: Deliver effectively on Gas Industry Co's accountabilities as the gas industry body			
Downstream Reconciliation	<ul style="list-style-type: none"> • Oversight of the Gas (Downstream Reconciliation) Rules 2008. • Improved industry arrangements and consumer outcomes through the objective of fairly allocating, and reducing, unaccounted-for-gas (UFG) and its associated costs. 	<ul style="list-style-type: none"> • Oversight of the Reconciliation Rules, including Allocation Agent Service Provider role. 	<ul style="list-style-type: none"> • Reconciliation Rules operating well, with EMS performing Allocation Agent Service Provider role. • Gas reconciliation audits performed regularly. • Annual Unaccounted for Gas (UFG) factors and unusual metering arrangements reviewed for any significant differences. • A pilot of day-after (D+1) gas allocation and daily balancing and peaking pool (BPP) information delivery is continuing successfully. The pilot will be reviewed following the completion of the GTAC development process, and changes to Reconciliation Rules proposed if appropriate.
Switching and Registry	<ul style="list-style-type: none"> • Oversight of the Gas (Switching Arrangements) Rules 2008. • Efficient retail market and improved consumer outcomes by facilitating market contestability through customer switching between retailers. 	<ul style="list-style-type: none"> • Oversight of Switching Rules, including Registry Operator Service Provider role. 	<ul style="list-style-type: none"> • Switching Rules operating well, with Jade performing Registry Operator Service Provider role. • Switching statistics report issued monthly, with switching levels remaining stable. • Completing Registry Service Provider contract negotiations.

Project	Rationale	Activity	Status
Critical Contingency Management	<ul style="list-style-type: none"> • Oversight of the Gas Governance (Critical Contingency Management) Regulations 2008. • Improved industry outcomes through increased market confidence in industry's ability to manage critical contingency events. 	<ul style="list-style-type: none"> • Oversight of CCM Regulations including management of Critical Contingency Operator (CCO) Service Provider role. • Review effectiveness of the Regulations following any events/exercises. • Operate critical contingency pool following an event. • Conduct annual critical contingency management exercise. 	<ul style="list-style-type: none"> • CCM Regulations operating well, with Core Group performing Critical Contingency Operator Service Provider role. • CCO activities are reviewed each quarter. • CCO training events and annual exercise to be held in first half of 2018.
Compliance	<ul style="list-style-type: none"> • Oversight of the Gas Governance (Compliance) Regulations. • Improved industry operations through provision of a compliance and dispute resolution process for industry participants. 	<ul style="list-style-type: none"> • Oversight of Compliance Regulations. • Appointment of Rulings Panel and Investigator, and management of associated processes. 	<ul style="list-style-type: none"> • Gas Industry Co continues to fulfil its role as Market Administrator under the Compliance Regulations. • Sir John Hansen appointed as Rulings Panel and Jason McHerron as Investigator. • Breach activity remains generally low; a positive indicator of industry compliance. • One matter before Rulings Panel currently (alleged breaches of CCM Regulations 2008).
Statutory Accountability	<ul style="list-style-type: none"> • To ensure stakeholders understand the scope of the company's intended operations and its results to the cost thereof. 	<ul style="list-style-type: none"> • Prepare/publish a Statement of Intent that meets statutory requirements • Prepare/publish Annual Reports that meet statutory requirements • Prepare/publish Quarterly Reports to the Minister on 'state and current performance of the industry' 	<ul style="list-style-type: none"> • <i>Statement of Intent</i> (SOI) for FY2018-FY2020 published July 2017. • Annual Report published 30 September 2017. • Quarterly Reports and News Bulletins published regularly.
Performance Measures	<ul style="list-style-type: none"> • Improved industry and consumer outcomes through provision of public information on industry performance. • Monitor the effectiveness of governance arrangements. 	<ul style="list-style-type: none"> • Determine and publish information on each gas governance arrangement that has been implemented. 	<ul style="list-style-type: none"> • Performance Measures Reports included in Quarterly Reports. •

Project	Rationale	Activity	Status
Strategic Objective 4: Build and communicate the New Zealand Gas Story			
NZ Gas Story/State and Performance of Industry	<ul style="list-style-type: none"> • Facilitate nexus between industry and Government. • Maintain informed industry participants and other stakeholders. 	<ul style="list-style-type: none"> • Facilitate, influence and communicate with the industry and Government. • Liaise with other regulatory bodies, agencies and associations with responsibilities and interests encompassing the gas industry. 	<ul style="list-style-type: none"> • Regular liaison with MBIE, Electricity Authority, and other relevant regulators. In particular, working closely with Commerce Commission on gas transmission matters (Commission Input Methodologies and price/quality path reviews; Gas Industry Co co-leadership of new GTAC development). • The latest edition of the <i>NZ Gas Story</i> was published in December 2017.