

Performance Measures Quarterly Report for the period ending 31 December 2016

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 (CCM Regulations), both in terms of activity related to these governance arrangements and the competitive outcomes that they foster. The Report also tracks transmission balancing actions, as a means of informing Gas Industry Co's work on this issue.

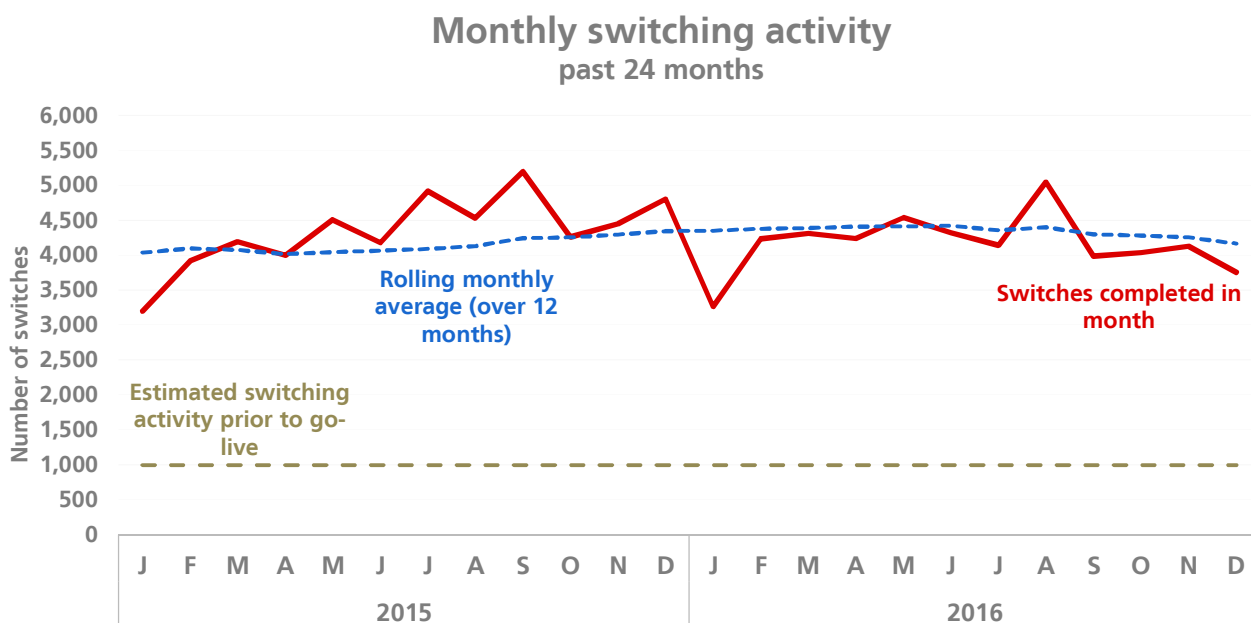
Explanatory details about the charts can be found in the Appendix to this report.

Highlights of the Report:

- Switching rates have been over 18% for more than two years. About 4,200 gas consumers switch gas supplier each month.
- About 84% of customer switches are completed within three business days.
- 61% of residential consumer sites have switched retailer at least once in the past seven years; 65% of small commercial and 79% of large commercial sites have switched at least once.
- Over 99% 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 1.0% (compared with about 2% in 2009).
- Genesis is the largest retailer by customer share. Nova has the largest share of commercial and industrial customers.
- Vector Gas and Nova Energy are the largest retailers by volume market share.

2 Switching performance measures

Chart 1: Monthly switching activity



- About 4,200 consumers switch gas supplier each month.
- The churn rate for the last 12 months is 18.1%. 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.
- 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.
- Note that this chart excludes the transfer of Energy Direct customers to Trustpower in September 2016.
- See Chart A-1 in the appendix for a chart of switching activity since the start of the registry.

Chart 2: Regional switching activity

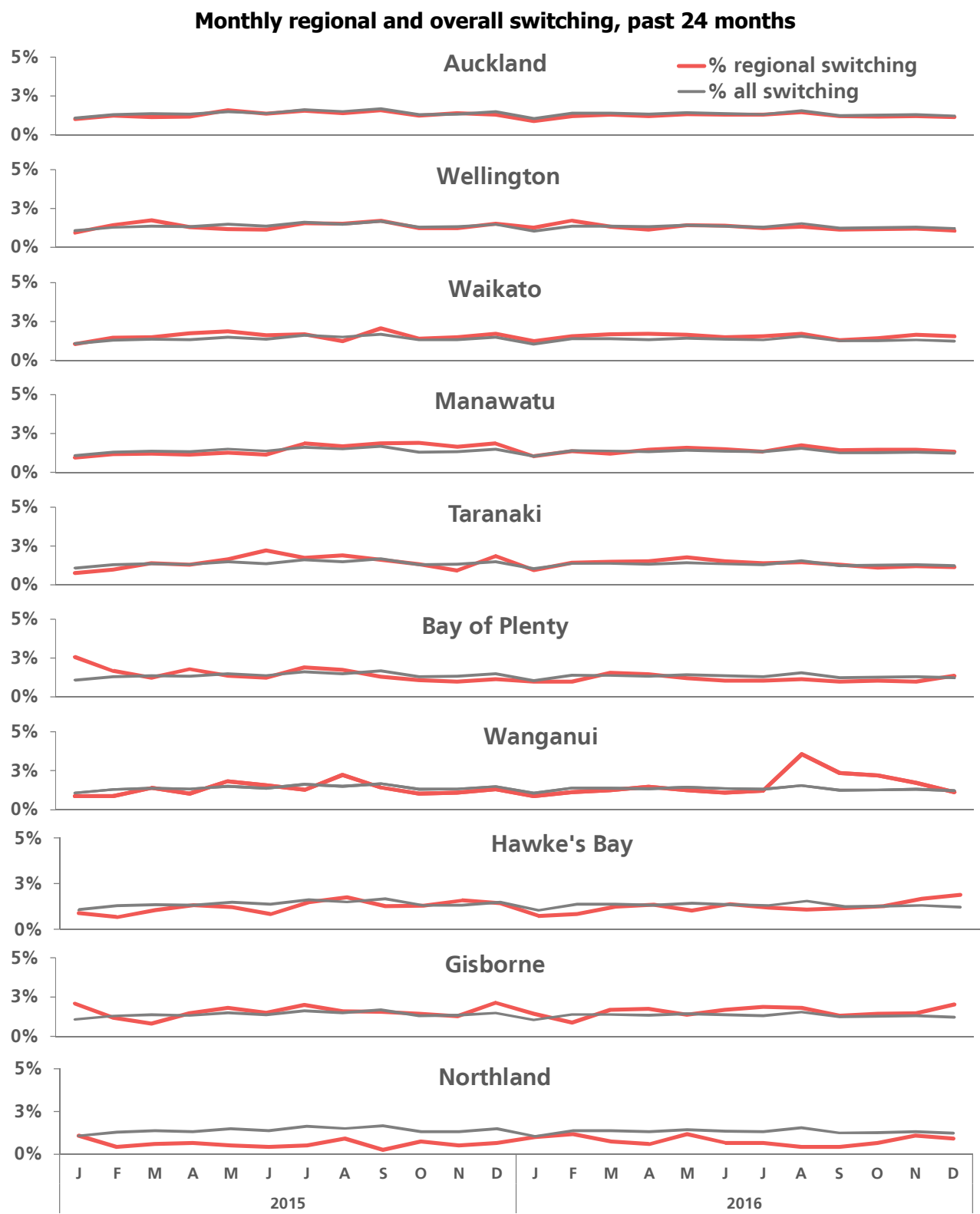
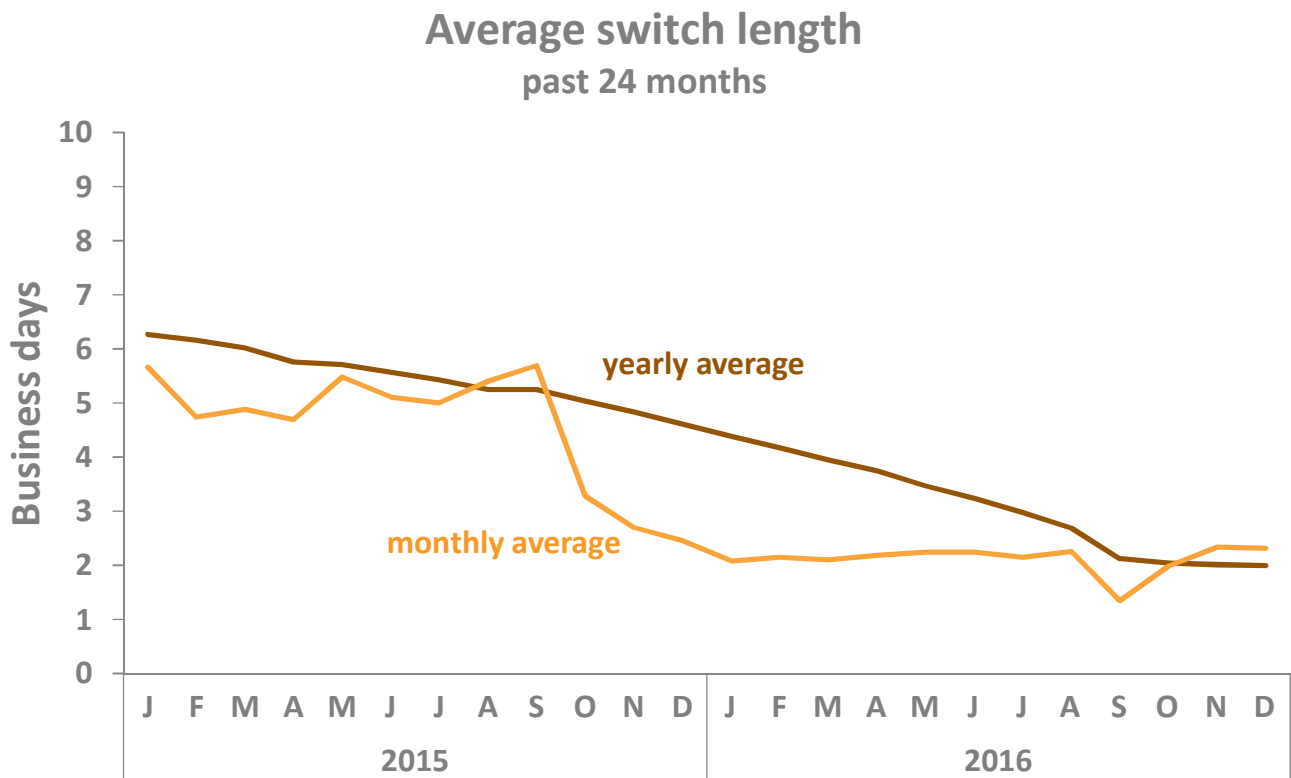
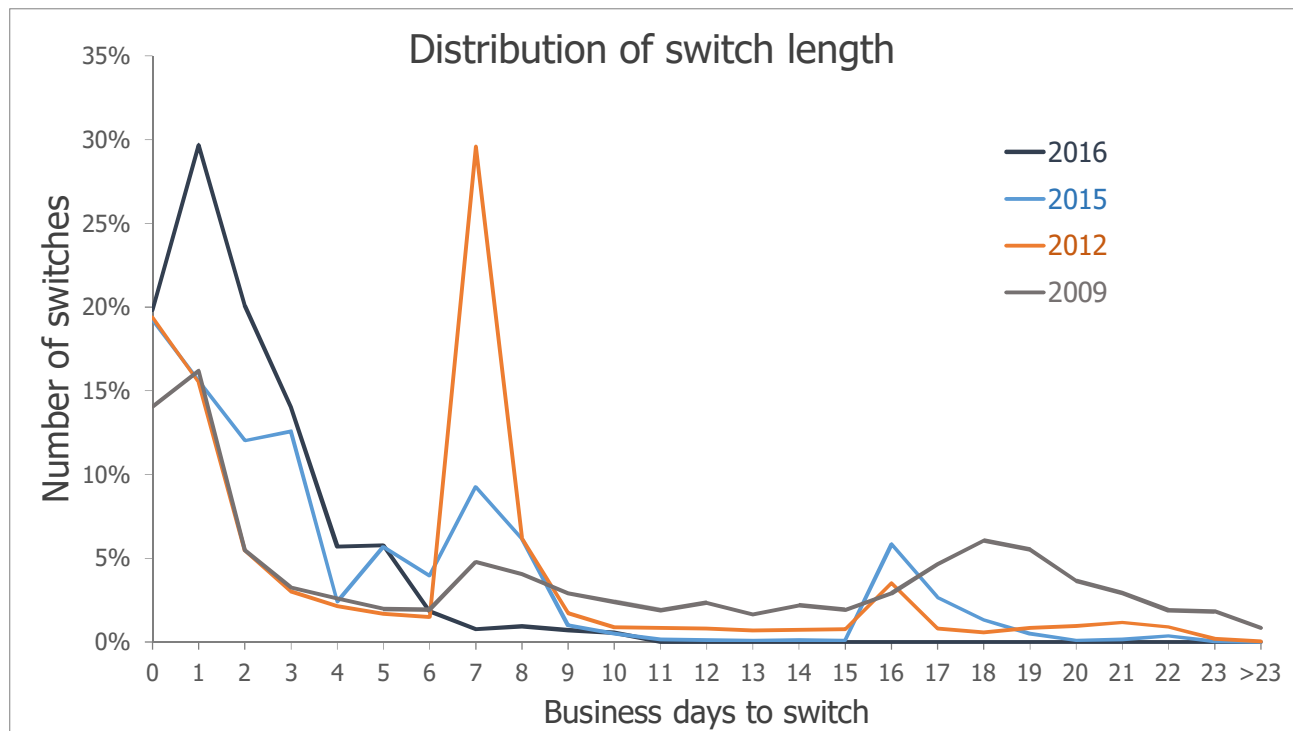


Chart 3: Time to process switches



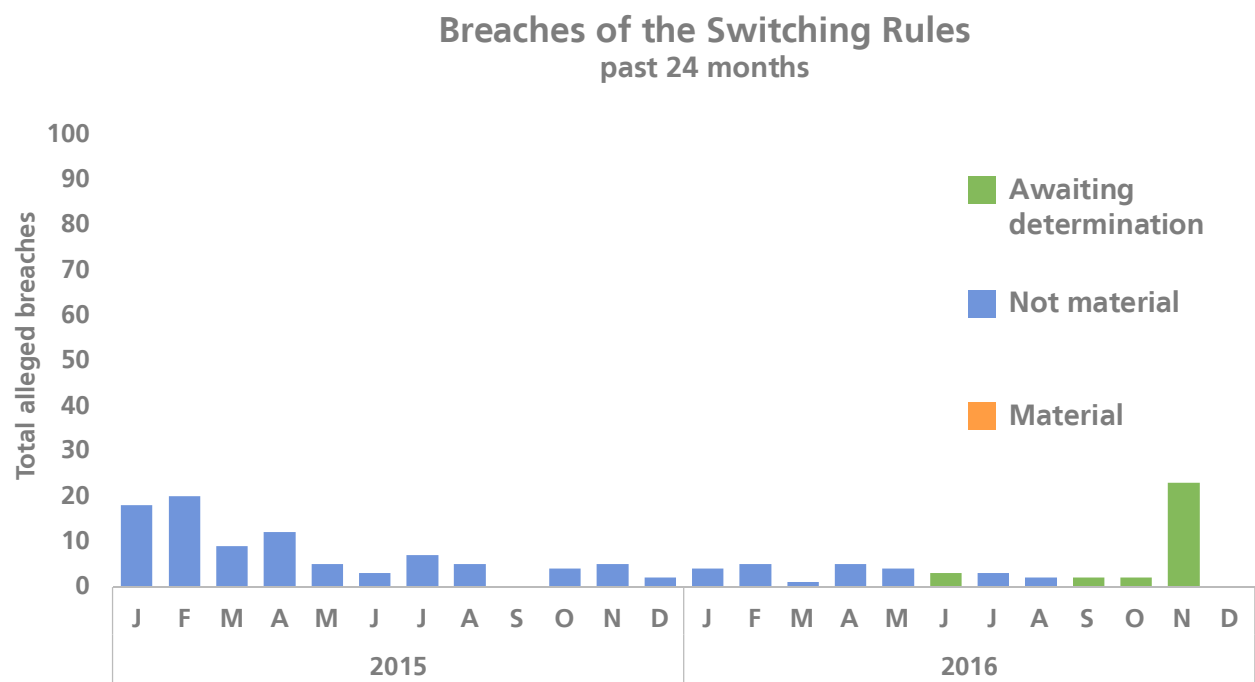
- Switching times have fallen markedly in the past two years. At the start of 2015, switches took a little over six days, on average. It now takes about two business days for a switch to be completed.
- Data are for switches of ICPs with a status of either active-contracted (ACTC) or active-vacant (ACTV) 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, and 2016.
- The chart shows the change in switch length over time. In all years, there were some switches that took place within two days. In 2009, over half of switches took at least seven days to complete. 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.

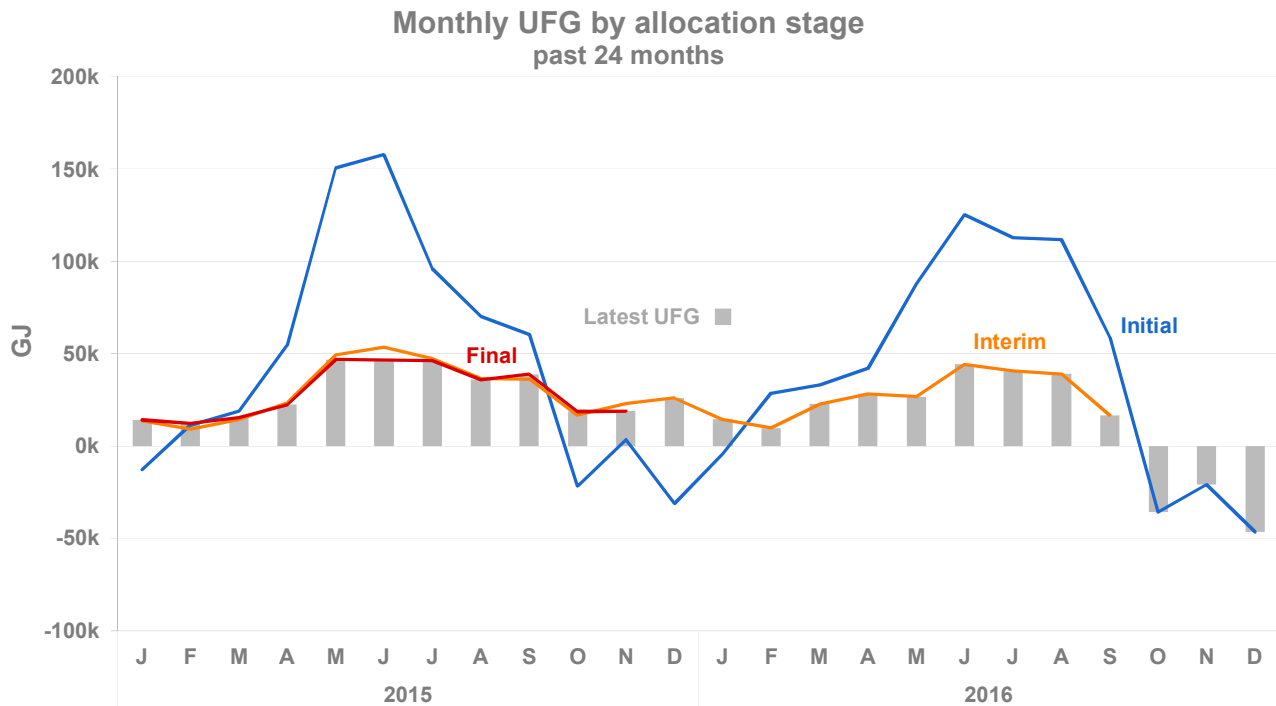
Chart 5: Number and severity of breaches of the Switching Rules



- Most of the Switching Rules breaches reported each month are alleged by the registry operator.
- In contrast, bulk of the breaches from November were alleged as a result of performance audits commissioned under the Switching Rules.

3 Allocation and reconciliation performance measures

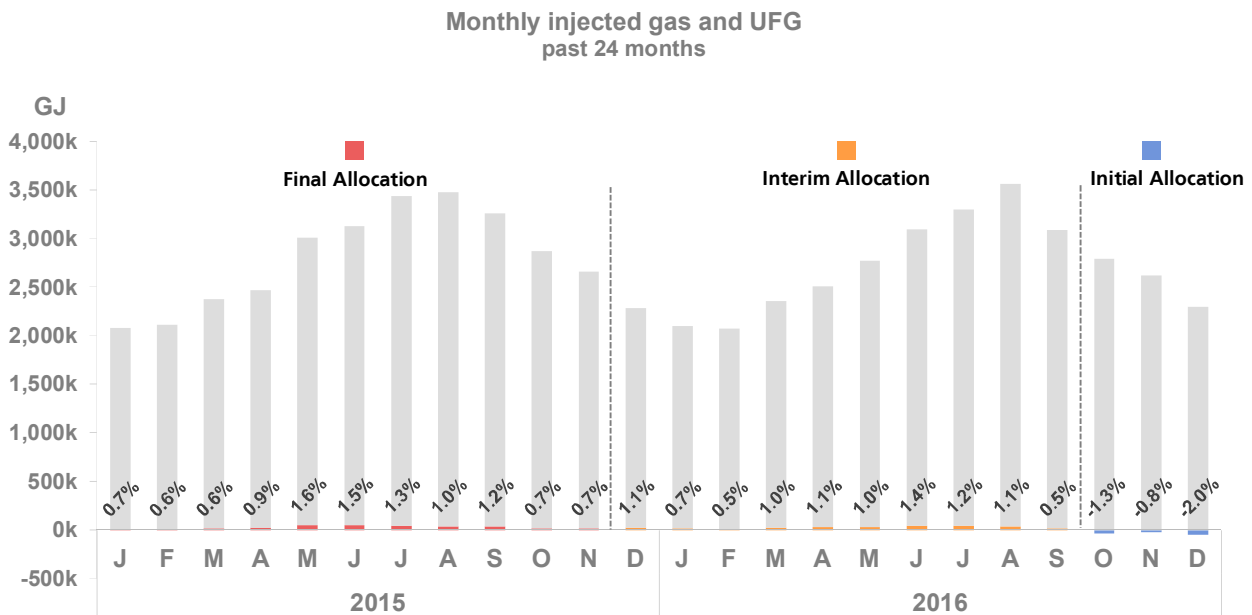
Chart 6: Volumes of unaccounted-for gas (UFG)



- As with previous years, UFG in the spring and summer months has been negative. The UFG generally becomes small but positive with the more accurate data used in successive allocation stages.
- 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.¹
- See Chart A-2 in the appendix for a chart of UFG since the start of the Reconciliation Rules.

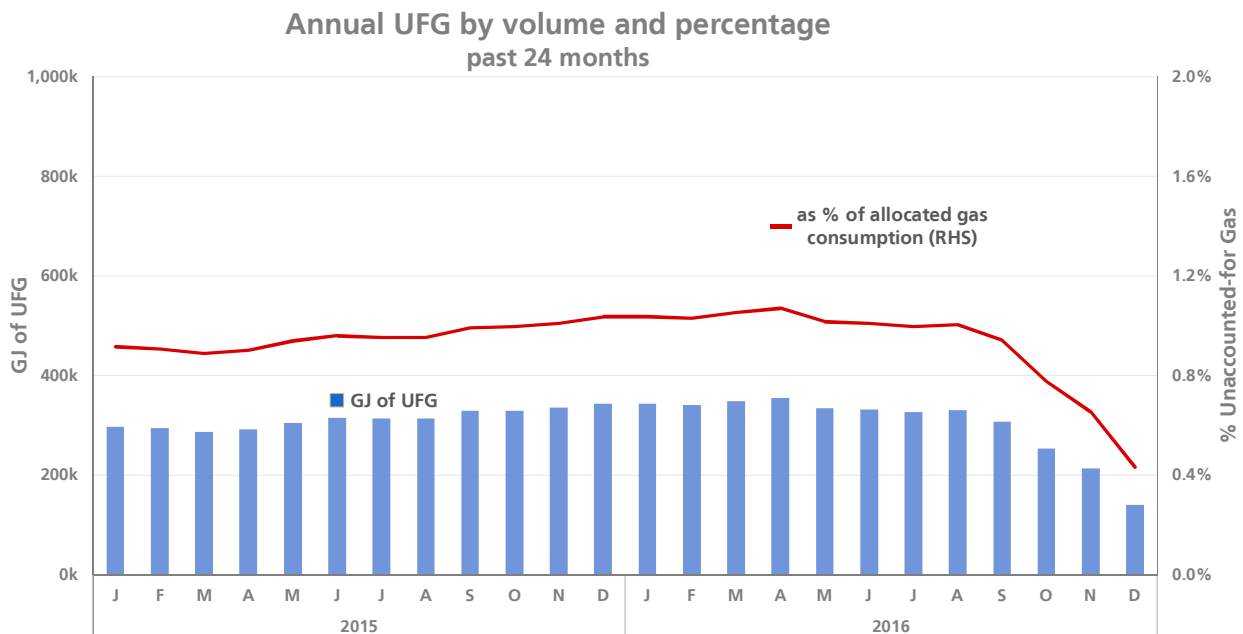
¹ The initial allocation produced by the Allocation Agent is a "bottom up" approach whereby each of the retailers submits data based on a combination of actual meter readings (historical estimates) and consumption estimates since the last meter reading (forward estimates). In that context, UFG is a meaningful 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



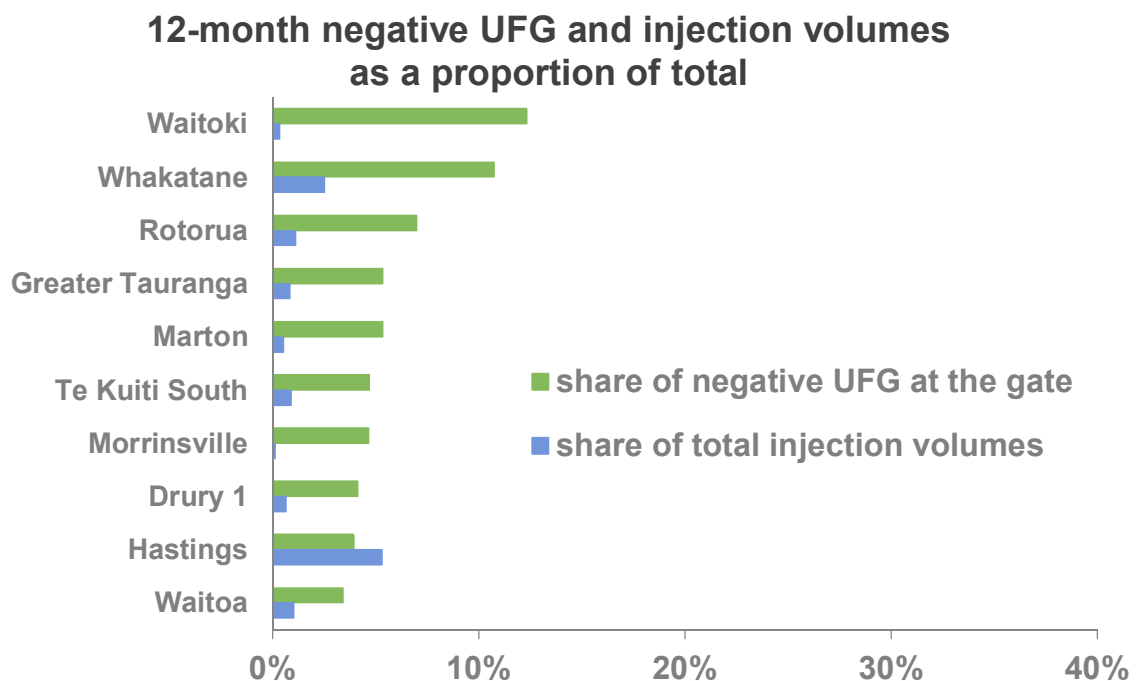
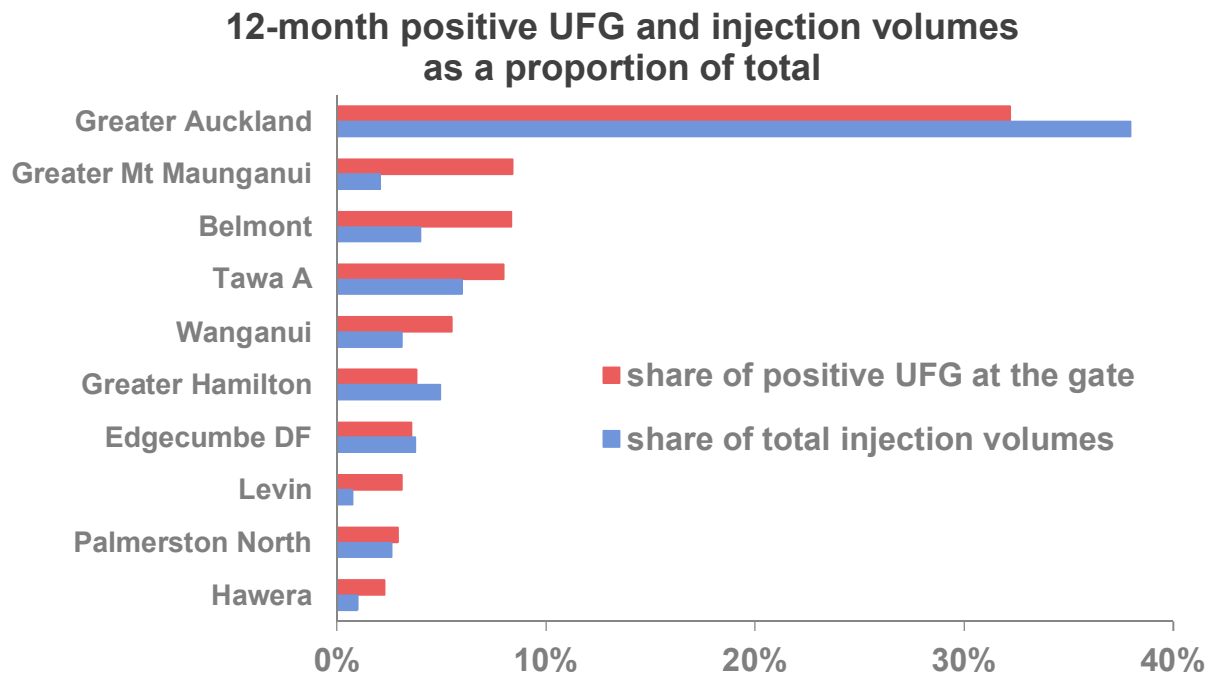
- UFG tends to be higher as a percentage when total volumes are high. This trend most likely due to UFG attributable to mass market consumption.

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. It now stands at approximately 310,000 GJ, about 1.0% of allocated gas consumption.

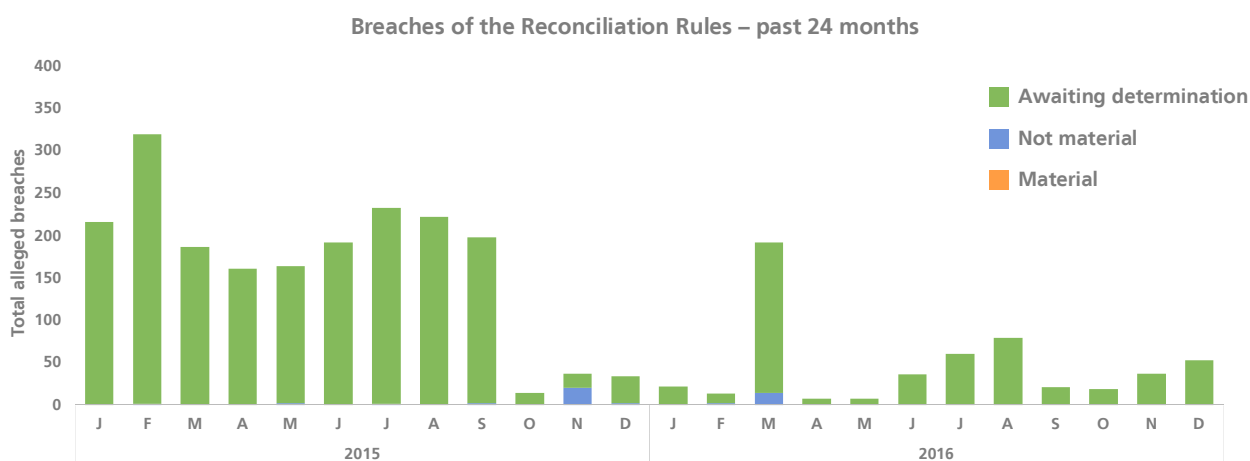
Chart 9: Gas gates where UFG is the highest



- 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 2015 through September 2016.
- The 10 gates shown in the top chart account for 78% – about 379,000 GJ – of the positive UFG experienced over the past 12 months.

- The 10 gates shown in the bottom chart account for about 62% (about 71,000 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 gate; Whakatane, Marton, Te Kuiti South, and Waitoa are in the second chart.

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



- In March 2016, a number of breaches were alleged in relation to the audit of the Greater Tauranga and Greater Mount Maunganui gas gates.
- Historically, the majority of breaches have occurred 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.
- In September 2015, the market administrator issued a guideline² on the materiality of rule 37 breaches, stating that instances where the volume involved is less than or equal to 200 gigajoules do not need to be alleged as a breach by the allocation agent, as there is no likelihood that those errors will raise material issues under the Reconciliation Rules. This change can be seen in the decrease in alleged breaches in October 2015.
- 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, which is why there are a large number of breaches awaiting determination. The settlement of the 23 months up to and including the consumption month of April 2015 has just concluded, which will allow the Market Administrator to determine their materiality. 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 will eliminate the need for rule 37 breach settlements.

² Available at <http://gasindustry.co.nz/dmsdocument/5031>.

Audits commissioned

Event audits

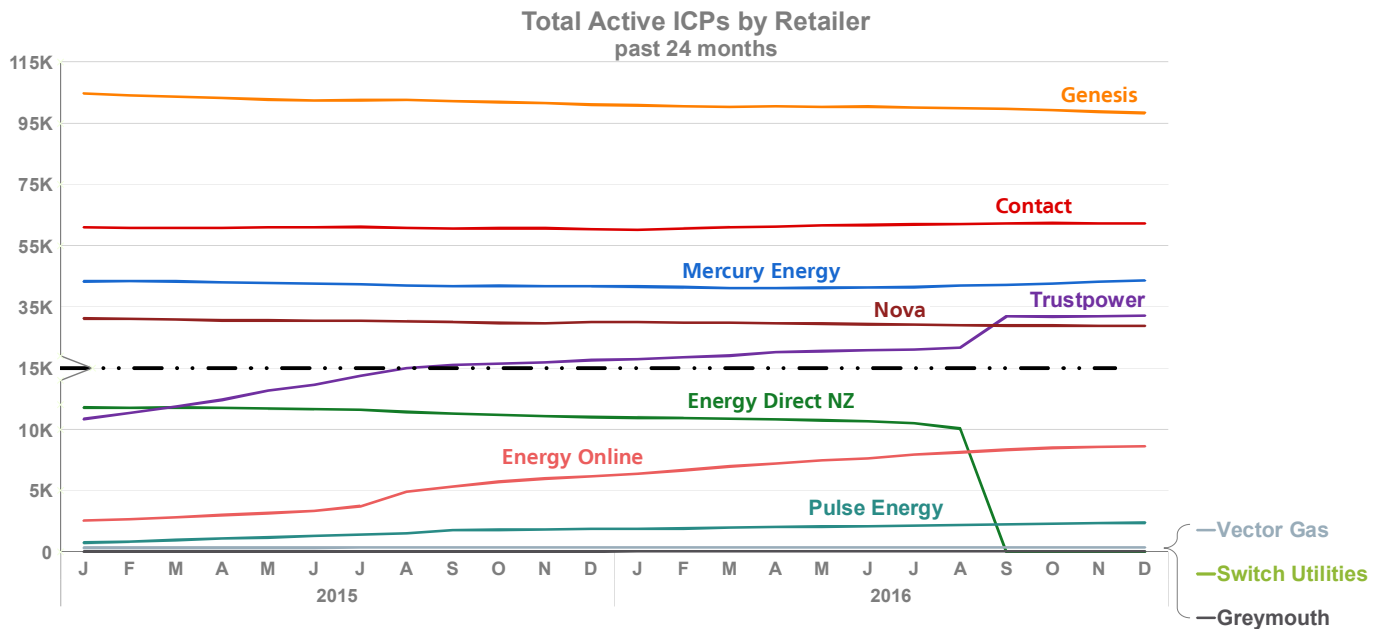
No event audits were commissioned in this quarter.

Performance audits

Gas Industry Co has begun a round of performance audits under the Switching Rules and the Downstream Reconciliation Rules. These are the first audits to be commissioned since the Switching Rules were amended in September 2015 to provide for regular performance audits of registry participants, defined as retailers, distributors, and meter owners. It is the third round of regular performance audits under the Downstream Reconciliation Rules. As of this writing, the audits of Genesis Energy and Contact Energy have been completed.

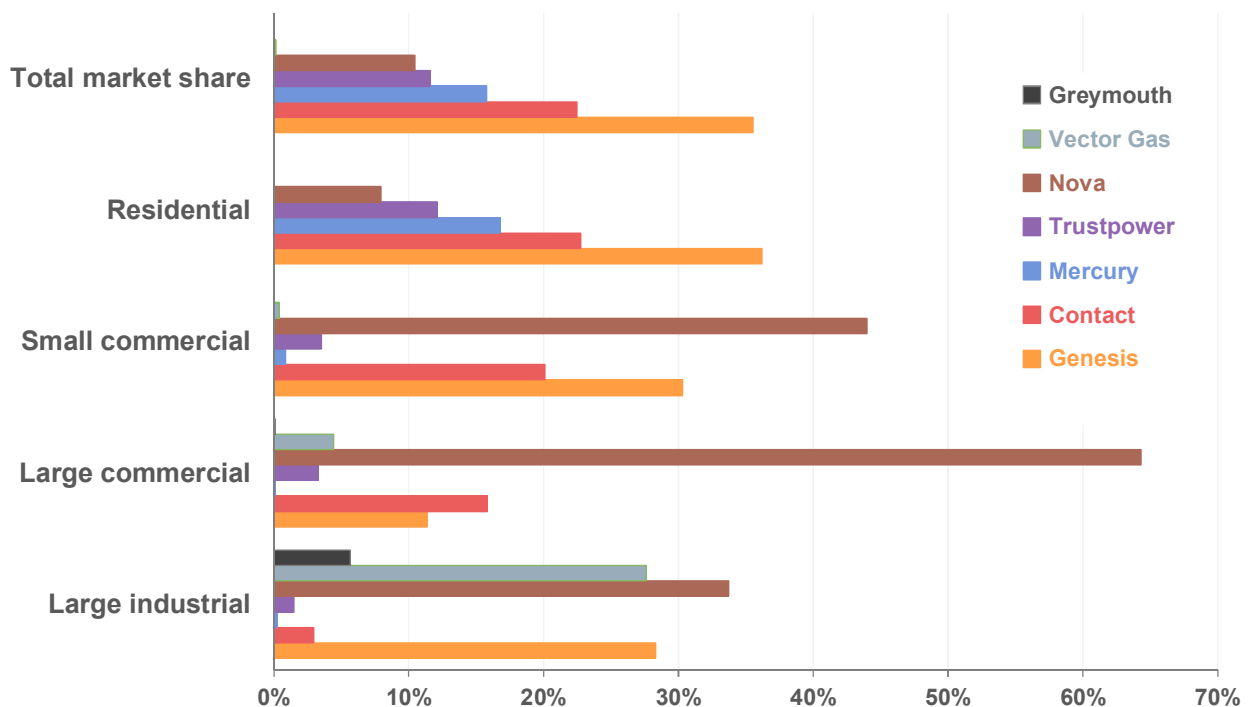
4 Market competition performance measures

Chart 11: Market share of ICPs by retailer



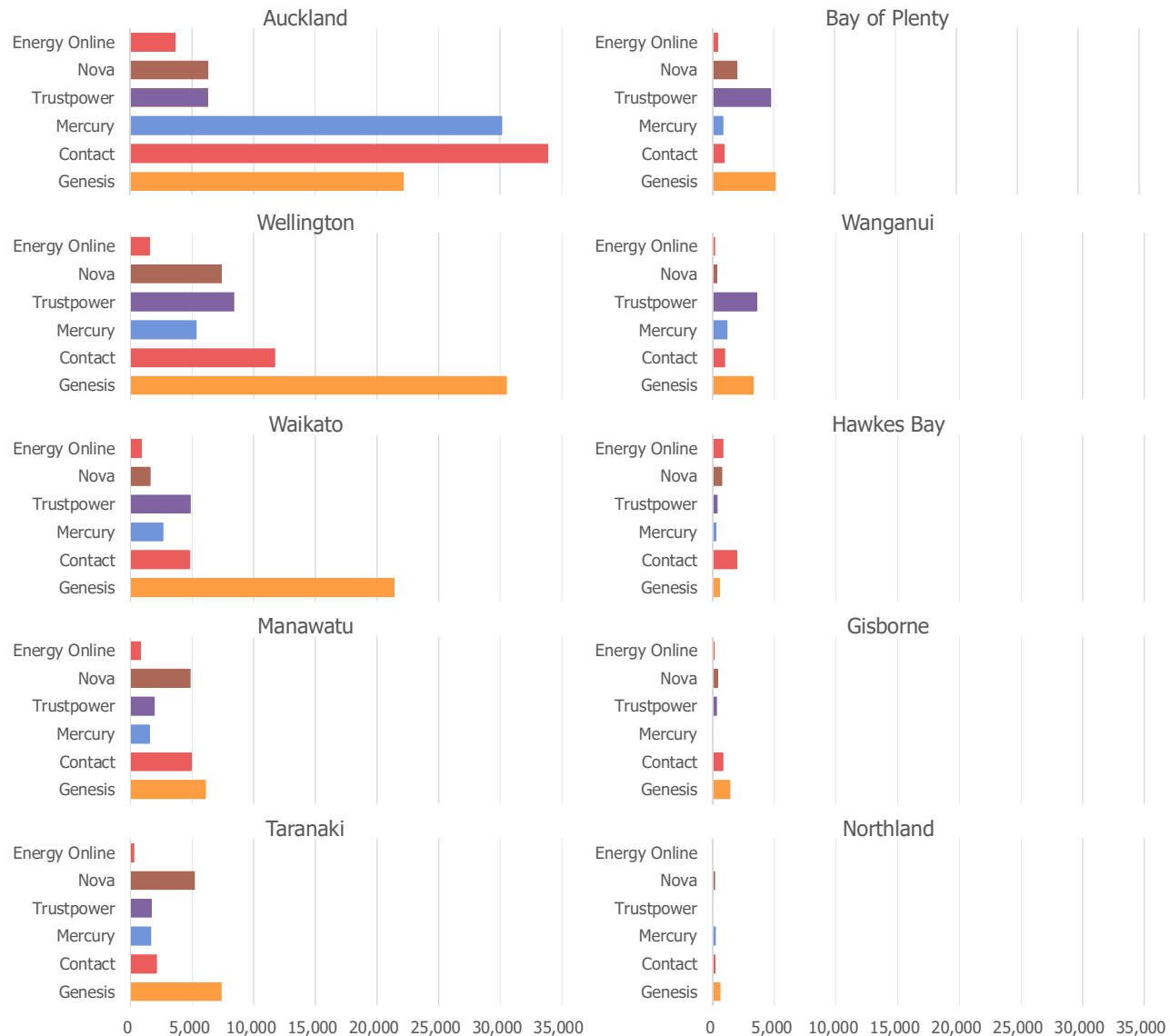
- This chart shows the contrast between the relative stability of customer numbers for the established retailers versus the growth of the new entrant retailers:
 - Trustpower, which entered the retail gas market in November 2013, is now the fourth largest retailer by customer share;
 - Pulse Energy entered 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 now 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



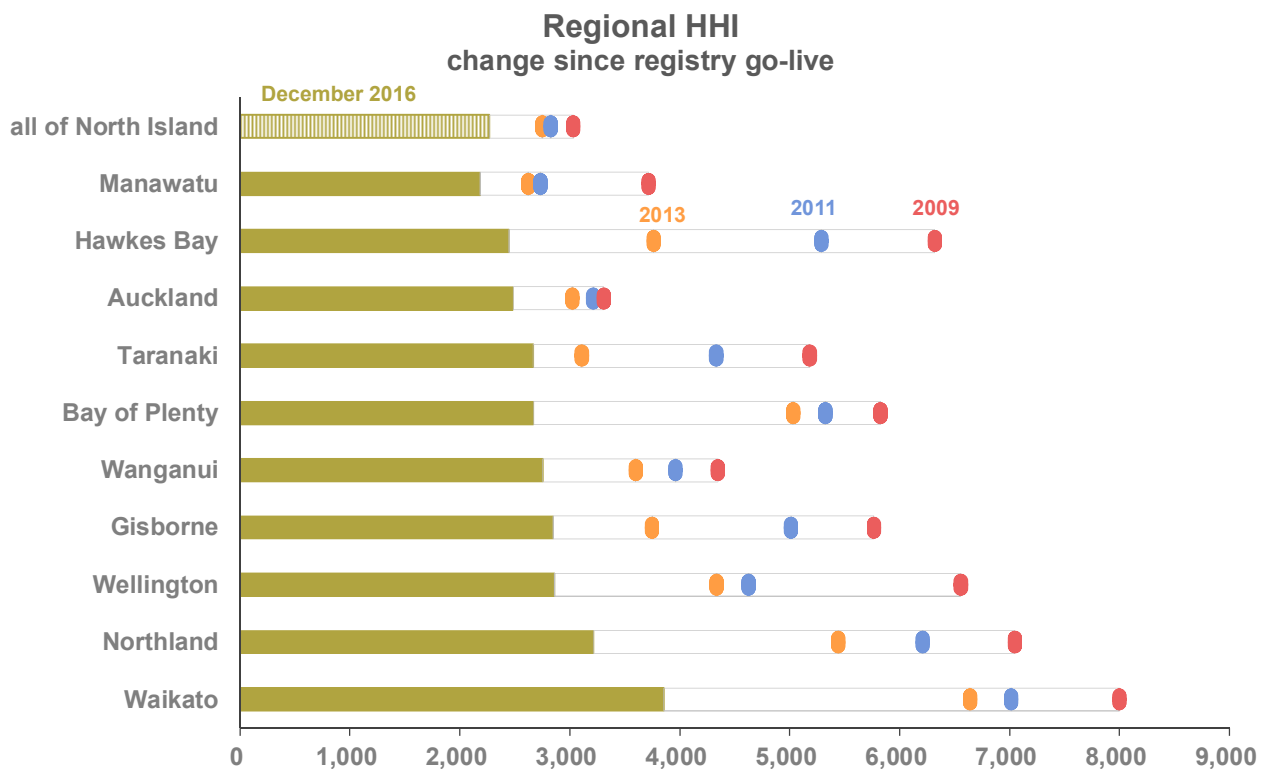
- In this chart, consumer segment is determined by the load shedding category listed on the gas registry for each consumer site. The top set of bars shows the same set of data as the previous chart. The other sets of bars show how some retailers are more dominant in specific sectors of the retail gas 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 4% of market share in a category.

Chart 12a: Customer market share by region



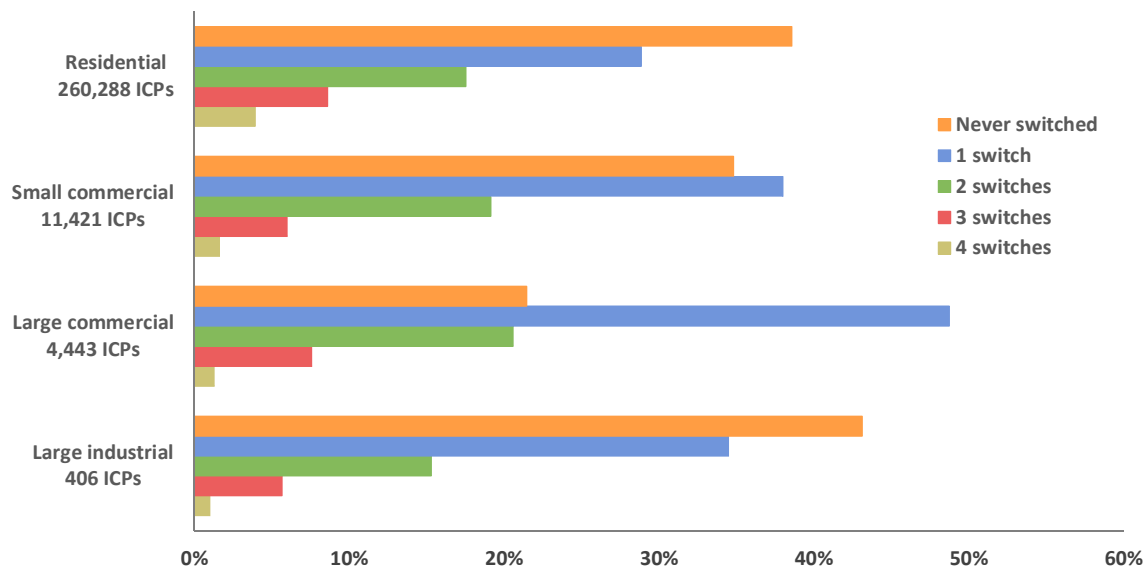
- This chart shows the number of ICPs for each retailer in each geographical region. The retailers shown each have over 1% of total customer market share.

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 2,269, in comparison to 3,033 in February 2009 (the start of the registry).

Chart 14: Switching by consumer sites since 2009

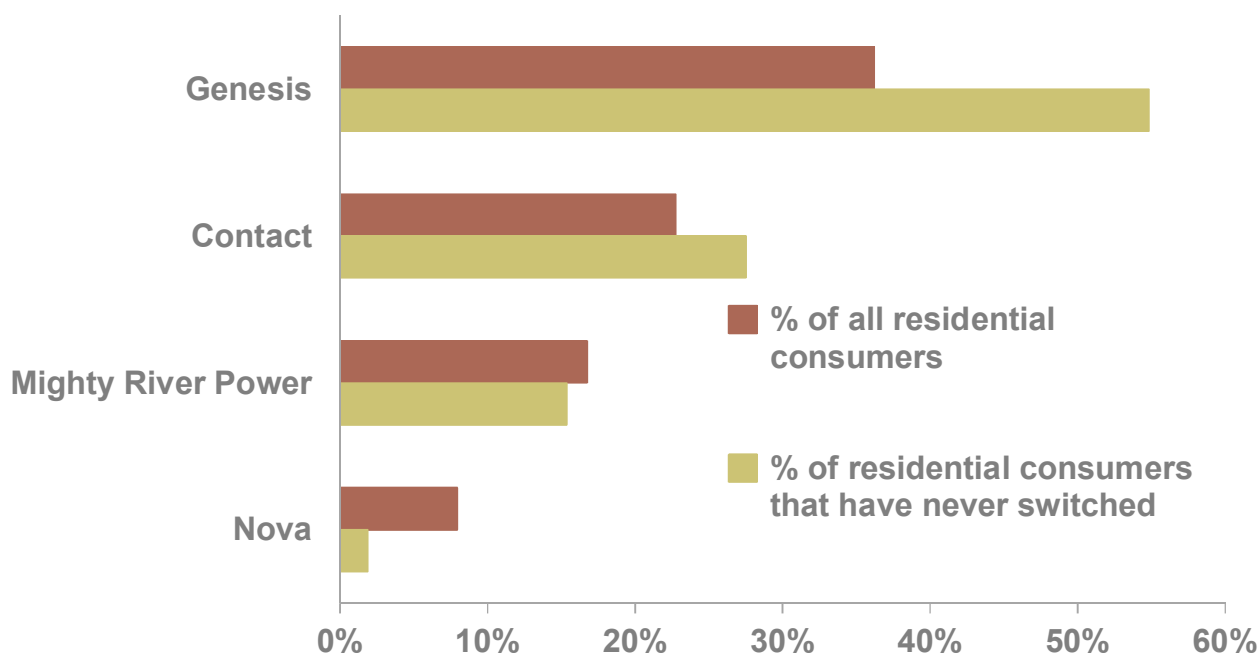


As with Chart 12, consumer sites in this chart and Chart 15 are categorised based on the load shedding category recorded in the gas registry.

- 61% of residential consumer sites
- 65% of small commercial sites
- 79% of large commercial sites; and
- 57% of large industrial sites

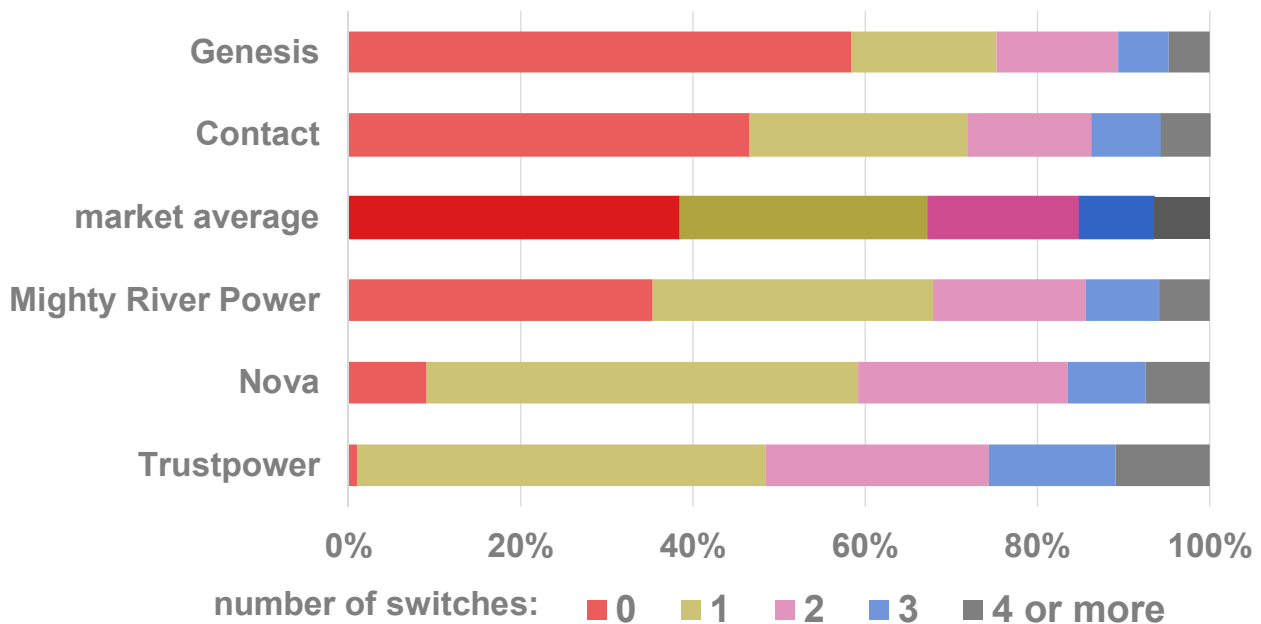
have switched retailer at least once since the start of the gas registry (February 2009).

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 36% of the total residential market, and about 55% 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: 39% of residential consumer sites have never switched retailer; 29% have switched once; 18% have switched twice; 9% three times, and 6% four or more times.
- The other bars enable comparison with retailers' residential customer bases. 58% of Genesis customers, for example, have never switched; the proportion is 47% for Contact customers.
- In contrast, Trustpower has built its customer base almost entirely through switching: 47% of its customers have switched once; 26% 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 would be counted as switches in this context.

Chart 16: Switching activity by retailer

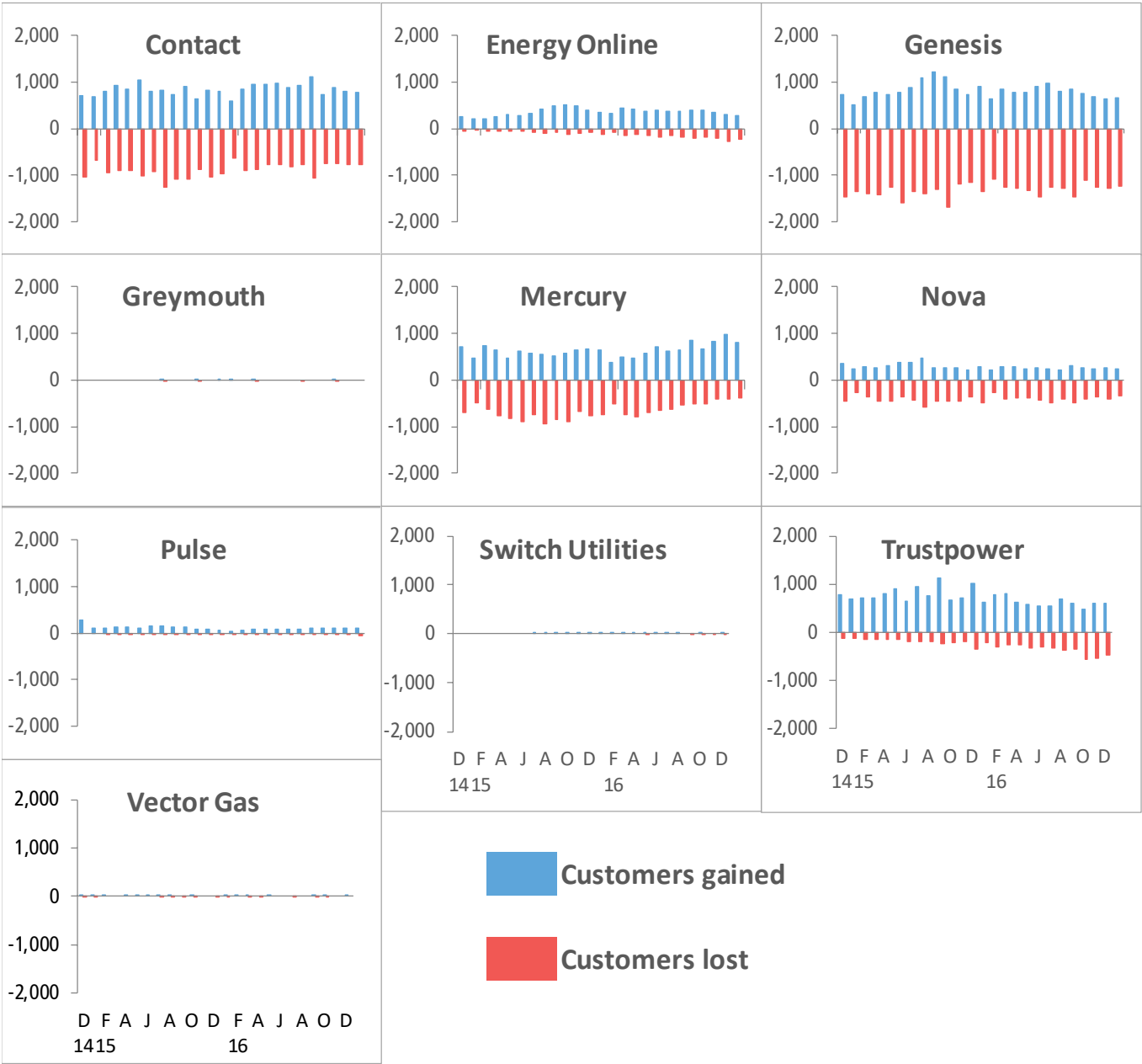
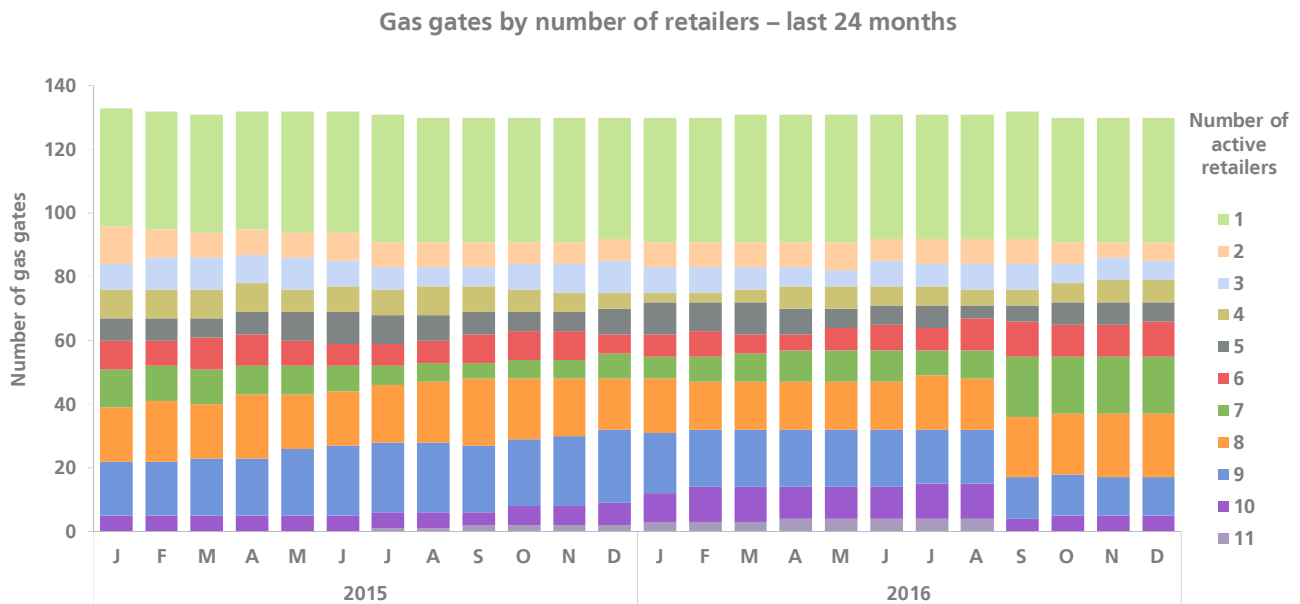
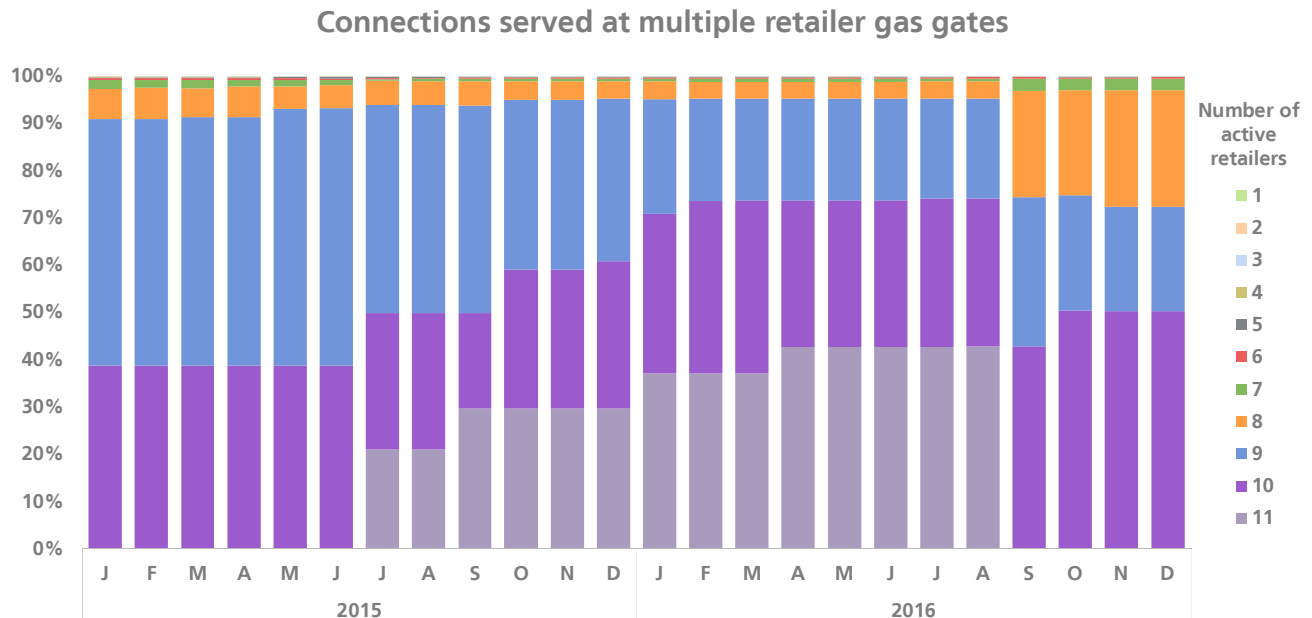


Chart 17: Gas gates by number of retailers



- With the amalgamation of Energy Direct and Trustpower, there are now ten retailers trading at some gas gates in Auckland and Wellington.

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

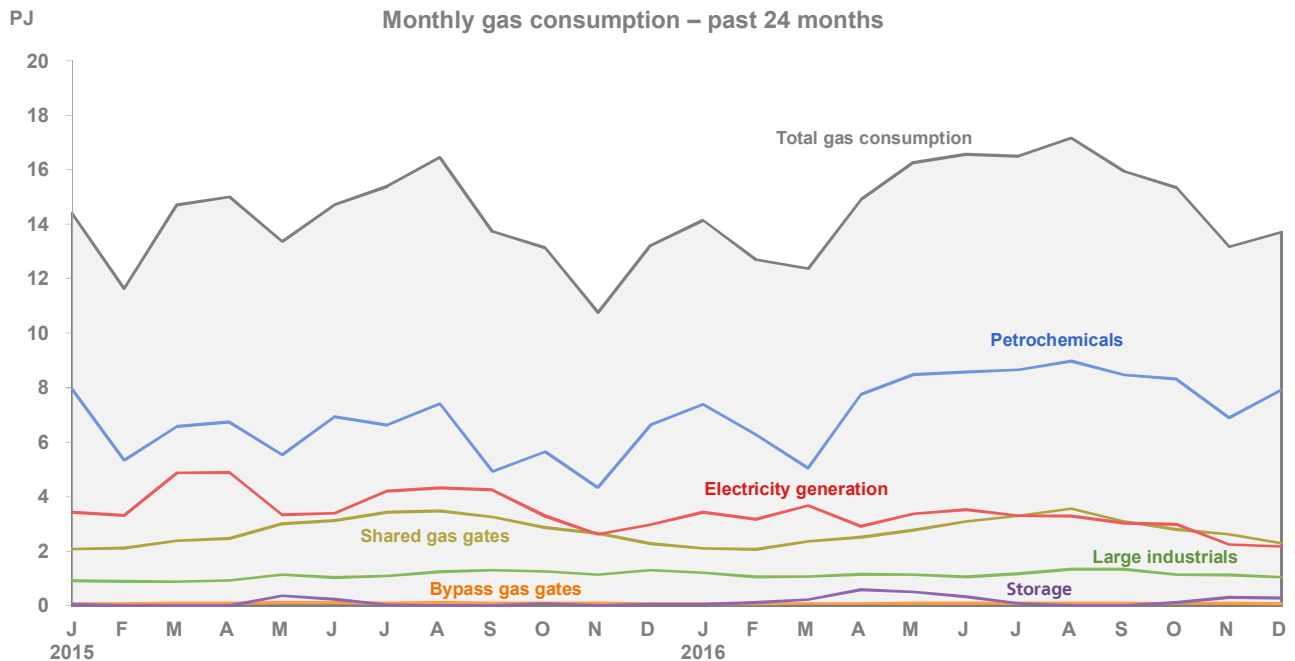
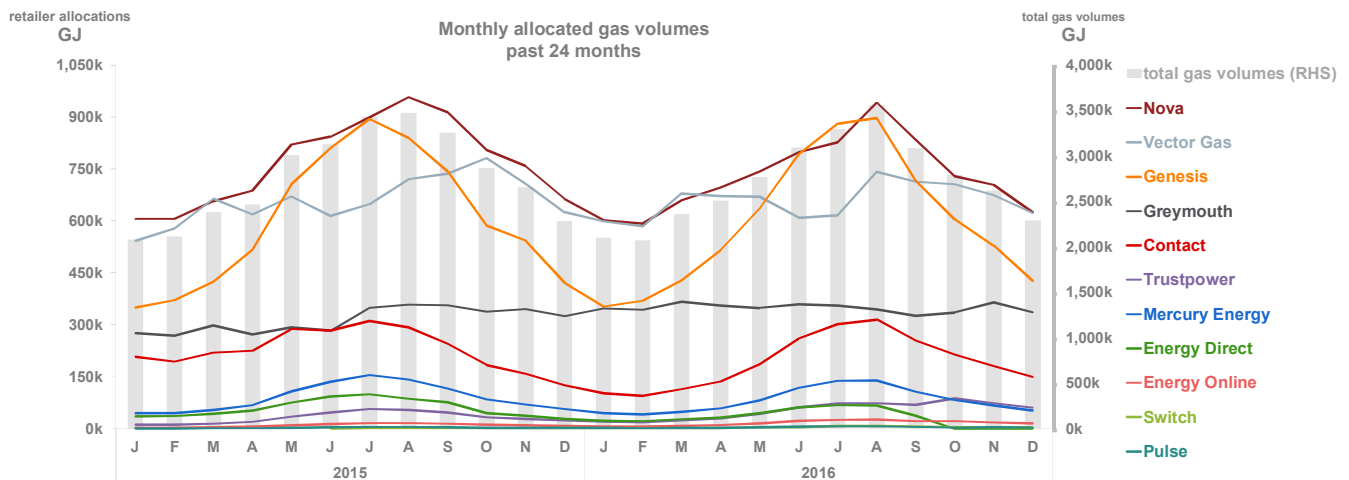
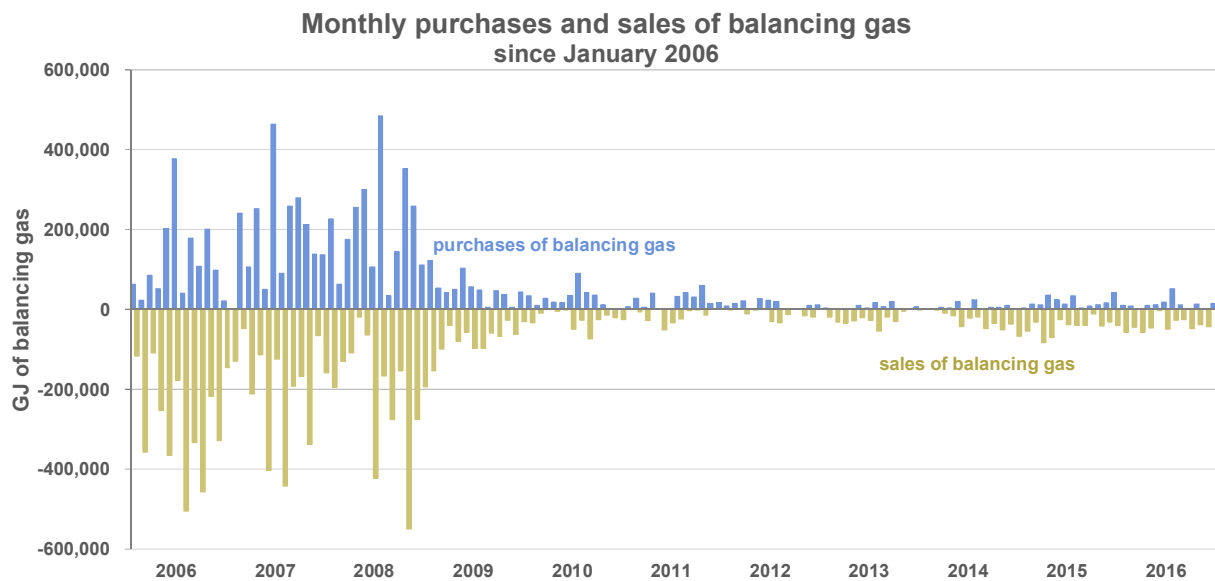


Chart 20: Allocated gas volumes



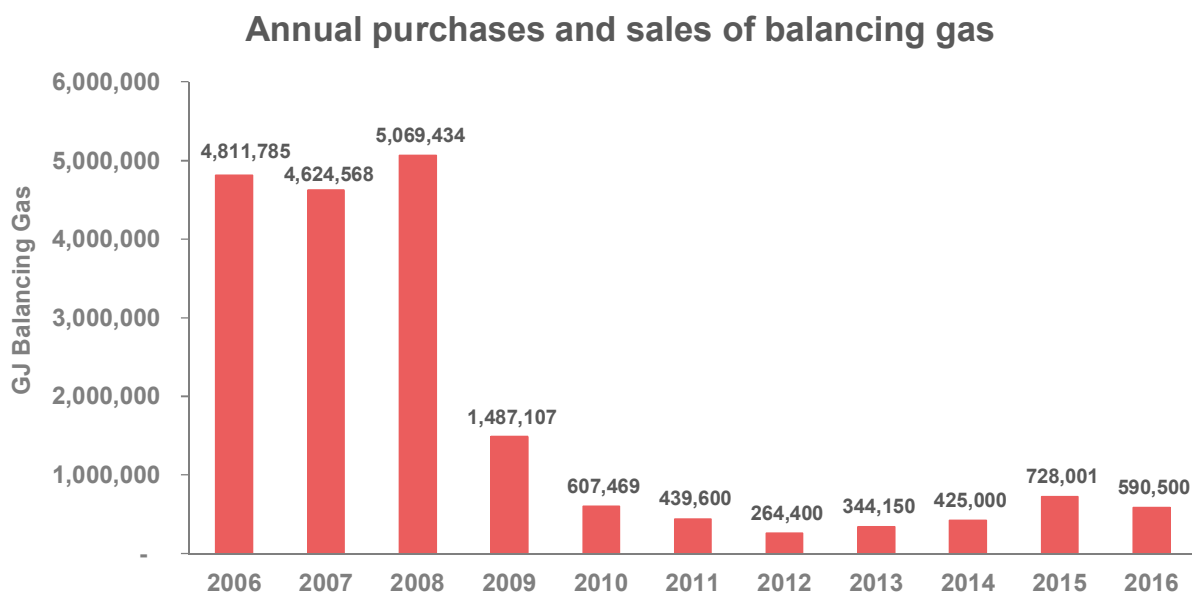
- The data are from a mix of allocation stages: Final through November 2015; Interim for December 2015 through September 2016; and Initial for October through December 2016. Note that the initial allocation data are those initially produced by the allocation agent, not the D+1 allocations that were used to replace the initial allocations.

Chart 21: Balancing gas volumes



Source: MDL, bgx.co.nz, and bgix.co.nz

Chart 22: Annual volumes of balancing gas



Market Based Balancing (MBB) has been in place since October 2015. This set of arrangements is designed to target the costs of secondary balancing (i.e. balancing undertaken by the transmission operator) to parties that are out of balance.

A review of MBB published in November 2016 by Gas Industry Co found that, since October 2015, imbalance on the pipeline has decreased, both on the Maui and ex-Vector transmission pipelines, indicating that shippers have improved in balancing their own positions (primary balancing). However,

as shown by the charts above, this improvement in primary balancing has not resulted in a decrease in secondary balancing volumes. Since the introduction of MBB, secondary balancing transactions have used the emsTradepoint market (rather than the BGX, which limited the parties that could participate), which has led to a narrower price spread between put and call gas transactions.

5 Critical Contingency Management performance measures

There were no critical contingencies during the quarter.

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 customers of a single retailer.
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.
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 a 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.