

Post implementation review of the retail data project

11 June 2019



Executive summary

The retail data project (RDP) aimed to increase consumer participation in the electricity market and by doing so increase competition and innovation. The objective of the project was to increase consumer participation by making it easier for consumers to decide about the products and services they consume. To do this, the project aimed to allow consumers and their agents easier access to and use of the information they need for these decisions. This information included consumption, connection, and retail tariff data.

The project also aimed to make access to this information easier for third party providers (TPPs), so they could provide consumers with an easier way of making decisions, and use the data to come up with innovative new services for consumers. The Authority believed that consumers would most likely receive the benefits from accessing their data through TPPs.

Some elements of the project have been successful

For access to connection data, the Electricity Authority (Authority) developed an application programming interface (API). This API allows users to get information about the consumers installation control point (ICP), such as metering type and network area, on-demand. It has allowed price comparison websites (PCWs) to more accurately reflect tariffs available to each consumer. Some retailers are also using it to improve market analysis and monitoring. TPPs (including PCWs, brokers and other agents) that we talked to and retailers interviewed by UMR viewed the API as a welcome initiative, although small improvements and additions are still possible. These include:

1. Improving the quality of addresses
2. Adding more data fields (from data already in the registry but also augmenting the data in the registry)
3. More standardisation of the data in the registry

Access to tariff data has not been as successful in the sense that the (voluntary) standard format is not being used and retailers provide TPPs with tariff data in different formats. However, this does not necessarily hinder the use of such data, but increases set-up costs and therefore makes it difficult for anyone who does not use the data repeatedly. It also reduces the responsiveness of TPPs tools and increases the opportunities for errors. It may also prevent tariffs from becoming more dynamic.

There have been some small improvements in access to consumption data for consumers. Some retailers have set up automated procedures to process requests while others have set up online access to data for customers as a direct result of the RDP. However, this is not universal. While many retailers enable their customers to access insights from their data online or via applications, many have done this regardless of the RDP.

The innovation and competition via new products and services envisaged by the RDP has been hindered by the difficulty third parties have accessing consumption data on behalf of consumers. Retailers justifiably manage their privacy risks, but doing so delays data access. Retailers have little incentive to speed up the process since they are the ones who have to pay for it, would lose any benefits associated with being the sole user with easy access to the data, and increase the risk of privacy breaches.

An important lesson from this review is that participants are unlikely to voluntarily change their behaviour unless there are clear private benefits from doing so. In this case, retailers have little

incentive to speed up the process of allowing TPPs access to data due to costs being their responsibility, the potential loss of benefits associated with sole access to the data and the potential reputational damage associated potential privacy breaches. A careful evaluation of private benefits and costs is important for determining whether facilitation approaches can be made to work.

To keep innovation improving, there needs to be timely access to quality data. Access needs to be quick enough that consumers remain engaged in the process, which may need to be seconds rather than days. Retailers report few requests for such data, and as such remain reluctant to invest in new systems and processes to automate processing such requests. But until TPPs can access this data in a timely manner, demand is unlikely to increase.

Indicators of consumer participation suggest that New Zealand's relatively high level of engagement has not increased materially since the RDP Code changes. While the number of consumers switching has increased slightly, the percentage of residential ICPs that have never switched decreased at a similar rate after the RDP changes as it did before the changes. Additionally, the estimated annual amount that consumers could have saved on average was \$196 in the North Island and \$242 in the South Island in 2017, an increase from previous years. Finally, answers from consumer surveys show little or no change after the RDP Code changes came into effect. These include the percentage of consumers who thought it was worthwhile reviewing their electricity provider or actively shopping around for the best deal, or who thought it was likely they would switch electricity retailer.

Governments in other countries have taken different approaches to enabling timely electronic access for TPPs. They acknowledge this is needed if they want to increase the use of data and support the development of innovative services.

- The Green Button in the US uses Open Authorisation – an open standard for token-based authentication and authorisation on the internet – to allow seamless authorisation for third party access to a customers' data.
- The UK is now working towards mandatory Midata following previous work in 2014 and 2015 to implement voluntary Midata. The new project expects to deliver a data standard, a compliance and enforcement regime, and a license condition by June 2019. Midata aims to develop a method of electronically transferring customers' data (with their consent) from a supplier's system to a TPP.
- Also, a new Data Protection Regime came into force in the UK this year, which includes a new right for data subjects to request their personal data is electronically ported from a data controller, to them or a third party, without hindrance.
- Australia is introducing a Consumer Data Right (CDR) that will give consumers more visibility and control over data that relates to them. Importantly, consumers will easily be able to authorise third parties to access their data in a standard, machine-readable format. Many of the current impediments identified for third parties accessing consumers' data in Australia may also apply in NZ, including different assessments by retailers about what is required to manage privacy risks and obligations.

Of the TPPs we talked to and retailers interviewed by UMR, the view was the RDP project had not delivered the expected benefits. While one TPP mentioned that it was greatly heartened by the RDP work, working towards an automated system would be great, and every step in that direction would be much appreciated. Another said that "the Code changes did not go far enough."

The Authority already has other projects that are identifying barriers to data access. These include projects on mass participation, data and data exchange, and multiple trading relationships.

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1 Terminology used in this report

Term	Definition
Third party provider (TPP)	A company that provides electricity services to consumers, but is not a registered participant in the electricity market. Includes companies that provide price comparison websites, brokers, energy managers, and other agents.
Price comparison website (PCW)	A website or application that consumers use to filter and compare products based on price, features, reviews and other criteria. A subset of TPPs – ie, participants such as retailers who offer a price comparison service are not included.
Agent	Anyone acting on behalf of a consumer or consumers, with the consumers consent. Includes third party providers such as brokerage firms, comparison websites, and energy management advisors. Also includes participants such as other retailers.
Authorisation process	The process where a data controller (here a retailer) verifies that the customer is who they say they are (looking at evidence that establishes or confirms this), and then establishes or confirms that this customer has given consent for the agent to access their data (either through looking at evidence given to them or contacting the customer directly).

2 We reviewed the three components of the RDP

Post-implementation reviews assess the effectiveness of regulatory change

- 2.1 This paper presents the Authority's post-implementation review of the retail data project (RDP) (the project). The Authority introduced the changes to the Electricity Industry Participation Code 2010 (Code) that were a result of this project on 1 February 2016. The purpose of a post-implementation review is to evaluate an initiative against its expected outcomes. From the Authority's perspective, this enables learning about how regulatory decisions—or decisions not to regulate—are affecting the sector and whether further policy action is required.

We reviewed the three initiatives of the project: consumption data, tariff data, and connection data

- 2.2 The RDP included action to increase access to three kinds of data:

- (a) Consumption data (including a focus on half hourly data)
 - (b) Retail tariff data
 - (c) Connection data
- 2.3 Section 3 discusses the changes that the Authority introduced under each of these areas.

3 The RDP aimed to make it easier for consumers to access their information

The project aimed to increase consumer participation

- 3.1 The RDP aimed to make it easier for all consumers to access and use their consumption and connection information, and quickly access information on the retail tariffs available where they buy electricity.¹ The project also aimed to make this data access easier for PCWs and other TPPs, enabling TPPs to provide relevant and accurate tariff information and provide innovative new services to consumers. It was expected that this would enable consumers to make more confident, better and faster decisions, including deciding whether to switch retailers or plans.
- 3.2 The Authority expected that consumers would become more active and informed, leading to increasing numbers of consumers shopping around. This increased shopping around would provide incentives for increased competition between existing retailers, and encourage new retailers and energy services companies to enter the market. Increased competition would then encourage retailers and TPPs to develop more innovative products and services and seek operational efficiency gains. Effective competition provides significant benefits for consumers through greater choice, lower prices, and better quality products and services (including through innovation).

The project resulted in Code changes relating to access to consumption and tariff data, and an API for connection data

Consumption data

- 3.3 The Authority amended part 11 of the Code to give consumers access to their electricity consumption data in a way they can easily use. The key elements of the amendment were:
- (a) Retailers must provide up to 24 months of consumption data if requested by a consumer or the consumers agent.
 - (b) Retailers must provide (if the request does not specify summarised data) the consumption data they use to calculate the amount of electricity conveyed to or from the consumer, or to provide a service to the consumer. Retailers must provide the most granular data they have used for the consumer. This does **not** include data used in the reconciliation process.²

¹ The project was aimed at consumers who purchase electricity through a retailer (rather than those who purchase electricity from the wholesale market). This includes residential consumers and small-to-medium sized businesses.

² This means if the consumer's meter can measure half-hourly data but the retailer does not use data to this granularity, they do not need to provide the data to this level of granularity.

- (c) Retailers must use a standard format to exchange consumption data, if requested in this format.
- 3.4 When meeting a request, a retailer:
- (a) Must give the information to the consumer within five business days
 - (b) Must not charge the consumer (or the consumer's agent) for their first four requests in a 12-month period. Retailers can impose a reasonable charge if a consumer makes more than four requests in a 12-month period
 - (c) Must protect consumers' privacy
 - (d) Must treat a single request by an agent for multiple consumers as a request by each consumer
 - (e) Must respond to the request in the manner in which it is made, or in the manner the consumer requests.
- 3.5 Importantly, the five business days mentioned above apply from the time when the retailer has all of the required information to be able to verify the proper identity of the consumer to which the request applies. The five business days allow the retailer time to be satisfied that the consumer has given consent to the TPP to access their data (some get in touch with the consumer explicitly to confirm this, although this is not strictly necessary), and to gather the data. To comply with the Privacy Act, retailers need to both verify the consumers' identity and be satisfied that consent has been given (ie, follow what we call here an 'authorisation process').
- 3.6 The Authority decided against an alternative option of a central meter data store, which would hold all consumption data. It believed this option would be materially more expensive and would take much longer to implement. It did however note that this option could provide wider benefits such as synergies with reconciliation and improved reporting on embedded generation. It therefore agreed with submitters that it should not entirely discount this option. The Decisions and Reasons paper stated that 'The Authority could reconsider [this option] if the modified Code amendments do not materially improve consumers' access to their consumption data, and/or if a review of reconciliation and settlement arrangements points to significant net benefits from its use.'³

Tariff and connection data

- 3.7 The Authority decided to:
- (a) Amend the Code to require all retailers to provide generally available retail tariff plans to any person who requests them⁴
 - (b) Develop a standardised file format with a technical working group for supplying retail tariff plan data, for voluntary adoption⁵
 - (c) Make publicly available connection data held in the registry, via an application programming interface (API).and a web user interface (ie, an application).

³ *Retail data project: access to consumption data decisions and reasons paper*, available here: <https://www.ea.govt.nz/development/work-programme/consumer-choice-competition/retail-data/development/decisions-and-reasons-paper-published/>

⁴ 'Generally available' is explained in Appendix A.

⁵ The technical working group included representatives of retailers, third-party retail tariff comparison service providers and consumers.

- 3.8 The Authority intended the web user interface primarily for consumers, and expected the API to be used by PCWs and other TPPs.

Together these data components contain all the information consumers need to make decisions

- 3.9 Connection data allows consumers or their agents to identify the tariff plans that are applicable to them. To compare accurately the tariffs available to them, consumers or their agents also need to know their annual electricity use (or their use over a day for some tariff options). Therefore, all three data components of the RDP are needed together for consumers to make accurate decisions about who they purchase electricity from.
- 3.10 Other energy-related investment decisions may require consumers or their agents to make use of consumption data at a greater level of granularity (eg, half-hourly). This interval data may also become more important for assessing tariff options as tariffs become more complex in the future.
- 3.11 If consumers or their agents cannot easily access information about their current use, they may make assumptions about their use that may lead them to making a sub-optimal choice. Or, they may have a lack of confidence in the advice given by the agent, and prefer inaction to avoid making an incorrect decision.

The Authority identified and quantified the benefits when the Code was amended

- 3.12 The Authority expected to achieve the benefits identified in the proposal through allocative, productive, and dynamic efficiency gains. These benefits can be summarised as:
- (a) More consumers comparing and switching (allocative efficiency)
 - (b) Retailers operating more efficiently (productive efficiency)
 - (c) Increased competition leading to greater innovation in products and services (dynamic efficiency).
- 3.13 While the Authority recognised the inherent uncertainty and difficulty in calculating these expected benefits, only a very small benefit was required to offset the expected additional costs to retailers.
- 3.14 The Authority estimated the overall costs to be between \$775,000 and \$1.7m (2015 dollars). These overall costs included:
- (a) costs to the Authority to complete the connection data API and develop standardised file formats
 - (b) costs to retailers to modify systems and processes to enable the exchange of consumption data
 - (c) costs to at least one entity to put retail tariff plan data in the standardised file format.
- 3.15 The resulting Net Present Value (NPV) - including only the static efficiency benefits – was therefore -\$0.12m to > \$4.22m. However, the Authority believed there would be a significant dynamic benefit for consumers from the project (and for the economy more generally). Since this benefit is hard to measure the Authority did not include it in the NPV. Thus the Authority expected the benefits of the project would outweigh the costs.

- 3.16 The Authority assessed these costs and benefits over a 10-year period. It expected the full benefits and costs to take some years to be realised (eg, five years), but to continue indefinitely. The Authority argued that technology change will result in changes in how retail data is captured and changed, which should lead to the ongoing realisation of the benefits from the project.

Table 1: CBA estimated benefits

Benefits	Present value (2015 dollars)
Allocative efficiency benefits	\$665,000 to \$2.7m
Productive efficiency benefits	\$920,000 to \$2.3m
Dynamic efficiency benefits	Significant (many \$m)

4 Some aspects of the project were successful, but overall the project has not delivered the expected outcomes and is unlikely to do so without changes

- 4.1 For this review, we talked to TPPs and surveyed retailers to gather their feedback on how the changes have worked - or not worked - for them. We also looked at indicators of consumer engagement and competition.
- 4.2 We talked to eight TPPs, including:
- (a) five existing price comparison websites (PCWs)
 - (b) one PCW incorporating power and gas on its site soon
 - (c) two volume agents (ie, agents who routinely deal with organisations that operate on behalf of many ICPs).
- 4.3 UMR surveyed 13 retailers (all 18 retailers with more than 1000 ICPs as at 31 July 2018 were asked to take part). UMR's report can be found in Appendix D.
- 4.4 All TPPs we talked to, and some retailers UMR interviewed who use the API, said the connection data API was a welcome initiative and very useful. There were suggestions for the Authority to add more data to the API, and the main issue mentioned was around the accuracy of addresses in the registry.
- 4.5 TPPs said that access to tariff data is adequate and remains a secondary issue to access to consumption data. Retailers felt that PCWs accurately reflect tariffs on their websites but do not capture non-financial benefits, such as fuel rewards or airpoints earned, or add-ons such as TV streaming services.
- 4.6 TPPs told us that retailers use the Privacy Act as a reason to delay the authorisation process, and many retailers have different authorisation processes. Managing privacy

risk and complying with the Privacy Act is a legitimately big concern for retailers (mainly because of reputational damage if a consumer's privacy is breached). However, retailers may also have incentives to delay the process, such as unwillingness to pay to set up automated procedures and the loss of any benefit associated with being the sole organisation with easy access to the data. Additionally, the Privacy Act includes responding in a timely manner to any requests for information under information privacy principle 6 of the Act.⁶

- 4.7 Many retailers (about half surveyed by UMR) still have manual processes for getting the requested data (once authorisation has been confirmed). The reason these retailers gave for not setting up automated procedures was a lack of demand.
- 4.8 TPPs told us that inadequate access to consumption data remains a barrier to innovation in products and services. Access to such data needs to be timely for third parties acting on behalf of consumers. By timely, we mean that access is quick enough that consumers remain engaged in the process, which may need to be seconds rather than days. However, the current processes for authorisation, and the lack of investment in automating processes to deal with such requests, delays the processing of TPP requests for consumption data. While these access issues remain, requests for such data are likely to remain low.
- 4.9 Other findings include:
- (a) According to PCWs we talked to, no retailers use the voluntary EIEP14 format to transfer tariff data to them, although three retailers surveyed said they do use it.
 - (b) All retailers use different formats for sending tariff data when requested. This results in a costly set-up operation for anyone who would like to receive tariff data from all retailers, and is inhibiting one-time requests.
 - (c) Access to insights using consumption data is now easier for most consumers with most retailers setting up online access or creating apps for their customers, but only some of those surveyed said they set these up in response to the RDP. Some retailers still do not provide consumers with the option to download their data, and TPPs still struggle with authorisation processes
 - (d) A common theme among retailers surveyed was that more communication and education for customers and agents is needed
 - (e) Some retailers acknowledged there are barriers to providing data, or to efficiently providing data. These included:
 - (i) Cost – not worth it to set up automated systems because of a low number of requests
 - (ii) Privacy act implications – the Authority has not been clear about the implication of the Privacy Act in respect of retailers providing data
 - (iii) Streamlining the authorisation process
 - (f) The EIEP13 transfer file set up is good, but TPPs need timely access to consumption data:

⁶ Privacy Commissioner, *Submission to Multiple trading relations consultation paper 2017*, available at <https://www.ea.govt.nz/dmsdocument/23211-privacy-commissioner>

- (i) An API to access consumption data would allow this and mean TPPs would use actual consumption data in their calculations
- (ii) The authorisation process needs to be more timely and consistent across retailers before this can happen.

The connection data API has been successful

Powerswitch and other PCWs have more personalised results

- 4.10 All PCWs we talked to except one use the API to personalise the results they show on their websites, although they use it in different ways. The one PCW who does not currently use it said it is on its roadmap to try to include this data.
- 4.11 One PCW offered two routes on their website – one using the consumers ICP and one searching for the consumers address in the API. This second route only involved using the customer’s network region from the API. However, all other PCWs and the alternative route for this particular PCW also use other information such as the current retailer, and meter configuration and type, for example, whether the consumer has day/night metering, or whether they have a smart meter. This allows the PCW to filter tariffs that are more relevant to the consumer. It also allows the PCW to reduce its questionnaire, making it easier for the consumer.

Some retailers use it too, for market analytics and general monitoring

- 4.12 Six out of the 13 retailers interviewed said that they use the connection data API. There were also two respondents who were not aware of the API but showed interest in seeing if it would be useful for their organisation.
- 4.13 Those who use the API said they used it for market analytics and general monitoring, and most did not see any issues with the data. A few mentioned that overall the data is accurate since the API data is sourced from the registry, although one respondent did say that “registry data is only as accurate as the participants who enter it”.
- 4.14 One retailer mentioned that many retailers use the API for sales systems and their websites, to look up the ICP at the address and assign pricing according to what the metering and price category is for that ICP, although it’s unclear if this retailer was referring to the publically available API or the registry API (where retailers have access to more data fields, but are not allowed to use it for market analytics and monitoring). Another mentioned the API is useful in the switch process to enrich their data, so they do not have to wait for the switch files to come through.

TPPs and retailers find the API useful, although the accuracy of addresses could be improved

- 4.15 In a workshop with TPPs on 1 November 2016, TPP attendees agreed the Authority’s API is easy to use and that they use it a lot. In our discussions with TPPs as part of this review, TPPs again emphasised the API is very helpful and is a “fantastic tool”. One respondent said that it has made their life a lot easier, and takes out much uncertainty around available tariffs for customers. Most retailers surveyed by UMR who used the API also found it to be very comprehensive.
- 4.16 One issue that TPPs (and one retailer) mentioned with the API is address accuracy. The Registry Functional Specification sets out guidelines for distributors on how they should populate the address fields in the registry (which follow the A/NZ addressing standards). However, it is up to distributors to, where practicable, try to align their address data with

these guidelines.⁷ With the standard not always adhered to, this makes addresses difficult to search. Another issue with addresses that may be making them difficult to search is that the addresses relate to the ICP, not the physical address of the supplied building, or the postal address of the account holder. TPPs report about an 80% success rate in matching address to an ICP.

- 4.17 Two TPPs also mentioned other examples (in addition to addresses) of non-standardised data, making it difficult to map an ICP to the appropriate set of retail tariffs.⁸ If proposed distribution pricing changes are implemented this non-standardisation may become more of an issue. Tariffs may become increasingly complex, and consumers may increasingly rely on TPPs to communicate these or give them advice on how they can best take advantage of new distribution pricing. To be able to do this, TPPs need to be able to map ICPs to relevant distribution tariffs or retail tariffs.
- 4.18 The Authority is already looking at some of these issues as part of the multiple trading relationships (MTRs) project. The Authority may – either as part of the MTRs project or in future work - consider improving the standardisation of data in the registry and adding postal addresses to the data available in the API. Note that this would involve adding this data into the registry before it can be released through the API, and distributors would need to capture this information in their systems.

TPPs and retailers would like to see more data released through the API

- 4.19 Two TPPs we talked to said they would like historic data added to the API — a consumers' retailer and their network charge code over the past few years, with information on when these changed. Another TPP also mentioned the Australian and New Zealand Industrial Classification (ANZSIC) code of the consumers account would be useful to add, for better subsetting to relevant tariffs. The same TPP would also like to see Notice of Transfer added. This would enable them to understand the customer journey – to be able to see what is happening during the switching process and update the customer accordingly. Another TPP would like to see a flag added that would show whether the ICP can be invoiced as a Time of Use customer, to solve the problem it mentioned with non-standardised data.
- 4.20 Retailers can get all data in the registry, but are restricted in how they may use the data. Alternatively, they can get a limited set of data through the API but can use it for anything. This may be why only two retailers surveyed by UMR said they would like additional data added to the API. One mentioned that they would like more data about metering added. The other suggested the Authority should add the following information:
- (a) ANZSIC codes (for commercial customers)
 - (b) Address Property Name
 - (c) Status Reason
 - (d) ICP creation date
 - (e) Profiles
 - (f) Metering Component Type

⁷ https://www.electricityregistry.co.nz/bin_public/jadehttp.dll?MariaWebR,
<https://www.lin.govt.nz/regulatory/property-addressing/addressing-standards-and-guidelines>

⁸ One mentioned metering configuration details such as Distributor Price Category Codes, another mentioned register content codes.

(g) Settlement Indicator

- 4.21 The Authority is already investigating some of these additions as part of the MTRs project. The Authority will consider releasing additional data fields through the API, including (but not limited to) those mentioned above. Any privacy implications will need to be evaluated as part of this work.

Tariff data access is adequate

No retailers are using the voluntary EIEP14 format according to TPPs, but most have used a consistent format over time

- 4.22 All TPPs we talked to said that no retailers use the EIEP14 format to provide the data. However, the survey carried out by UMR gives conflicting information, as three retailers said they do use this format. TPPs thought the reason retailers do not use this format was the cost and time involved to develop systems and processes to use this format. The Authority – in conjunction with an industry technical working group – developed this EIEP format to make it easier for TPPs to get tariff data. However, each retailer provides the data in a different format and some use a different medium (eg, PDF, while most use excel), although they have been consistent over time. This consistency over time allows TPPs to set up an automated process for each retailer. However, for TPPs who do not request the data regularly, the different formats and mediums were an annoyance and required manual processing and adding cost to their processes.
- 4.23 Two thirds of the retailers interviewed said that they have not set up automated procedures or systems to deal with requests for tariff data by TPPs. Two retailers had never had any requests for tariff data. There was only one retailer who said they had set up automated procedures or systems.
- 4.24 The one retailer who had set up automated procedures to deal with requests said that its automated procedure uses the EIEP14 format. Two other retailers also said that they use the EIEP14 format for sending tariff data to TPPs, and one said they would use it if they received a data request for that format. The main reason for not using the EIEP14 format was that processes were already in place to provide the data and retailers deemed it not worth the cost to implement EIEP14, especially since the number of requests is low.

Access to tariff data is a secondary issue for TPPs

- 4.25 TPPs gave mixed answers on whether they thought tariff data was easy to get from retailers. Those TPPs who regularly received tariff data from retailers said that it was easy, and getting easier over time, although one said that it takes a lot of time to get the data (compared with their experience in other countries). This could reflect the low investment by retailers in automating processes.
- 4.26 On the other hand, those TPPs who have only requested tariff data occasionally (one had only asked all retailers three times, the other had only tried to get this information before EIEP14 became available in November 2016) stated that it was not easy because of the different formats retailers use.
- 4.27 One of these TPPs also mentioned that, while retailers included all the information in the files, it was often hard to get meaningful information out of the files because some key metadata was missing. For example, a file may give multiple tariffs for different regions but not state which region each tariff belonged to. Another TPP who deals with large

customers also mentioned without a standard there were different levels of detail provided in the files and that sometimes they needed to make assumptions.

- 4.28 Some retailers provide regular updates of tariff changes without prompting, while others need to be checked by the TPP. No TPPs reported any accuracy problems with tariff data, except for uncertainty about whether the tariff data is up to date or not.
- 4.29 TPPs felt the current set-up of obtaining tariff data was adequate, and of secondary importance to the issues surrounding access to consumption data. TPPs stated that ideally tariff data would be in a standard format.⁹ A few TPPs also said that access in a timely manner through an API (perhaps direct from retailers) would be ideal (although not a top priority), ie, to be able to check and update tariffs automatically. One TPP mentioned they can already do this with the broadband sector with most providers.

The Code changes for consumption data access did not enable timely access for authorised representatives

No PCWs access consumption data direct from retailers

- 4.30 No PCWs ask retailers on behalf of consumers for consumption data as envisioned by the RDP. Instead, three of the five current PCWs give the option for consumers to enter consumption data from their bill.¹⁰ This means that they all use partial or representative consumption data rather than a consumer's specific consumption pattern over a 12-month period. They all allow the consumer to enter more than a month of data, but only a total kWh figure. This means the results may lack accuracy and don't support consumer decisions around time of use plans (currently this may not be such an issue with only a few retailers offering tariffs based on time of use to residential consumers, but could be in the future). It also means consumers need to spend time looking up their bill.
- 4.31 In October 2016, Powerswitch reported that only 12 per cent of Powerswitch users entered actual consumption data.¹¹ Of these people, 70 per cent only entered one month's or less usage, and 12 per cent entered 12 to 24 months of usage information.¹² That is, only 1.4% of Powerswitch users used long periods of actual data to make price comparisons. As at September 2018, this had increased to 36 per cent of Powerswitch users entering actual consumption data. However, 92 per cent of these people only entered 1 month or less usage information, and only two per cent entered 12 months or more usage information (ie, 0.7% of Powerswitch users).
- 4.32 Immediately after the Code changes, one PCW used the transfer hub to obtain consumption data from retailers to test its new service. The transfer hub is a Secure File Transfer Protocol (SFTP) set up by the Authority to enable the secure transfer of EIEP13 files. However, the PCW abandoned this business model after the testing phase because of the issues around getting access to consumption data.

⁹ Most TPPs did not specify the standard format, but one said they would like all retailers to use the format associated with their software, and said that this format accounts for all tariff structures.

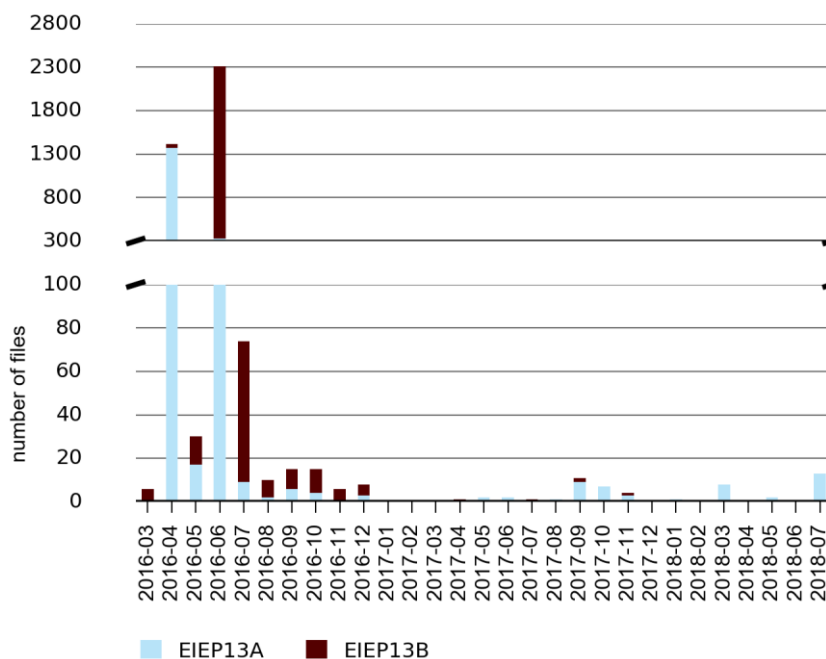
¹⁰ Note that one currently operates a bulk tender process rather than a traditional price comparison website, see section **Error! Reference source not found.**

¹¹ Internal paper

¹² Consumer NZ, Implementing outcomes of the retail data project to provide consumers with a tailored price comparison service. Business Case proposal, October 2016.

- 4.33 At the time of writing, there were 24 non-participant companies registered as users of the EIEP transfer hub. Two of these were PCWs.
- 4.34 Data until 28 August 2018 shows that seven TPPs, one of which is the PCW mentioned above, have received EIEP13A or EIEP13B files through the hub. However, only three received these files in 2017, and this decreased to one in 2018. The only PCW to receive consumption data through the hub received these files mainly in 2016, receiving three files only in 2017 and none in 2018.
- 4.35 For all TPPs, there were more consumption files sent out in 2016 than in 2017 or 2018. Of the files sent out in 2016, 2147 were EIEP13B files and 1743 were EIEP13A files. From the beginning of 2017, 48 EIEP13A files and 5 EIEP13B files have been sent.
- 4.36 No TPPs appear to have used the hub to upload requests (EIEP13C). There were 24 EIEP13C files uploaded to the hub in 2016 and 2017 (none in 2018), the majority by distributors but four by two retailers.
- 4.37 There were 103 consumption files received by distributors and retailers (101 of these were EIEP13A files, ie summary data). Of these files, one distributor received 45 files in September 2016 (all from one retailer), and another distributor received 39 files, 38 in October 2017 and one in February 2018, all from three retailers.

Figure 1: Number of consumption data files sent to TPPs from the transfer hub, by file type



Source: Registry

TPPs said they need timely access to use consumption data, but current authorisation processes hinder this

- 4.38 The main issue TPPs we talked to had with access to consumption data is that gaining access to the data takes too long. TPPs reported that they usually get the data within the mandated 5 days (from when they request it from the retailer), although sometimes it can take longer. All the PCWs we talked to were not requesting consumption data from

retailers currently because of consumption data being unavailable in a timely manner. PCWs feel they need access to the data as soon as customers engage with their service for customers to remain engaged. They also had no plans to request consumption data in the future, unless the process of accessing data changed. Some currently give consumers the option to enter data from their bill, but none are using the EIEP13 process developed by the Authority.

- 4.39 Of the two TPPs we talked to who provide services to large customers (ie, multiple ICPs), one has abandoned using EIEP13 because of authorisation processes, while the other does use EIEP13, and has automated procedures in place to process the data when in this format. However, when asked how they would ideally like to receive consumption data, the latter company mentioned an API, while the first company (who abandoned using EIEP13), said the EIEP13 would be great to use **if** the authorisation process is fixed. They also have automated systems and processes in place to process the data from this format, but instead they have returned to using a letter of authority to act on the customers behalf. By using this letter, they can send this off with a list of ICPs, and they receive the data for all the requested ICPs in whatever format the retailer decides (as long as it's machine readable). With the EIEP13 authorisation process, this is not possible because many retailers have automated procedures in place which require a sign-off or code (from the customer) for each ICP.
- 4.40 TPPs would like timely access to consumption data, to enable or enhance how consumers engage with their services, and to allow new business offerings. One respondent said that currently it does not make sense economically to request consumption data from retailers. What it earns from each switch was not enough to cover the time and effort involved in getting consumption data. This respondent said that the Authority needs to force retailers to provide consumption data in a timely manner. Another also said that it is currently a 'waste of time' to ask for consumption data, and that retailers do all they can to delay the process as much as they can.

Retailers have different authorisation processes

- 4.41 Retailers have different authorisation processes, including non-electronic processes. UMR found through surveying retailers that the factors that impact on the authorisation process include:
- (a) The length of authorisation granted to agents
 - (b) The method of requests
 - (c) The level of demand for agent requests.
- 4.42 TPPs told us that retailers' authorisation processes include:
- (a) Two large retailers require forms to be filled in that the customer must sign (and do not accept an electronic signature).
 - (b) Another large retailer requires TPPs to fill in an online form, which they can do once they have the customers consent.
 - (c) Another large retailer requires the customer to log-in to their online account (many of which have never done so before, or even set up their online account), enter a code for the relevant agent, and receive a token number. The customer then needs to pass this token number on to the agent to enter into the EIEP13C request form.

- (d) A smaller retailer also requires the customer to log-in to their app, from which they can send an email to their agent to verify consent.
 - (e) All other retailers require a letter signed by the customer (and do not accept an electronic signature).
- 4.43 One TPP suggested the Authority should standardise or confirm a default authorization process. Two other TPPs said that ideally, TPPs would be able to get a standing or accreditation in the industry that would mean retailers could safely assume the TPP has gained the relevant consent from the consumer (with appropriate auditing). One of these TPPs also mentioned the UK Quick Response (QR) codes (see section 7), and that NZ could create something similar like a unique identifier on bills that customers could scan to authorise agents. This TPP said there is a double standard between retailers and agents. When a customer switches, the losing retailer does not have to check the acquiring retailer has authorisation from the customer to do so.
- 4.44 TPPs had mixed views on whether they thought retailers would be willing to enter into contracts with a TPP to provide ongoing access to consumption data regardless of ICP (ie, trusting the TPP has gained consent from the consumer to access their data):
- (a) The TPP mentioned above that deals with larger customers said it had never had a problem getting data provided it had a letter of authority, ie, followed a manual process.
 - (b) The other TPP we talked to that also deals with larger customers said it had not tried to get ongoing authorization regardless of ICP as it didn't think retailers would allow this.
 - (c) One PCW had explored this back in 2016 and found that no retailers would give ongoing access regardless of customer.
 - (d) Another PCW said it did manage to do this with some retailers. It entered into agreements with around five retailers, giving the right to the retailers to be able to audit and terminate the agreement if they found the agent had breached the agreement.
 - (e) Another PCW said it had not looked into doing this as the data would still take too long to get. They needed more timely data to support their services.
 - (f) And the final PCW said it is still looking into it. However, it thought that while it may be possible to get ongoing authorization regardless of ICP, it believed it would be easier to get ongoing authorization for specific ICPs.
- 4.45 When asked about how long they grant authorisation for agents, two of the 13 retailers interviewed answered that they had provided 'indefinite authorisation for an agent regardless of ICP' (from a list of answers provided by UMR). Four said that they provide access as 'indefinite if a customer appoints a trusted advisor to get this information whenever they want'.
- 4.46 Seven retailers said that they have in the past refused to provide data to an agent, and eight said that they have delayed consumption data requests beyond the five business days. These refusals and delays were mainly because of teething problems and agents not providing the required information to confirm authorisation. Five retailers said that they have set up automated procedures or systems to deal with requests for consumption data from agents (four of which involve the EIEP13 format).

The transfer hub process works, but a different process would be better

- 4.47 TPPs we talked to said the transfer hub is easy to use – “as a process, it works”. However, it is old technology and a different process would be better, such as an API. All TPPs (except one) we talked to said that they would ideally like to receive consumption data through an API. An API would provide more timely access and is easier to interface modern systems with than the FTP system (transfer hub). TPPs had mixed views on the granularity of data needed. One TPP mentioned the API should link direct to meter data management companies instead of the data held by retailers. They thought this would allow greater granularity in the data available, as retailers usually only give them monthly data.¹³
- 4.48 One retailer also acknowledged the EIEP13 process is not ideal for agents. They said “The EIEP13 process is hardly being used because it is not an effective way for agents to get the data.”
- 4.49 Some retailers mentioned the format of the EIEP13 file was not customer friendly. The answers seem to suggest that some retailers think they need to provide customers with this format, although the Authority never intended the Code changes to be interpreted as such. The Authority designed the Code changes to allow retailers flexibility in how they provided the data to consumers. The Code only requires retailers to provide the data in the EIEP format when it is requested in this format, and the format was designed to be a machine readable format. One retailer said “Our objection to the EIEP13 was that it was limiting how you could deliver it.” – although this retailer later acknowledged this format was intended for agents, not customers. Another retailer said “We struggle because the information isn’t actually anything that a customer can understand. So, under the Code we are not allowed to change any of that data or the format that it is in any way, so we are providing data that basically from a customer’s perspective doesn’t mean anything.” The Authority will consider increased education of any formats or processes implemented by it, for all affected participants and TPPs. Retailers also mentioned that more education was needed for TPPs and consumers requesting the data, as it would make the process more efficient.

Retailers acknowledge that barriers to providing consumption data exist

- 4.50 UMR asked retailers if they saw any barriers to providing consumption data. Four of the 13 respondents said yes to this question. However, some of those who said no did mention that sometimes there were limitations to the data they could provide. One mentioned there were barriers to providing data in a timely manner when TPPs did not request authorisation in the most efficient and appropriate way. Another said there are no barriers “as long as there is authorisation for third party requests”.
- 4.51 Three of the retailers who indicated they saw barriers to providing data mentioned that cost was a key barrier. This is because it is currently a manual process that requires significant staff resource. One respondent specifically mentioned the lack of clarity from the Authority about the implication of the Privacy Act for providing data. “The Authority hasn’t been clear about the implication of the Privacy Act in respect of retailers providing data. We do not have a standard functioning system, that means there is no incentive to invest in it, to automate it for the industry, so it has been a regulatory failure.”

¹³ Retailers are only required to provide data they use to calculate the amount of electricity conveyed to or from the consumer, or to provide a service to the consumer. This means if the consumers meter can measure half-hourly data but the retailer does not use data to this granularity, they do not need to provide the data to this level of granularity.

4.52 When asked for suggestions to make it easier to provide consumption data to agents, one retailer mentioned it would like the Authority to provide clarity on applying the Privacy Act for provision of data under the RDP. A couple of retailers also made suggestions around educating agents and customers. One mentioned a more efficient process whereby the agent sends them a pre-signed form by the customer. This put some of the responsibility back on the agent. Another mentioned issues with efficiency when agents did not know about the Code and that the Authority should provide education to agents.

A catch-22 situation

4.53 About half of the retailers interviewed who had received consumption data requests (six out of 11) had not set up automated systems to deal with such requests from TPPs, and two more retailers said they had never had any requests. The reason these retailers gave for not setting up automated procedures was a lack of demand. However, TPPs are not requesting the data because of the time it takes to get the data, which may leave the industry in a self-perpetuating circle where consumers find it difficult to make full use of the data available or the insights derived from it.

4.54 However, retailers also point out there is no demand from customers for them to give TPPs access to their consumption data. It could therefore be the case that consumption data requests would not increase even if retailers set up such automated procedures and allowed TPPs timely access to consumption data. However, it would be misplaced to make such an assumption based on the current situation - innovative products and services that are hindered by the current situation may increase consumers participation with such services. Thus a solution that removes the possibility for retailer incentives to delay the process of data access may be needed to break this cycle.

5 There is no evidence the Code changes have had any effect on consumer engagement

5.1 The aim of the RDP was to increase consumer participation. By making the information that consumers need more readily available and easily accessible to them or their agents, the Authority expected that it would become easier for consumers to decide whether to switch retailer or plan. Indicators of consumer participation include:

- (a) how much consumers could save if they switched
- (b) switching rates
- (c) how many consumers are using PCWs
- (d) how easy consumers feel it is to switch electricity retailer
- (e) information used for switching
- (f) how many consumers are asking for consumption data.

Summary

5.2 We found little evidence to suggest that consumer engagement has increased due to the RDP changes:

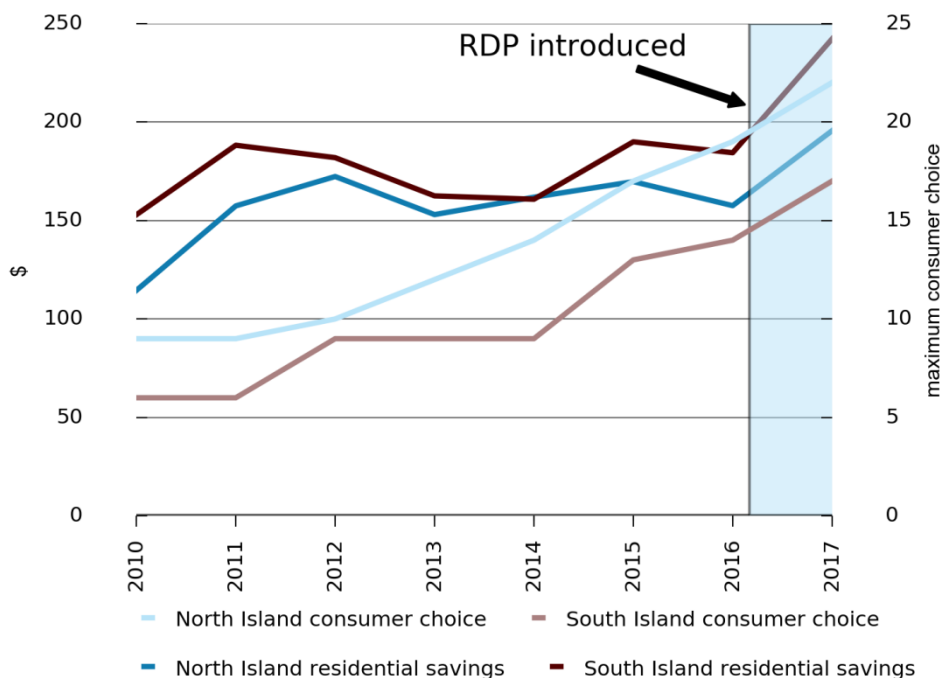
- (a) The Authority's estimates of how much consumers could save if they switched has increased in 2017 (after the RDP changes) from previous years.

- (b) While there has been a slight increase in the percentage of residential consumers who are switching in the past two years, the rate of decrease in the per cent of ICPs that have never switched has slowed down since the RDP Code changes.
- (c) More consumers are using the Powerswitch website, but it is hard to attribute this to the RDP.
- (d) There was little change in consumers' perceptions of how easy or worthwhile they think it is to switch from 2015 to 2018.
- (e) There was little change in consumers' answers about the information they used and the most useful information sources for switching from 2015 to 2018.
- (f) It is difficult to ascertain how many customers are requesting their consumption data.

Estimated savings from switching

5.3 The estimated average residential savings available each year has been fairly stable between 2011 and 2016, but increased markedly in 2017. This compares to relatively steady growth in the number of retail parent companies available for consumers to switch between.¹⁴ The average residential savings figures are estimates of the savings available in each calendar year if all residential consumers had switched from their electricity supplier to the 'cheapest supplier' in their region in each month. The figure is a measure of the average dollar amount that residential consumers would have paid above the cheapest retailer's standard offering in their region during that year.

Figure 2: Average residential savings



¹⁴ Consumer choice is the maximum choice of retail parent companies for residential ICPs on any network in the North Island and in the South Island.
https://www.emi.ea.govt.nz/Retail/Reports/J1K1K4?RegionType=ISLAND&MarketSegment=Res&_si=tglconsumer-choice.v3

- 5.4 A recent study by the electricity price review panel found an even higher potential average savings amount. The study analysed billing data from the nine largest retailers and estimated that residential consumers could on average save \$240/year to \$280/year by switching to a cheaper offer.¹⁵
- 5.5 The increase in average residential savings indicates that while there may be more competitive offers in the retail market, consumers are either not aware of these offers, do not trust the benefits will be realised or think the benefits of switching do not outweigh the costs. The RDP aimed to increase awareness and decrease searching costs to make it easier to switch retailer or plan by providing consumers and TPPs with easier access to data, so we would not have expected such an increase in these figures if the RDP had been successful (all else being equal).

Switching rates

- 5.6 The per cent of residential customers who are initiating switches per month (excluding move-in switches) has remained fairly constant since the Code changes came into effect. The average percentage (over each year) of customers switching per month has been around 0.8 or 0.9 per cent since 2014, or about 14,000-16,000 ICPs.
- 5.7 We can also look at the yearly moving average to gain more insight into the long-term trend of residential customers initiating switches. This moving average (of the percentage of customers initiating switches in a year) reinforces the observation above of a fairly flat trend from 2014. However, it indicates that initiated switches may have started to trend upwards since 2017. This yearly moving average reached an all-time high (since 2014) of 11.5 per cent in 2018.

¹⁵ This analysis did not assume all consumers switched to the absolute cheapest plan. Rather, the authors estimated savings based on 2 scenarios: consumers switch to a plan at the lowest 10th percentile of charges provided by non-incumbent retailers in their distribution network, or consumers switch to a plan at the lowest 5th percentile of charges provided by non-incumbent retailers in their distribution network area. The authors stated that one reason their figures are higher than the Authority's could be because the Authority savings estimates excluded fixed term contracts. Report available here: <https://www.mbie.govt.nz/info-services/sectors-industries/energy/electricity-price-review/consultation/analysis-of-retailer-billing-data.pdf>

Figure 3: Monthly residential switching rates

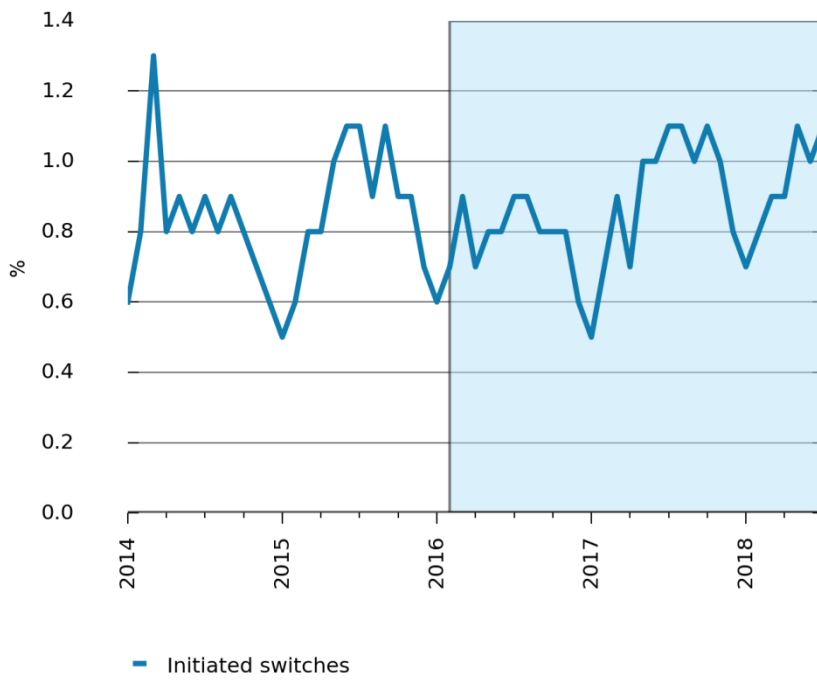
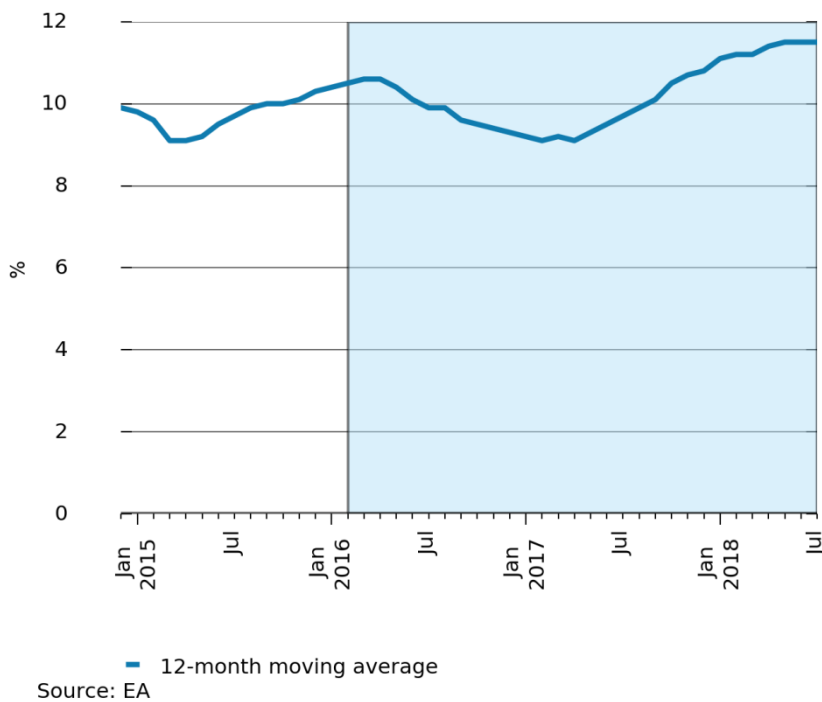


Figure 4: Yearly moving average of residential switching rates

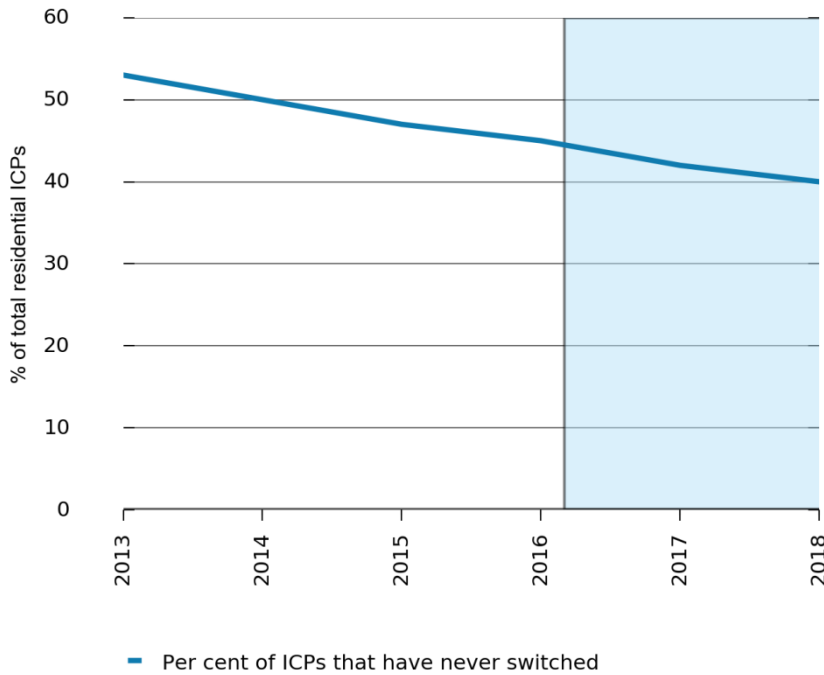


5.8 Forty per cent of residential ICPs have still never switched retailer (as at 31 August 2018).¹⁶ The per cent of residential ICPs that have never switched is decreasing, but

¹⁶ The switches counted are initiated switches and exclude move-in switches.

reasonably slowly at about 3 per cent per year (note: all years are at 31 December except 2018 which is at 31 August). This decrease has been similar but slightly slowing each year since 2013. At the end of 2015 the per cent of residential ICPs that had never switched was 47 per cent, and this had decreased to 45 per cent by the end of 2016. If the RDP changes had been successful, we may have expected to see an acceleration in this decrease after the changes.

Figure 5: Per cent of residential ICPs that have never initiated a trader switch

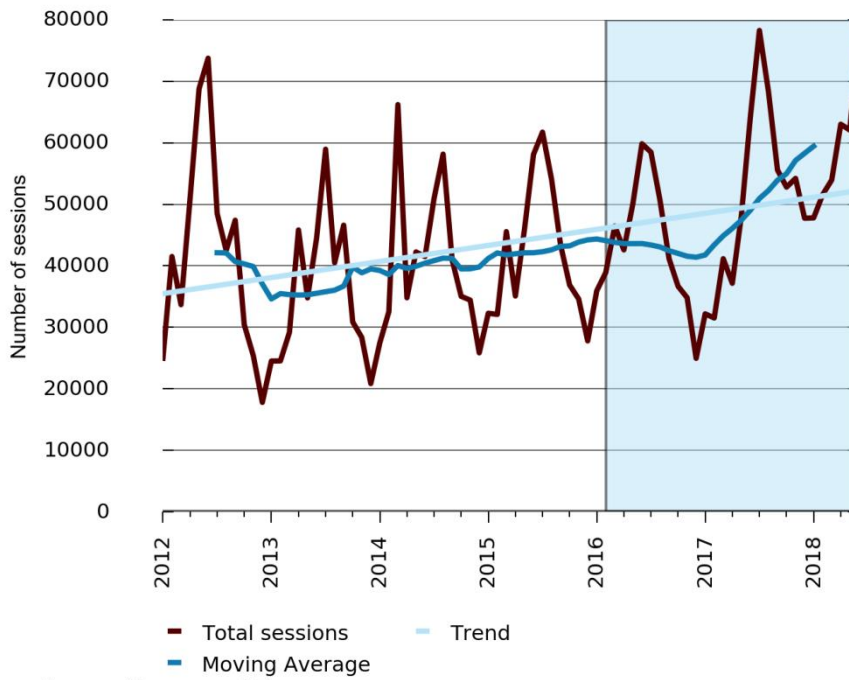


Consumers using PCWs

- 5.9 The number of visits to the Powerswitch website has increased, especially since around the beginning of 2017. The number of switches initiated through Powerswitch has also increased slightly in 2017. The number of sessions and switches initiated peaked at an all-time high (since January 2012) in July 2017. While this is indicative of increased consumer engagement, it is difficult to attribute this to the RDP. Other activity in the market, such as high spot prices during the winter of 2017 due to low hydro inflows, is also likely to have affected switching numbers. For example, many customers switched away from the spot-based tariff offered by Flick. Spot-based tariffs have only been offered in the market since 2015. If we exclude switches initiated on Powerswitch by consumers on spot-based tariffs, there is a smaller increase in initiated switches post-RDP. There is also a slightly decreasing linear trend since 2012, although this trend is not statistically significant.
- 5.10 The number of switches initiated as a percentage of total sessions has decreased. In 2012 the percentage of sessions resulting in a switch was 4.9%. In 2017 this was 4.4%. While this could be evidence of effective decision making being inhibited - as Cortexo

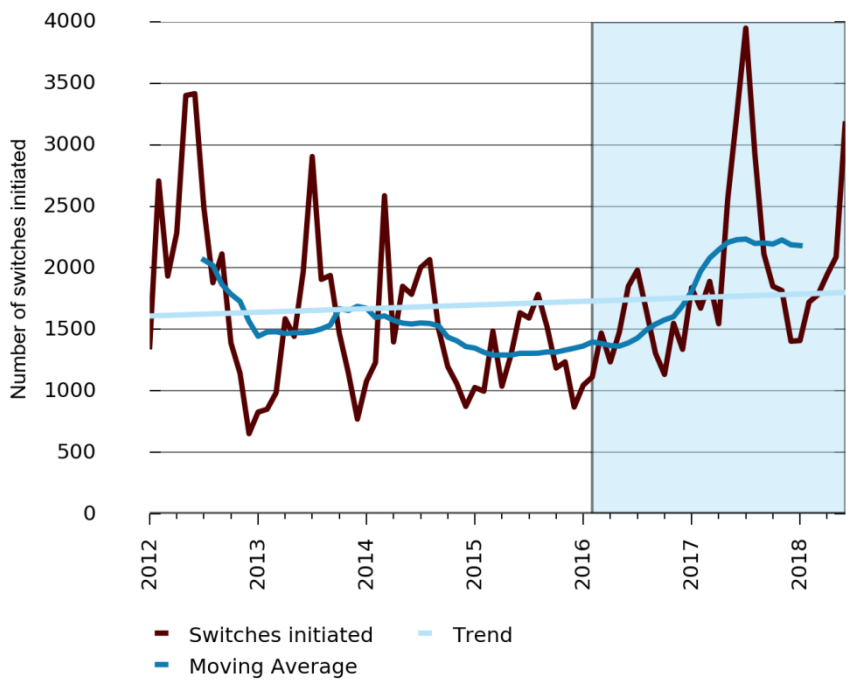
point out in its submission to the RDP issues paper – it could also mean that consumers are visiting more than one PCW before switching.¹⁷

Figure 6: Total sessions



Source: Consumer NZ

Figure 7: Switches initiated through Powerswitch

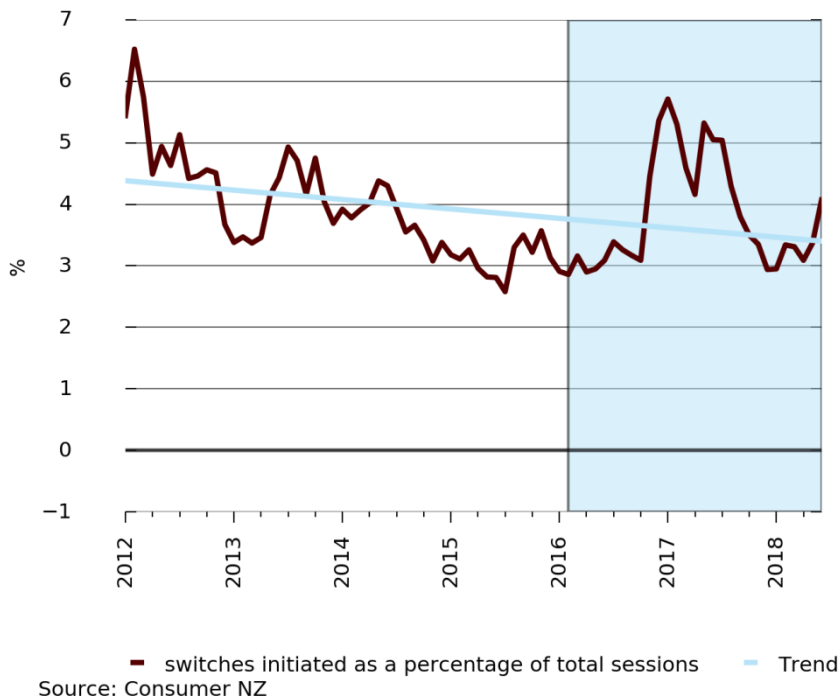


Source: Consumer NZ

¹⁷

Cortexo submission available here: <https://www.ea.govt.nz/development/work-programme/consumer-choice-competition/retail-data/consultations/>

Figure 8: Switches initiated through Powerswitch as a percentage of total sessions



Perceptions about switching

- 5.11 There was little change in the percentage of consumers who think that it is worthwhile reviewing their electricity provider (41 per cent said it was worth it in 2018, 38 per cent in 2016 and 37 per cent in 2015).¹⁸
- 5.12 There was also no change in the percentage of consumers who thought it is worthwhile to actively shop around for the best deal for their supplier of electricity (66 per cent in 2018 and 2016, 65 per cent in 2015).
- 5.13 There was also no change in the percentage of consumers who said it was very likely or fairly likely that they would switch electricity retailer (23 per cent in 2018, 21 per cent in 2016 and 23 per cent in 2015).
- 5.14 The percentage of consumers who think it is very or fairly easy to switch their electricity retailer also did not change from 2015 to 2016 (59 per cent answered very or fairly easy in 2015 and 60 per cent in 2016), but did increase slightly in 2018 to 65 per cent.

Availability of information

- 5.15 All respondents were asked how confident they were - when it comes to electricity options and offers available in their area – that they have all the information they need to compare the different offers. Sixty per cent scored this a 7 or higher out of 10 in 2018 compared with 57 per cent in 2016 and 55 per cent in 2015.

¹⁸ Consumer surveys were undertaken in 2015 (before the Authority introduced the RDP Code changes), 2016 and 2018 (post-RDP). All surveys were online surveys among a nationally representative sample of 1,200 people aged 18 years and over.

- 5.16 Consumers who had switched in the previous 12 months were asked to rate how important the amount of electricity they used was in their decision to switch (retailer or plan). In both 2016 and 2015, 58 per cent of switchers rated this factor a 7 or higher out of 10. In 2018 this figure was 59 per cent.
- 5.17 PCWs were the most useful information source for switchers in 2018 and 2016, but this was also the case in 2015 before the RDP changes. Thirty nine per cent of switchers said in 2018 that they had used a PCW to help their decision on switching the last time they switched. This figure was 40 per cent in 2016 and 35 per cent in 2015.
- 5.18 While PCWs ranked the highest for helpfulness in the switching decision, this did not change significantly from 2015 (19 per cent, 21 per cent, and 18 per cent of switchers in 2018, 2016 and 2015 respectively).
- 5.19 Of those consumers who had not switched in the previous 12 months but had reviewed their electricity retailer, the most common information source used in all three years was PCWs. Fifty one per cent and 55 per cent said they used a PCW in 2018 and 2016 respectively, and 56 per cent in 2015. Only 4 per cent of these consumers said they did not end up taking any action because they couldn't be bothered with the hassle. Only 2 per cent said it was too confusing/lack of information/seemed too hard (both percentages were similar in all three years). Thirty four per cent of these consumers in 2018 and 35 per cent in 2016 said PCWs were the most useful for helping with their decision, similar to in 2015 (39 per cent).
- 5.20 Consumers who did not investigate different options or change their electricity retailer or plan in the last 12 months were asked why they did not do any investigation. Fewer than 0.5 per cent said the reason for not doing any investigation was that they did not know where to get credible information. In all three years, two per cent stated that investigating different options was too confusing/seems complicated. In 2015, 1 per cent of these consumers did state a lack of information on best deals available as a reason. In 2016, this percentage was zero and this was a significant change from 2015, and in 2018 this percentage was 0.4 per cent.
- 5.21 In both 2016 and 2015, equal numbers of consumers preferred to get their information from PCWs or from electricity retailers (61 per cent and 63 per cent respectively in 2016, 62 per cent for both in 2015). In 2018 the per cent of consumers preferring to get their information from retailers decreased to 55 per cent. The per cent preferring to get information from PCWs remained similar to the other years at 61 per cent. The per cent of consumers who were unsure of their preferred source of information increased from 7 per cent in 2016 to 11 per cent in 2018.
- 5.22 The vast majority (88 per cent in 2018 and 89 per cent in 2016) of consumers were either unsure or did not think there were any sources of information that they had expected to find but were disappointed to find was unavailable (similar to 2015). Respondents did not see any significant types of information as missing. The single most mentioned type of missing information was cited by 5 per cent of respondents in 2018 and fewer than 3 per cent of respondents in 2016 and 2015. This missing information related to websites lacking specific details on price comparison or retailer websites, specific details on conditions and fees, and the costs of switching.

Consumers asking for consumption data

- 5.23 In the interviews with UMR, most retailers were unsure about how many customers were accessing their consumption data through the automated avenues they have set up (ie,

online account log-ins). Many also found it difficult to give an estimate of customers requesting the data through other avenues. Some said there was crossover with how they record requests by email, telephone or letter, and requests by automated avenues. Of the respondents who could provide an estimate, most had received less than 500 requests by email, telephone or letter since the Code changes.

- 5.24 There does not seem to have been an increase between 2016 and 2017 in the number of customers requesting their consumption data from their retailers based on the Authority’s annual request to retailers for data.

Table 2: UMR survey results - number of customers requesting data

Number of customers	Number of retailers with customers accessing consumption data through any automated avenues they have set up	Number of retailers with customers who have specifically requested consumption data (eg, via email, telephone or letter)
Less than 100	-	4
100-499	-	3
500-999	-	-
1,000-1,999	2	-
2,000 or more	1	1
Unsure	10	5
No requests	-	-

- 5.25 According to Energy News, customers downloaded the Genesis Energy IQ app (which allows Genesis customers to monitor, manage and control their energy use) more than 50,000 times within the first week, making it ‘the number one app in its category globally’. Also within the article, it states that ‘Genesis says its customers had been asking for more control over their energy use’.¹⁹ The NZ Powershop app has also had more than 50,000 downloads in the android store, while the Electric Kiwi, Energy Online, Mercury and Flick apps have all had more than 10,000 downloads.

6 There are some new products and services being offered in the industry

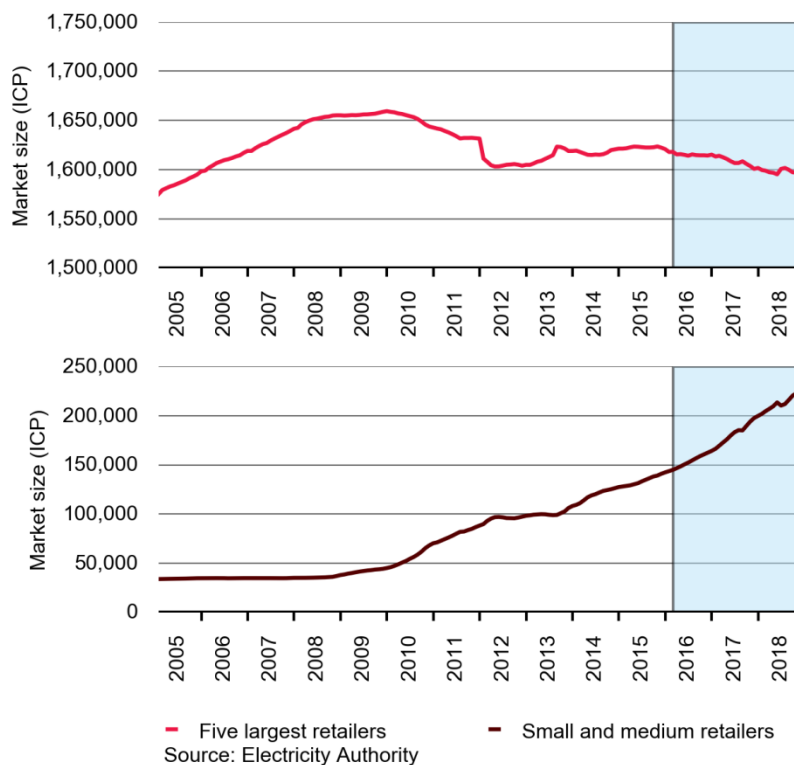
- 6.1 The RDP aimed to deliver dynamic efficiency benefits through greater innovation in products and services as a direct result of increased competition. This section looks at whether competition has increased since the Code changes, and if there has been any innovation in products and services.

¹⁹ http://www.energynews.co.nz/award-finalist/deloitte-energy-excellence-awards/38331/awards-finalist-energy-technology-year?utm_source=newsletter&utm_medium=email&utm_campaign=energy-news-newsletter

Indicators suggest competition has increased, although we can't attribute this to the RDP

- 6.2 The number of retail brands and parent companies serving residential ICPs has been increasing since 2005, and smaller retailers continue to gain market share. This is an indication of increasing competition in the residential retail market. However, we cannot attribute this increasing competition to the RDP Code changes. There was no discernible change in the pre-existing trends after the RDP changes were made, and in our opinion, not expected given the ongoing issues with consumption data access.
- 6.3 There were 47 retail brands serving residential ICPs as at 31 December 2017, up from 35 a year earlier and 32 in 2015. The number of parent companies (serving residential ICPs) increased from 20 as at 31 December 2015, to 24 a year later, and 31 in 2017.²⁰
- 6.4 Figure 9 shows a comparison between the market sizes in the residential retail market of the five largest retailers, by parent company, and the rest of the retailers. The lower chart shows that smaller retailers were growing before the RDP Code changes, and that they continued to grow after the changes. As at the end of November 2018 12% of ICPs were served by smaller retailers.

Figure 9: Residential market sizes for large and small retailers

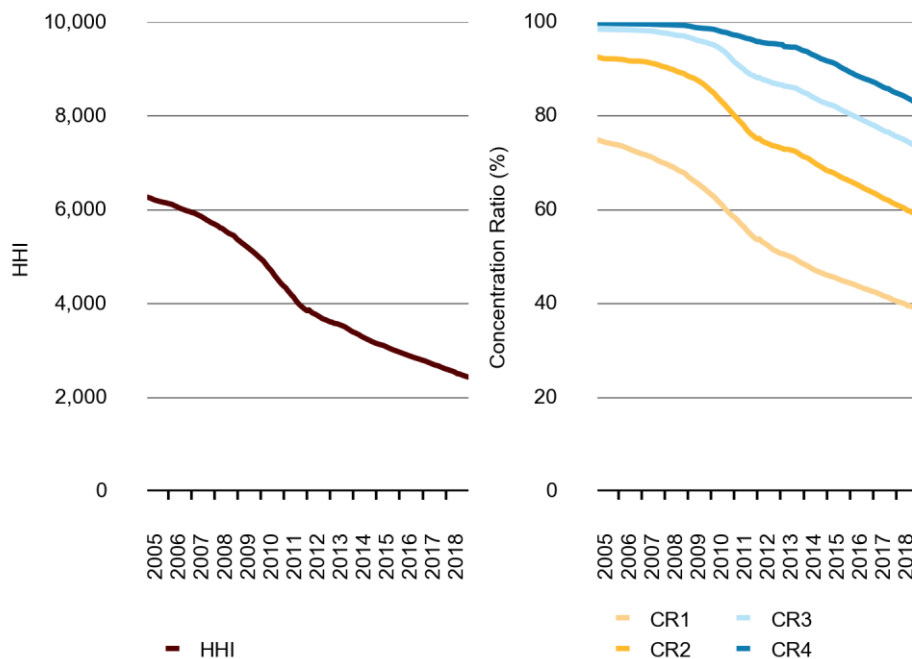


- 6.5 Figure 10 shows the national Herfindahl-Hirschman index (HHI) and concentration ratios (CR) 1-4 for the residential market. The HHI value has decreased since 2005, continuing to decrease since the Code changes. The charts do not show any dramatic movement either way from 2016 when the RDP changes were implemented.

²⁰

www.emi.ea.govt.nz/r/njy5p

Figure 10: HHI and CRX for the residential retail market



Source: Electricity Authority

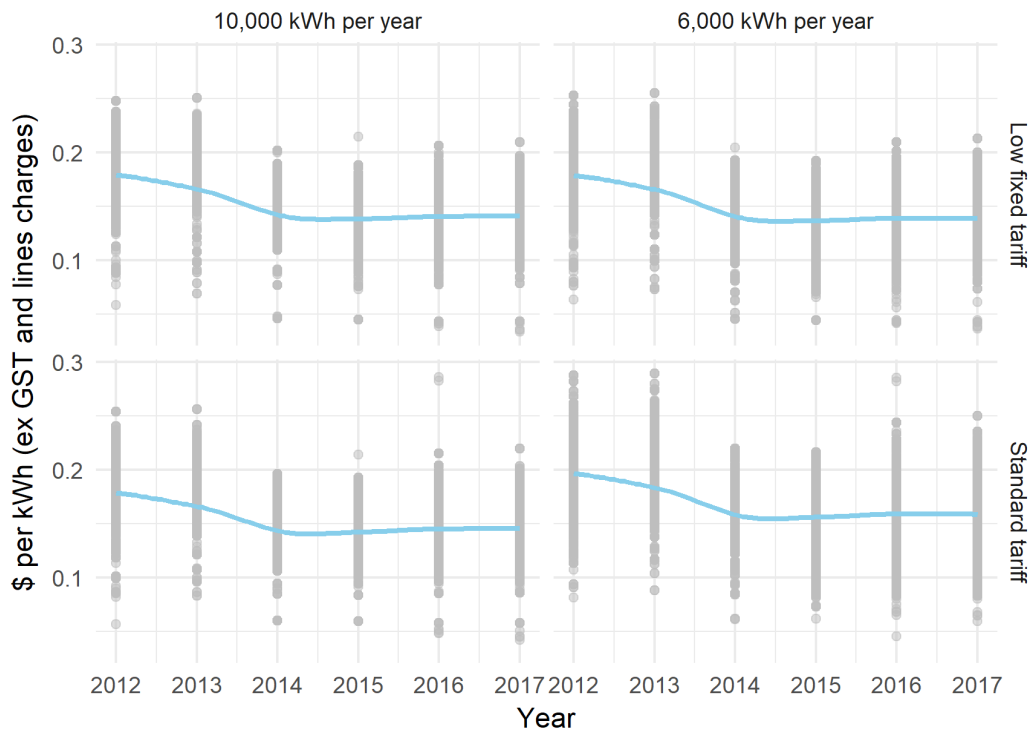
- 6.6 We calculate concentration ratios for an increasing number of retailers from 2005 to 2017. The CR4 shows the fall in market share of the four largest retailers, which accelerated from 2009.²¹ This shows the impact that the fringe of small and medium retailers is having. The CR1 shows how the largest retailer in each region has suffered from a fall in market share in each year since 2005.
- 6.7 In a recent evaluation of the What’s My Number campaign, Sense Partners found that prices offered by retailers have declined, on average, between 2012 and 2017.²² The authors state that “These lower prices are a strong indicator of an improvement in competition in the market.” However, most of the decrease in prices occurred between 2013 and 2014 – ie, before the RDP Code changes. The Ministry of Business Innovation and Employment sales-based electricity cost data does show a decrease in recent years in their ‘energy and other’ component – ie, residential costs reported by retailers less the “lines” component of the residential costs. However, it’s difficult to ascribe this to the RDP changes.²³

²¹ The HHI and CRX are calculated as weighted average market shares, weighted by the ICP shares in each region.

²² Data is from Powerswitch. Tariffs have been converted into representative prices based on average revenue for a stylised user. Average revenue has been calculated using the same assumptions used in the Ministry of Business Innovation and Employment’s Quarterly Survey of Domestic Electricity Prices. <https://www.ea.govt.nz/about-us/what-we-do/whats-my-number/annual-review/>

²³ Residential cost data is derived from information obtained primarily from electricity retailers. The residential cost per unit is derived by dividing the dollar value of residential electricity sales by the number of kilowatt-hours sold to residential customers. <https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/energy-prices/electricity-cost-and-price-monitoring/>

Figure 11: Posted retail prices (energy and other component) between 2012 and 2017



Source: Sense Partners

PCWs have entered the market, and while some are offering new services, others have been hindered by data access issues

- 6.8 One of the aims of the project was to lower barriers to entry and expansion of TPPs. The Authority expected the RDP to facilitate innovation in services and business models which would help consumers shop around for electricity and give them confidence to make decisions in an increasingly complex market place.
- 6.9 Before the Authority started the project, there was only one other price comparison website in the market – other than the government run Powerswitch – called Switchme.²⁴ Switchme receive a commission from the retailer the customer switches to. It only has a selected number of retailers and plans on the site (it currently lists 12), and says on its website ‘Switchme has invited all energy market participants to provide pricing for comparison. However, a few have declined to do so in the interest of price confidentiality.’ It also states on its website that they ‘obtain energy rates directly from retailers. Whenever rates change or when deals become available, Switchme is always updated in advance to ensure your quote is as accurate as possible.’ Switchme use the consumer’s consumption information from a single bill to estimate annual consumption. This business model has not changed after the RDP Code changes.
- 6.10 Glimp launched its power comparison in June 2016. It currently compares 8 retailers – and it plans to add more this year. Glimp provides an option for consumers to upload their power bill to estimate consumption and savings. No manual entry of information is required to use the tool other than the initial bill upload, and it is the only PCW in NZ to

²⁴ Switchme did receive funding for a limited time from the Authority to develop and provide a switching tool for small and medium-sized enterprises.

offer this upload option. It told us that if consumption data access was easier, it would access the data directly to make results more accurate, and thought this would increase the number of switches. As with Switchme, it receives a commission from the winning retailer if a switch occurs.

- 6.11 In 2016 Saveawatt extended its electricity services into the residential sector and introduced Frank, ‘the world’s first free intelligent digital personal power assistant’. Frank was designed and built to manage the decision of “who should supply your electricity” by finding a better available price, then switching you to a better priced retail plan without repeatedly filling in forms, and regularly checking to see if there is a better priced electricity deal for your household. However, it told us that it halted its investment in this business model because the RDP Code changes did not provide what it needed to make this work. Instead, in 2017 Saveawatt partnered with Stuff to promote their ‘Big Winter Switch’. This was a bulk tender process that aimed to ‘simplify a complex industry by bringing New Zealanders together to seek improved electricity offers and provide electricity retailers with new customers.’ This was the first bulk tender process offered in the NZ electricity sector. In 2018 they have launched another such campaign called ‘One Big Switch’. They use the strength of member numbers to source discounted energy offers. Joining is obligation and cost free. Saveawatt earns a fee from the retailers that earn customers through its campaigns.
- 6.12 NZ Compare launched its beta version of power comparison in 2017 and the actual version in April 2018. It has a page on its website dedicated to explaining about power usage, and how consumers can use this information. It claims to compare power plans and power deals from over 30 different providers. As well as tariffs it also includes other factors in its ratings, including:
- (a) user reviews on the Power Compare website;
 - (b) features and benefits that power companies offer, such as smart meters, green energy or loyalty points; and
 - (c) the introductory offers and sign up deals that are available when switching to a new power company.
- 6.13 It states on its website that ‘...there is a range of factors to consider in addition to the kWh price alone. It is here that Power Compare helps most through summarising the various plans available and helping to educate on the options available in the New Zealand power market.’ It does not currently take into account electricity consumption in its comparisons.
- 6.14 Ratebroker is hoping to offer power and gas comparisons soon. It was founded in January 2016, and so far compares mortgage rates, finance, and life and health insurance. Phone and mobile, internet and fibre, home, contents and car insurance, and power and gas are all coming soon. Its business model is to offer a free service to customers. Under the frequently asked questions on its website – Why is using Ratebroker free? – it says “Ratebroker utilises the latest technology to connect your tenders request with a number of leading providers to get you great rates. Ratebroker may also receive a lead generation fee or commission from service providers.”
- 6.15 My compare is another company that is looking to expand into the electricity market. Currently it compares broadband, flights, and hotels. On its facebook page, a post dated 14 March 2018 states that it “...will soon be comparing energy plans in NZ.”

- 6.16 Your Energy has recently started offering another type of comparison service: an online reverse auction for businesses and residential consumers, where you “list your power and gas consumption and invite suppliers to bid.”²⁵ It allows consumers to offer their energy needs to a range of retailers and see who can provide the best offer. The website uses the connection data API once the consumer enters their ICP number. Consumers enter their consumption data from their bill, from which Your Energy then estimate the consumer’s annual consumption.²⁶

Retailers are also offering new products and services, but we can’t credit the RDP for this

- 6.17 Some retailers are now offering different tariff structures to the traditional fixed-price, fixed-term contract model:
- (a) Two retailers are offering spot price based tariffs (Flick and Paua to the People);
 - (b) two are offering a variation of free power in off-peak times (Electric Kiwi offer one hour of free power and Electrica offer half priced power over two hours); and
 - (c) three are offering bundled deals with internet (Slingshot – parent company Vocus, Contact, and Trustpower).
- 6.18 Three of these companies plus EnergyClubNZ (who offer electricity at cost plus a small weekly fee, although not spot prices) entered the market after the RDP Code changes came into effect.
- 6.19 Many retailers (eight out of the 13 interviewed) now offer online accounts and apps that allow consumers to look at their consumption data and manage their energy usage. Four of these retailers said that they set this alternative access up in response to the RDP Code changes. However, most said that they had provided customers with alternative ways of accessing their data (other than just on their bill) before the Code changes.
- 6.20 Some retailers also use consumption data to estimate what a bill would be for a consumer if the consumer was to switch to them. But like TPPs, they also use a consumers’ current bill to estimate this.

7 Other work has also highlighted access to data as an issue

Recent consultation on multiple trading relationships has also highlighted data access as a barrier

- 7.1 The electricity sector is starting to see consumers wanting to have multiple trading relationships for products and services, such as peer to peer trading. Recently, the Authority has consulted on what it has identified as potential barriers that may limit consumers’ ability to use electricity or electricity services provided by more than one party at the same time, at the same location. These barriers included processes that limit the consumer’s ability to share their data, especially consumption data, with electricity service providers. The consultation paper states that ‘Despite the obligations placed on retailers to share consumption data, barriers still exist to consumers or their agents from

²⁵ <https://www.yourenergy.co.nz/how-your-energy-works>

²⁶ http://www.energynews.co.nz/news-story/electricity-retailing/39299/online-portal-allows-consumers-auction-load?utm_source=newsletter&utm_medium=email&utm_campaign=energy-news-newsletter

accessing this data in a timely manner'.²⁷ It also discusses how meter data, including consumption data, is channelled through the consumers' retailer. This does not necessarily stop TPPs from accessing the data they need, but they may face barriers that increase transaction costs.

- 7.2 Industry participants raised concerns around access to consumption data in submissions to a previous Authority project on mass participation. emhTrade considers that mass participation will require processes running at a scale that can only be facilitated by a data-driven, automated approach. Enforcing existing rules around data quality, particularly in the registry, and 'finishing the job' in regards to the RDP would be the most cost effective means for the Authority to facilitate mass participation at this point.²⁸
- 7.3 Industry participants also raised improving access to consumption data as one of the key themes in submissions to the MTRs consultation. Submissions said the Authority should prioritise making meter data more available regardless of progress on MTRs. Submitters also provided some technological options for streamlining data access while maintaining data security (TPPs also brought these up in our discussions with them and we discuss these in section 4). In submissions to the data and data exchange project consultation, the majority of submitters supported increased standardisation in data and data exchange.²⁹ The Authority will investigate issues raised in this consultation within existing processes such as the Standing data format working group or as part of the MTRs project.
- 7.4 The Innovation and Participation Advisory Group (IPAG) will be undertaking work in 2019 to provide advice on how to reduce barriers to MTRs relating to arrangements for access to data required to supply services to a consumer at an ICP. This includes how service providers are authorised to receive the data. The Authority will continue analysis aimed at overcoming the other barriers identified.

8 Other countries take different approaches to facilitate access to consumer data

- 8.1 Other countries have facilitated, or are trying to facilitate, timely access to energy consumption data by consumers or authorised third party representatives. Both the US and the UK have initiatives that allow (or are working on allowing) consumers to access their data electronically and share it with TPPs on-demand. Australia originally implemented something similar to us, but are now introducing further measures to overcome impediments identified in enabling timely access by TPPs.³⁰

²⁷ *Multiple Trading Relationships: How can consumers choose multiple electricity service providers?* Available here: <https://www.ea.govt.nz/development/work-programme/evolving-tech-business/multiple-trading-relationships/consultations/#c16922>

²⁸ *Enabling mass participation: Response and next steps.* Available here: <https://www.ea.govt.nz/development/work-programme/evolving-tech-business/enabling-mass-participation/development/decision-paper-emp-and-next-steps/>

²⁹ *Multiple trading relationships: Next steps information paper*, October 2018

³⁰ In 2016 consumers and their agents were given a right to access metering data from distributors or retailers. This was intended to empower consumers to make decisions about electricity use, investments in solar PV and other energy savings technologies, and choices of competitive retailer.

United States

- 8.2 The Green Button initiative in the US allows electricity consumers easy and secure online access to their personal energy use data.³¹ The US Chief Technology Officer first announced the vision for the Green Button initiative in September 2011, through a “call to action” to the electricity industry to enable consumers to download their own energy usage information from their utilities’ secure websites in a standardised electronic format. With voluntary adoption by many utilities nationwide, over 60 million US customers (representing over 100 million citizens) had Green Button access as at December 2016.³²
- 8.3 Since the release of the Green Button standard data format, over 140 web applications and 30 mobile applications have been released. These applications include services to identify energy efficiency opportunities and allow the consumer to turn off appliances or replace appliances to receive a cost benefit. Other applications provide warnings and advice on heating and cooling of household by linking electricity consumption with weather data as well as enhanced billing and energy monitoring applications. Further applications involve comparison of consumption with similar households in the area. These applications are all enabled through a common data standard and commitments from utility companies to make that data available for download.³³ However, the uptake by utility companies (distribution companies which also provide metering and retailing services to customers) has been higher in states where the utility companies own the smart meters (and so control the data), have a direct relationship with the customer, and have been able to recover the costs of setting up the Green Button platform from regulators.
- 8.4 Not all utilities providers offer both downloading and sharing. However, if they do offer the option to share the data with a third party (for analysis or for providing daily or weekly services), the consumer can select from a pull-down list of acceptable third-party companies.³⁴ The consumer will choose how long the third party company can access the data. The company will then get access to the data without the consumer needing to do anything else (the data is transferred via secure API). If the utility provider does not have this option, consumers can download their data from their utility provider in the standard XML format. They can then hand this file over to the third party company (or upload to an app). On the Green button website it says “Don’t worry about it [the file] falling into the wrong hands: compliant files should not have any personal information in them... - just usage information.”³⁵
- 8.5 The Green Button uses OAuth (Open Authorisation) – an open standard for token-based authentication and authorisation on the internet – to allow seamless authorisation for third party access to the data. OAuth allows third party services to use an end user’s

³¹ <http://www.GreenButtonData.org>

³² <https://www.programmableweb.com/news/understanding-green-button-api-initiative-and-why-it-matters/analysis/2016/12/09>

³³ ACCC, Retail Electricity Pricing Inquiry, June 2018, available here: https://www.accc.gov.au/system/files/Retail%20Electricity%20Pricing%20Inquiry%E2%80%94Final%20Report%20June%202018_0.pdf

³⁴ Acceptable, or qualified, third party providers are those that a utility is satisfied have met the technical and legal requirements set forth by the utility or jurisdiction (third party providers must agree to certain privacy rules, handling rules for the data, and/or resale rules for the data). This information was obtained from the Green Button Alliance - a private sector non-profit trade organization formed in 2015 to foster the development, compliance, and widespread adoption of the Green Button standard.

³⁵ <http://www.greenbuttondata.org/residential.html>

account information without disclosing the user's password. To make OAuth work for energy consumption data, the National Institute of Standards and Technology (NIST) had to "push OAuth to the very limits of its flexibility with some inventions of its own."³⁶ The chief architects of the Green Button Initiative have published the details of this at <https://www.programmableweb.com/api-university/how-green-button-initiative-secured-its-apis-oauth>. This includes enabling how to specify which data is available to third parties at a granular level, ie, not all third party services need access to all data for a consumer. It also includes allowing large third party service providers to obtain the right to access data on a large number of customers.

United Kingdom

- 8.6 In the UK, the government announced a programme of work in 2011 called Midata, which aimed to develop a method of electronically transferring customers' data (with their consent), from suppliers (including electricity/energy suppliers) to TPPs.³⁷ For an energy consumer, this means they can use an application or website developed by a TPP to compare energy tariffs using the actual usage/account details held by their current supplier.³⁸
- 8.7 During 2014 and 2015, the Department for Business, Energy and Industrial Strategy (BEIS) worked with stakeholders to develop a design specification for the Midata programme in the energy sector, with the aim of completing a voluntary agreement to implement API access. However, 'with considerable first mover disadvantages and little incentive this was not achieved.'³⁹
- 8.8 Two initiatives were implemented under the Midata programme. One was customers being able to download their data to a spreadsheet from their supplier's website. Another was the introduction of Quick Response (QR) codes on energy bills. Using the QR codes, customers can access key energy data in a machine readable format. Energy suppliers with 50,000 or more customers were legally required to include QR codes on bills from 30 June 2015. However, 'both initiatives have encountered problems around...the quality and comparability of data passing between suppliers and TPPs.'⁴⁰ One PCW pointed out that many TPPs had invested significant costs into developing apps to use the QR codes which they later shelved because of data quality issues.⁴¹
- 8.9 Midata was subsequently resurrected by the Competition and Markets Authority (CMA) recommendations following its investigation into the energy market in 2016, which found there were many disengaged customers.⁴² In July 2018, BEIS stated that they will 'work closely with Ofgem [Office of Gas and Electricity Markets] to deliver mandatory Midata'.⁴³

³⁶ <https://www.programmableweb.com/api-university/how-green-button-initiative-secured-its-apis-oauth>

³⁷ The programme was initially focused on personal current accounts, credit cards and credit reports, mobile phone companies, and energy, but with the aim of expanding out to other sectors in the future.

³⁸ Department for Business, Energy and Industrial Strategy, *Implementing midata in the domestic energy sector – Government response to the Call for Evidence*, July 2018.

³⁹ Department for Business, Energy and Industrial Strategy, *Implementing midata in the domestic energy sector – Government response to the Call for Evidence*, July 2018.

⁴⁰ Department for Business, Energy and Industrial Strategy, *Implementing midata in the domestic energy sector – Government response to the Call for Evidence*, July 2018.

⁴¹ Department for Business, Energy and Industrial Strategy, *Implementing midata in the domestic energy sector – Government response to the Call for Evidence*, July 2018

⁴² <https://www.gov.uk/cma-cases/energy-market-investigation>

⁴³ Department for Business, Energy and Industrial Strategy, *Implementing midata in the domestic energy sector – Government response to the Call for Evidence*, July 2018.

This also aligns with the new Data Protection Regime in the UK, which came into force on 25th May 2018. This new regime updates data protections and includes a new right for data subjects to request their personal data is electronically ported from a data controller, to them or a third party, without hindrance.

- 8.10 In an open letter to energy suppliers, consumer groups, innovators and other interested parties dated 27 July 2018, Ofgem stated that ‘Consumer data in the energy market today is held largely by suppliers. The quality of data varies, and accessing it is typically a slow process. For example, consumers must manually input their data to a third party intermediary website or an app in order to make a price comparison or to complete a switch online. This can lead to errors, inaccuracies and there can be difficulties in finding all the required information. Ofgem has been clear previously that this is unacceptable.’ They go on to say that ‘We have seen how Open Banking has delivered options for financial services and we now need to build on those lessons as we turn our attention to the energy sector.’
- 8.11 Midata in the financial sector has resulted in PCWs developing an open API. In their submission to the CMA’s retail banking inquiry, GoCompare (a PCW in the UK) reported that 19% of current account comparisons carried out through their site are made using customers’ Midata files. They also reported that people who use Midata are almost five times as likely to go on to switch as those who use standard ‘best buy’ tables.
- 8.12 Ofgem is now leading a cross-government team to deliver the vision of mandatory Midata in the energy sector.⁴⁴ The goal for the project is to create a standard for consumer data which delivers consistency, quality and security,⁴⁵ and Ofgem expects to complete this by June 2019. The project will initially focus on:
- (a) The mandate for consumers to share data
 - (b) The threshold for those who will be providing access to data
 - (c) The standards required for the data to be consistent, high quality and secure
 - (d) The consent of the consumer to share data with others
 - (e) The verification of a consumer to assure that consent was valid
 - (f) Assuring consistency, quality and appropriateness
 - (g) The compliance with the standards and enforcement of non-compliance.
- 8.13 Another recent initiative in the UK is creating an Ofgem-controlled database on ‘disengaged customers’. The aim of this database is to allow rival suppliers to prompt these customers to engage in the retail energy markets. In November 2017 Ofgem published an open letter in which they stated that ‘we are moving ahead to create a database of customers who have been with their energy supplier on a default tariff for more than three years, in line with the CMA database remedy.’ In the letter they said

⁴⁴ Midata in the energy sector Frequently asked questions about the project, approach and outcomes, July 2018, available at: https://www.ofgem.gov.uk/system/files/docs/2018/07/20180726_midata_annex.pdf

⁴⁵ Ofgem, open letter to energy suppliers, consumer groups, innovators and other interested parties, 27 July 2018, Enabling consumer data in the energy sector, available at: https://www.ofgem.gov.uk/system/files/docs/2018/07/20180726_midata_letter.pdf

they would issue a Notice of Direction to large energy suppliers in December 2017, and to smaller energy suppliers in the summer of 2018.⁴⁶

- 8.14 Another area of investigation in the UK has been reviewing online intermediaries (in particular price comparison websites) under the umbrella of improving consumer engagement and switching. Ofgem runs a voluntary accreditation scheme called the Confidence Code. There are currently 12 accredited sites. The Confidence Code sets out minimum standards that a PCW must meet to be accredited. In 2016 the CMA recommended changes to the Confidence Code, including removing the requirement for accredited sites to display information on all tariffs in the market.⁴⁷
- 8.15 Consultation responses to the UK call for evidence on implementing Midata in the energy sector also discussed accreditation schemes. Two suppliers mentioned a minimum data security standard that TPPs should follow, or follow an approach similar to the open API standard for banking. One component of this is an accredited list of certified participants who can access the data using the API. The Government response to these stakeholder comments was that BEIS will work with Ofgem and stakeholders to explore options around establishing an independent cross-industry TPP registration process.

Australia

- 8.16 In Australia, much of the focus since 2016 has been on ensuring customers have access to consumption data, but little attention to the processes and systems needed to facilitate access by authorised third parties. However, there are now a number of initiatives in train to facilitate timely access by authorised third parties to consumer energy data:⁴⁸
- (a) There is an economy-wide process to set up a Consumer Data Right (CDR) that will give consumers more visibility and control over data that relates to them. Importantly consumers will easily be able to authorise third parties to access their data (in a standard, machine-readable format) to provide energy analysis and offers. The first sectors to use the CDR are banking, telecommunications and energy. The energy arrangements are being developed by the Commonwealth Government in consultation with industry.
 - (b) There is also a Data Strategy for the National Electricity Market (NEM) being developed by the Australian Energy Regulator (AER) and Energy Security Board in consultation with other market institutions and sector participants. The strategy refers to electricity market data collected by the market institutions for legislative, regulatory or operational purposes, or data provided to the market institutions by market participants, consumers or third parties, and should improve data flows. It seeks to set in place clear principles to guide how data is managed in the energy market, and coordinate the processes necessary for data custodians to collect,

⁴⁶ Ofgem, open letter to energy suppliers, consumer groups and other interested parties, 13 November 2017, Improving customer data and the database remedy, available at: <https://www.ofgem.gov.uk/ofgem-publications/124920>

⁴⁷ CMA, 24 June 2016, Energy market investigation – Final report, available at: <https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf>

⁴⁸ AEMC, 2018 Retail Energy Competition Review, Final Report, 15 June 2018, Sydney. Available here: https://www.aemc.gov.au/sites/default/files/2018-06/Final_per_cent20Report.pdf

create, share and facilitate access to data in a consistent, efficient, effective and inclusive way.

- 8.17 The CDR's intent is that it will result in the consumers improved ability to compare and switch between products, which will encourage competition between service providers. The aim is that having a CDR will result in lower prices for consumers and encourage the development of innovative products and services.⁴⁹
- 8.18 The 2018 *Retail Electricity Pricing Inquiry*⁵⁰ carried out by the Australian Competition and Consumer Commission (ACCC) recommends that 'The application of the CDR to the electricity sector should be pursued as a priority... Consumers and their authorised representatives should have access to at least historical consumption data, product data, meter data, and customer data.' The Inquiry argued that consumer empowerment can be further advanced through facilitating improved access to consumption data.
- 8.19 In the explanatory materials to the Treasury Laws Amendment (CDR) bill 2018, they discuss how the CDR will also 'require businesses to provide public access to information they have on offer.'⁵¹ Within the Privacy protections summary they also discuss how data transfer will only be permitted to accredited data recipients (or the consumer themselves). The ACCC will be responsible for data recipient accreditation.
- 8.20 Energy Consumers Australia (ECA) have been working on a data portability project to help facilitate consumer access to their own electricity data. In their 2017 discussion paper, they proposed an industry led process for facilitating access. The objective of the project is 'That Distribution Network Service Providers will build a process whereby third parties, acting on the explicit informed consent of customers, can be provided with NEM12 meter data that they already hold through a real-time transaction through the B2B⁵² platform.'⁵³ ECA considers that network businesses would also benefit from facilitating access to consumers' electricity data; maximising the value of consumer investments in distributed energy resources. They therefore suggest that Distribution Network Service Providers are best placed to develop the necessary processes.
- 8.21 The Council of Australian Governments (COAG) Energy Council engaged HoustonKemp Economists to examine how, and make recommendations for, streamlining the process, and facilitating timely access to consumers' consumption data by authorised TPPs. Their report (published February 2018) states that, through engagement with distributors, retailers, consumers and some third-party data users, they have identified several impediments to accessing consumers' data by third parties. These were:
- (a) Different assessments by distributors and retailers about what is required to manage privacy risks and obligations, particularly because of concerns about reputational risks;

⁴⁹ <https://www.laneneave.co.nz/the-australian-consumer-data-right-and-open-banking/>

⁵⁰ ACCC, Retail Electricity Pricing Inquiry, June 2018, available here: https://www.accc.gov.au/system/files/Retail%20Electricity%20Pricing%20Inquiry%E2%80%94Final%20Report%20June%202018_0.pdf

⁵¹ <https://treasury.gov.au/consultation/c2018-t316972/>

⁵² B2B stands for business to business framework. The framework sets out a standard form for data communication between businesses.

⁵³ Energy Consumers Australia, Electricity Meter Data Portability Discussion Paper, July 2017, page 8, quoted in HoustonKemp.

- (b) Absent clear funding arrangements, strong incentives to minimise the cost of providing data, which leads to differences in data formats, changes in data formats over time, and different delivery mechanisms; and
 - (c) Incentives to minimise data provided because of concerns, particularly by retailers, that competitors may use the information to increase their market share.
- 8.22 HoustonKemp argue that on-demand access can be achieved while fulfilling privacy obligations by developing an approach to authorisation that:
- (a) Requires a TPP to be accredited before requesting data, to ensure they have the necessary systems and processes in place to obtain and keep a record of a customer's authorisation consistent with privacy obligations
 - (b) Allows distributors or retailers to presume that an accredited TPP has obtained the necessary consumer consents
 - (c) Uses audit processes to ensure that fraudulent access to consumers energy data has not been obtained.
- 8.23 The report recommends that the National Electricity Rules (NERs) be amended to require the Australian Energy Market Operator (AEMO) to develop a consumer electricity data access scheme to facilitate on-demand access to consumers' data by third parties. The proposed consumer electricity data access scheme would set out:
- (a) The process and requirements for accreditation of customer authorised representatives, including information requirements and timeframes for accreditation
 - (b) Provide a uniform approach to retail customer verification and consent procedures
 - (c) Provide a centralised approach to providing metering data [they refer to metering data as data that is collected via a customers' meter, so here includes consumption data] to customer authorised representatives
 - (d) Specify a uniform form in which retail customers' metering data must be provided to customer authorised representatives
 - (e) Specify the procedures for requesting and approving changes to the detailed data format by any party.
- 8.24 Building on the HoustonKemp findings, the ACCC Inquiry recommends that the National Energy Retail Law (NERL) needs to be amended to clarify that third party intermediaries can provide explicit informed consent on behalf of consumers (without the retailer needing to check this every time, although it should occur in a manner that the retailer can appropriately audit). The ACCC Inquiry also argues there is a need for additional regulation of third party intermediaries. It recommends the Australian Government should prescribe a mandatory code of conduct for third party intermediaries, and contain civil penalty provisions for any breaches. This aims to address issues around a lack of transparency on these sites about their coverage and the fees or incentives they receive when consumers switch.

- 8.25 The ACCC has also recently published a discussion paper for consultation outlining options for data access in the energy sector under the CDR.⁵⁴ The three options are:
- (a) **The AEMO centralised model** – AEMO would be the sole data holder of a centralised data set and would be responsible for providing CDR data directly to accredited data recipients
 - (b) **The AEMO gateway model** – AEMO would provide a gateway function (acting as a pipeline for the provision of CDR data from data holders to accredited data recipients)
 - (c) **The economy-wide CDR model** – existing data holders would be responsible for providing CDR data directly to accredited data recipients.
- 8.26 The paper notes that the ACCC is working towards implementing the CDR in the energy sector during the first half of 2020 for priority data sets in the NEM.

Other business models for TPPs

- 8.27 Both the UK and Australia have seen automated switching providers emerge who charge the consumer rather than working on commissions from retailers. Users of the UK company Flipper pay a subscription fee of £25, which is not charged (the first time) until Flipper finds a deal that saves the user at least £50 a year. They use consumers' bills to obtain usage data, stating that 'We never rely on estimations to determine your usage, which can result in inaccurate quotes and missed savings.' CHOICE in Australia has launched a similar service called Transformer. Transformer uses a consumer's bill to determine whether they can save money by switching based on an analysis of their previous usage, tariff, rate and discount structure. Transformer analyses every publicly available electricity offer on that day to determine potential savings. If CHOICE sources an electricity offer with a saving of at least \$100 a year, CHOICE will invite the consumer to join Transformer. Transformer does not accept commissions from retailers and charges a flat annual subscription fee of \$99 each year. Transformer will review the consumer's offer at least every three months. The ACCC notes that automated switching providers are still a fairly new feature of the electricity market, but would likely reduce search costs for consumers. They may also potentially engage another cohort of consumers than those that use comparison websites. The ACCC has identified two key barriers to automated switching services entering and expanding in the National Electricity Market:
- (a) Difficulty accessing consumer energy usage data
 - (b) Perceived restrictions on the ability of third parties to give explicit informed consent on behalf of a consumer.

9 Other developments relating to data access in NZ

- 9.1 In its submission to the new Privacy Bill, the Privacy Commissioner suggested that a data portability right should be added to the Privacy Act.⁵⁵ This would follow other countries such as Australia and the EU who have legislated for data portability without hindrance, using APIs.

⁵⁴ ACCC, Consumer Data Right in Energy; Consultation paper: data access models for energy data, 2019, available here: <https://www.accc.gov.au/system/files/ACCC%20consultation%20paper%20-%20data%20access%20models%20for%20energy%20data.pdf>

⁵⁵ <https://www.privacy.org.nz/assets/Uploads/Privacy-Commissioner-Submission-on-the-Privacy-Bill.pdf>

- 9.2 In the banking sector, the government is encouraging the move to Open Banking, although currently an industry-led approach is preferred to a regulated approach such as that taken in other countries like the UK, Australia and Europe.⁵⁶ Open Banking can be described as the process by which banks share a customer's data, via open APIs, with TPPs nominated by the customer, in a form that facilitates its security and use by those TPPs to provide services to the customer. Payments NZ – an industry-led governance organisation – is currently trialling software that will enable TPPs to make retail payments on behalf of customers. The trials will help Payments NZ to establish common standards that banks and providers can use to share customer data.⁵⁷

10 Conclusions and recommendations

- 10.1 The projected benefits from the RDP relied on all three components of the project working together. We find that while connection data access is working well and tariff data access is working adequately, the problems with accessing consumption data are likely preventing the benefits of the RDP being realised.
- 10.2 Without significant changes we would not expect the RDP to yield the full benefits envisaged when it was implemented. The changes resulting in timely access to data – ie, the connection data API – have been widely adopted and are proving beneficial for consumers. However, the changes designed to be driven more by participants with minimal market intervention by the Authority have been less effective. While access to tariff data is adequate, retailers have not utilised the voluntary standard format. TPPs find consumption data difficult to get and have stopped asking for it or developing products and services that utilise the data.
- 10.3 This less than anticipated engagement again highlights issues associated with assumptions around private benefits. Retailers have little incentive to speed up the process of providing consumption data, as they would need to invest money to do this, lose any benefit associated with being the sole organisation with easy access to the data, and risk privacy breaches in sharing the data. The review of the Dispatchable Demand scheme also found that expected private benefits were overestimated.⁵⁸
- 10.4 The connection data API is viewed very positively, and has enabled PCWs to more accurately reflect tariffs available to each consumer. Some retailers are also using it to improve market analysis and monitoring. Both TPPs and retailers would like to see more data fields added to the API. While the connection data API has been a very positive step towards opening up data within the industry, data quality - including the Authority mandating standards for data fields and ensuring compliance with standards - for any data collected by the industry is required for users to obtain the **maximum** value from the data.
- 10.5 Tariff data access is adequate, although remains inefficient. PCWs told us that no retailers use the voluntary format (developed by the Authority and an industry technical group) to provide data to them, and each retailer uses a different format for supplying tariff data. With 50 retail brands this lack of standardisation makes it difficult and time

⁵⁶ <https://www.beehive.govt.nz/release/open-banking-focus-minister>

⁵⁷ <https://www.rbnz.govt.nz/financial-stability/financial-stability-report/fsr-may-2018/an-open-mind-on-open-banking>

⁵⁸ Post implementation review of Dispatchable demand, 2017. Available here: <https://www.ea.govt.nz/monitoring/enquiries-reviews-and-investigations/2017/post-implementation-review-of-dispatchable-demand/>

consuming for anyone setting up a system or not using this data regularly. If time and effort is required from participants to develop systems to use the voluntary format, and there are no obvious incentives for them to use it, then take-up may be low or non-existent.

- 10.6 While most retailers are now providing more insights around consumption to consumers via apps or online log-ins, getting the raw data remains difficult, especially for TPPs. This difficulty means the aims of the RDP project are likely not being realised. The current processes for authorisation, and the lack of investment in automating processes to deal with such requests, delays the processing of TPP requests for consumption data. Careful evaluation of the incentives of participants who are being relied on is essential to efficiently implement any initiative.
- 10.7 While there has been an increase in visits to the Powerswitch website since the RDP Code changes, other indicators of consumer engagement do not show any significant change in trends after the RDP changes. Trends in indicators of competition have also showed no discernible change in pre-existing trends after the RDP changes, although there are now more PCWs in the market. Overall, we cannot determine whether the RDP changes have had any effect on consumer engagement or competition, but would not expect so given the outcomes of the project have not been realised.
- 10.8 Based on what we have been told by TPPs, improved access to both tariff and consumption data should be pursued. We believe - based on our discussions with TPPs and on experiences overseas - that this would result in the development of innovative services and applications, such as those seen in the US based on the Green Button data. Innovative services may include new models of switching, such as collective switching arrangements or on-going relationships with intermediaries. The latter would mean the intermediary would need on-going authorisation to access the customers' data. Other innovative services could include services providing demand response, which may need authorisation procedures which could handle multiple ICPs, perhaps in the thousands, at the same time. Other innovative services include peer-to-peer trading, smart home energy management, and EV charging scheduling. Some of the changes required to enable these services would require more fundamental changes to the data system, such as allowing any interested market participant access to consumption data. Increasing complexity in the type of retail tariffs offered also requires innovative solutions to assist consumers with making decisions.
- 10.9 Achieving timely access to consumption data while fulfilling privacy obligations is currently being worked towards or has already been achieved in other countries. The Authority should investigate the lessons from overseas for the NZ context.
- 10.10 As mentioned in section 3, the RDP Decisions and Reasons paper states that the Authority would reconsider the option of a central meter data store if the RDP Code changes did not materially improve consumers' access to their consumption data. Whether the systems and processes for providing consumption data to TPPs upon request should be centrally managed, or undertaken by each meter data company, distributor, or retailer separately is not in scope for this paper. HoustonKemp discuss this in the Australian context and state that 'Ultimately this is a question of both cost and practicality.' As we have seen with connection data, a centrally managed API works well, and New Zealand is fortunate that with only two million connections a central system would not be large by international standards.

- 10.11 However, another model such as the Green Button in the US, which involves APIs with data transferred from each utility provider, may work just as well. One TPP we talked to suggested drawing the data from each meter data management company, but others would like to see a centrally managed database. A centrally managed system may have other benefits or synergies for other functions required within the market context (eg, reconciliation, switching reads, distribution billing etc). HoustonKemp's opinion is that there is merit in the data transfer process being centralised. Their arguments for this are:
- (a) The overall cost is likely to be lower than if each distributor or retailer was required to build the necessary systems
 - (b) There are benefits from having a single point of access to data
 - (c) There are benefits from having only one system to change to implement system changes in response to innovations over time
- 10.12 The Authority already has several projects that are exploring matters relating to obtaining, sharing and using consumer data. One of these projects involves looking at what access to data under MTRs may need to look like. Developing MTRs may require a move away from the current SFTP process to API machine-to-machine transfer protocols, which would be consistent with improving access for TPPs as discussed above. We expect that solutions like a centralised data model will be raised and considered as part of the IPAG's work on the MTRs project. A centralised data model could be achieved through two options:⁵⁹
- (a) The Authority establishes a new market operation service provider role, to create and administer a central database
 - (b) The Authority requires meter equipment providers to release consumption data via a single API, creating a virtual central database

⁵⁹ These are discussed in the 2017 Board paper 'Three key initiatives to encourage consumer participation: What's My Number, Powerswitch, and Retail Data Project'

Appendix A Details of changes implemented by the RDP

Consumption data

- A.1 The Authority sought input from a technical working group to develop the standard format for exchange of consumption data. It developed a new set of electricity information exchange protocols (EIEPs), called EIEP13A, EIEP13B, and EIEP13C. The Authority provides EIEPs to enable the low cost, standardised and reliable exchange of information.
- A.2 EIEP13C allows a consumer's authorised agent to request consumption information. The agent may request consumption information formatted using either EIEP13A, EIEP13B, or both. EIEP13A contains detailed half hour consumption information while EIEP13B provides summary (non-half hour) consumption information. The EIEP files are specified as CSV file format intended for machine to machine information transfer.
- A.3 The Authority recognised that retailers may wish to develop alternative ways to provide the information contained in EIEP13B to their consumers. Therefore, EIEP13B only applies if the consumer or consumer's agent has requested it using EIEP13C, or the retailer does not already make equivalent information available to consumers, at no cost, on their website.
- A.4 Retailers must let consumers know of their ability to make a request for consumption information at least once every calendar year.
- A.5 Clause 11.32D in the Code sets out the information security retailers must meet when dealing with consumption data requests. It specifies that retailers must not give access to data unless satisfied about the identity of the consumer making the request. They must also ensure, by adopting appropriate procedures, that any information is received only by the consumer or the consumer's agent.

Tariff data

- A.6 In broad terms, 'generally available' means a 'headline' retail tariff plan that a retailer would offer to a consumer. The definition does **not** include retail tariff plans:
- (a) that are only available via direct selling
 - (b) which provide the consumer with a financial discount or other benefit when compared with the retailer's other plans available to that consumer
 - (c) which have specific requirements the consumer needs to meet to be eligible for it. For example, a specific location, metering configuration, price category code, or creditworthiness.
- A.7 The Code amendment did not specify the manner or format in which retailers must provide generally available retail tariff plans to persons who request them. However, the Authority – along with an industry technical working group - developed EIEP14, which retailers may use if they wish. This voluntary standardised file format tries to accommodate different tariffs and not inhibit innovation. Eight of the 15 submissions that commented on whether retailers should use standardised file formats and structures to supply retail tariff plan information disagreed with any such requirement, while four submissions agreed. After considering the submissions, the Authority decided to continue with EIEP14, and once developed, to observe its use, the level of benefit obtained, and any drawbacks it may need to address. The Authority completed the EIEP14 file format after 1 Feb 2016 and it came into effect on 1 November 2016.

A.8 The Authority decided against a database containing all generally available retail tariff plan data. It thought this would likely have higher costs and delayed benefits when compared with making the Code amendment as set out above.

Connection data

A.9 The connection data the Authority made publicly available includes:

- (a) The installation control point (ICP) for the consumer
- (b) The type and configuration of the metering used to measure the consumer's electricity consumption
- (c) The capacity of the connection
- (d) The existence of any electricity generation at the consumer's premise(s)
- (e) The network supply point (NSP) to which electricity consumption at the ICP is reconciled for settlement in the wholesale electricity market⁶⁰
- (f) The price category code and loss category code used to define the electricity distribution line charges for the ICP
- (g) The trader that purchases electricity for the ICP
- (h) Whether the distributor invoices the consumer for electricity line charges.

A.10 For a full list of data fields included and their descriptions refer to the glossary for the API, which can be found here: <https://emi.portal.azure-api.net/docs/services/56a92d5074ff88075485e86d/operations/56fd9f8fea9dce11ec5eee7f>

A.11 The Authority intended the web user interface primarily for consumers who wish to look at the publicly available connection data for their ICP(s). The API allows third party providers (TPPs) to interface with the registry and access connection data (on-demand), in a tailored manner rather than by indiscriminate bulk downloads.⁶¹

⁶⁰ An NSP is a point of connection between the local distribution network or embedded distribution network on which the ICP is located and the electricity network supplying the local network or embedded network.

⁶¹ *Retail data project: access to tariff and connection data decisions and reasons paper*, available here: <https://www.ea.govt.nz/development/work-programme/consumer-choice-competition/retail-data/development/tariff-and-connection-data-decisions-and-reasons-paper/>

Appendix B Allocative, productive and dynamic efficiency benefits

Allocative efficiency benefits from increased consumer engagement

- B.1 The project aimed to deliver allocative efficiency benefits through increased consumer engagement. The Authority expected consumers to be more likely to compare and switch retailers to get better deals.
- B.2 Allocative efficiency requires that prices are efficient, or equal to marginal costs. If prices are higher than marginal costs, there will be a fall in demand for electricity relative to the allocatively efficient level. Since this reduced amount of electricity has a higher value to consumers than the cost of producing it, this level of usage is inefficient.
- B.3 The Authority estimated the RDP initiatives would result in an extra 5 per cent of consumers switching to a lower price. It assumed the average saving available to be about \$160.⁶² This estimate is consistent with the 2015 'What's My Number' campaign. This campaign showed an average saving of \$162 was available to consumers in 2014 if they moved to the lowest electricity price available to them. The Authority also calculated benefits using a lower amount of average savings of \$140, taking into account that some consumers may not switch to the cheapest provider. It also calculated an upper bound using an alternative figure of 10 per cent extra consumers switching and an average saving of \$200, as shown in Table 3.

Table 3: Estimates of allocative efficiency gains (2015 dollars)

Additional consumers moving to a lower price	Present value of savings available from moving to a lower price (\$/consumer)		
	\$140	\$160	\$200
5 per cent more	\$665,000	\$870,000	\$1,355,000
10 per cent more	\$1,325,000	\$1,735,000	\$2,710,000

Notes: 20 per cent base switching rate, 10 year discounting period at 8 per cent with no inflation, -0.26 elasticity of demand (sensitivity of demand to a change in price)

Productive efficiency benefits from improved market efficiency

- B.4 The project aimed to deliver productive efficiency benefits by providing incentives for retailers to operate more efficiently. The Authority expected the project to realise these efficiency gains through reducing the level of 'x-inefficiency'. 'x-inefficiency' exists when the cost of supplying a product or service is higher than the efficient level. The efficient level should occur under vigorous competition.
- B.5 The Authority considered the potential wealth transfer available from more consumers switching to a lower tariff was an indication of a level of 'x-inefficiency', rather than an indication that retailers were earning excessive returns. For example, if an extra 5 per cent of consumers moved to a tariff that saved each of them \$160 per year, the Authority estimated there would be a transfer of wealth from retailers to consumers of

⁶² This takes into account savings made by consumers who intend to switch but end up remaining with their existing retailer because their existing retailer offers them a better deal.

about \$13.7m.

- B.6 However, faced with possible wealth transfers of this magnitude, the Authority believed that retailers would seek cost savings to retain or capture some of this economic wealth. This retailer behaviour would result in a productive efficiency gain.
- B.7 If retailers reduced their 'x-inefficiency' (in aggregate) by 1%, they would receive an annual financial benefit of \$137,000 (assuming the wealth transfer above of \$13.7m). This equates to a benefit of \$920,000 in present value terms. The Authority calculated this productive efficiency gain for different 'x-inefficiency' improvements resulting from retailers responding to potential wealth transfers. Table 4 sets out the results of these calculations.

Table 4: Estimates of present value productive efficiency gains

Rate of reduction in x-inefficiency	Estimated annual wealth transfer		
	\$13.71m	\$23.57m	\$34.28m
1%	\$920,000	\$1,580,000	\$2,300,000
5%	\$4,600,000	\$7,910,000	\$11,500,000
10%	\$9,200,000	\$15,815,000	\$23,000,000

Notes: 10 year discounting period at 8% with no inflation

Dynamic efficiency benefits from new products and services

- B.8 Finally, the project aimed to deliver dynamic efficiency benefits through greater innovation in products and services as a direct result of increased competition. The Authority considered the potential dynamic effects were likely to be significant and substantially greater than the estimated static (allocative and productive) efficiency gains. However, the Authority admitted that measuring dynamic efficiency benefits is challenging. They therefore did not quantify these benefits during the consultation. Instead, the Authority considered empirical evidence from overseas studies that looked at:
- (c) The positive effect on dynamic efficiency from reforms that improved information, incentives and competitive pressures
 - (d) The adverse effect on dynamic efficiency from delayed innovations caused by poor regulatory decision-making.
- B.9 As an example of the positive effects, the Authority pointed to the 2006 Electric Energy Market Competition Taskforce report, which included a review of 30 individual assessments of market reform undertaken between 2000 and 2005.⁶³ These assessments estimated that reforms which improved information, incentives and competitive pressures resulted in gains to consumers often greater than 5% and sometimes as high as 20%. The Authority noted that these price reductions (relative to price levels that might otherwise have occurred) may reflect a combination of wealth transfers and efficiency gains.

⁶³ The Electric Energy Market Competition Task Force, 2006, Report to Congress on Competition in Wholesale and Retail Markets for Electric Energy.

B.10 For the second effect, the Authority said that a good example of this is the 1997 economic study by Professor Jerry Hausman on regulating the telecommunications sector in the US. Hausman's analysis showed dynamic effects that were many times larger than the combined allocative and productive efficiency effects. Hausman estimated that delays introducing cellular phones because of the regulator's indecision resulted in annual consumer welfare losses of between US\$16.7b and \$33.5b in 1994 dollars.⁶⁴

⁶⁴ Hausman, J.A., "Valuing the Effect of Regulation on New Services in Telecommunications", Brookings Papers on Economic Activity: Microeconomics, 1997, p. 23.

Appendix C Do more PCWs provide benefits to consumers?

- C.1 More PCWs in the market may not automatically provide benefits to consumers. International research suggests that PCWs need to offer personalised results and be trusted to make them effective.⁶⁵ A UK Regulators Network (UKRN) paper states that ‘consumers can become frustrated when there is no ability to customise and personalise searches.’⁶⁶ They go on to state that the ability to filter the results increases consumer confidence, as it reinforces the perception the results are tailored to the specific needs of the shopper. They also discuss how estimates of consumption may mean that PCWs oversimplify their calculations, leading to misleading results. As discussed in section 4, all PCWs are using the API to filter results, but only some are currently using consumption data to further refine results, and all of these get consumers to enter the data from their bill.
- C.2 Some studies have also argued that more PCWs may not necessarily mean lower prices for consumers, as retailers may pass the commission charged by PCWs on to consumers.⁶⁷ A review by the Australian Energy Market Commission (AEMC) states that ‘Many retailers interviewed for this year’s report noted that these sites are a very expensive marketing channel. This adds to the costs for retailers to acquire customers, and flows into consumer pricing.’⁶⁸ However, another review undertaken in the UK concludes that ‘They charge commission to suppliers, but their scale means commissions are lower than many suppliers own costs of attracting new consumers directly.’⁶⁹ The AEMC review also discusses how making it as easy as possible for TPPs to provide their service and for more TPPs to compete should result in lower acquisition costs. This should in turn reduce prices.

⁶⁵ UKRN, Price comparison websites: Final Report, 27 September 2016, available here: <http://www.ukrn.org.uk/wp-content/uploads/2018/06/201609027-UKRN-PCWs-Report.pdf>, CMA Energy market investigation final report, June 2016, available here: <https://assets.publishing.service.gov.uk/media/5773de34e5274a0da3000113/final-report-energy-market-investigation.pdf>, Consumer Futures, Price comparison websites: consumer perceptions and experiences, July 2013, FCA, Price comparison websites: consumer market research, A report by Atticus, June 2014.

⁶⁶ UKRN, Price comparison websites: Final Report, 27 September 2016, available here: <http://www.ukrn.org.uk/wp-content/uploads/2018/06/201609027-UKRN-PCWs-Report.pdf>

⁶⁷ Ronayne, David, Price Comparison Websites, October 2015, Warwick Economics Research Papers, available here: https://warwick.ac.uk/fac/soc/economics/research/workingpapers/2015/twerp_1056b_ronayne.pdf

⁶⁸ AEMC, Final Report: 2018 Retail Energy Competition review, 15 June 2018, available here: <https://www.aemc.gov.au/sites/default/files/2018-06/Final%20Report.pdf>

⁶⁹ CMA, Digital comparison tools: summary of final report, 26 September 2017, available here: <https://www.gov.uk/government/publications/digital-comparison-tools-summary-of-final-report/digital-comparison-tools-summary-of-final-report>

Appendix D UMR report