



Retail data project: access to consumption data

Decision and reasons paper

19 December 2014

Introduction

- 1 The Electricity Authority (Authority) is an independent Crown entity responsible for promoting competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers.¹
- 2 In July 2014 the Authority consulted on a proposal to amend the Electricity Industry Participation Code 2010 (Code) to help consumers (or their agents) access their electricity consumption data.²
- 3 This paper sets out the Authority's decision to amend the Code to give consumers access to their electricity consumption data in a way they can easily use, and gives the reasons for the decision. The paper describes revisions to the Code amendment proposal made to reflect feedback in submissions.
- 4 The Code amendment will encourage consumers to more actively participate in the retail electricity market, which includes choosing their retailer and tariff plan. More active participation by consumers will in turn encourage retail competition.
- 5 The Code amendment proposal is one component of the Authority's 'retail data' project. The project is looking at ways to improve consumers' access to their electricity consumption data, their tariff options, and data about their connection to the electricity network.³
- 6 More information about the retail data project is available from the Authority's website at: <http://www.ea.govt.nz/development/work-programme/retail/retail-data/>.

Decision – amend the Code to improve access to consumption data

- 7 The Authority has decided to amend Part 11 of the Code to require retailers to make consumption data available to consumers in a way they can easily use. The key elements of the amendment are:
 - (a) retailers must provide up to 24 months of consumption data if requested by a consumer or the consumer's agent

¹ This is the Authority's statutory objective. Refer to section 15 of the Electricity Industry Act 2010.

² The consultation paper and submissions are available from the Authority's website at: <http://www.ea.govt.nz/development/work-programme/retail/retail-data/consultations/#c12844>.

³ Data about a consumer's connection to the electricity network includes for example, the type and configuration of their electricity meter(s).

- (b) there must be a process for providing and exchanging consumption data
- (c) there must be a standard format to exchange consumption data
- (d) when making consumers' electricity consumption data available to them, retailers must protect consumers' privacy.

8 The amendment is attached at Appendix A.

Decision – retailers must provide consumption data to consumers or their authorised agent

- 9 The amendment requires retailers to give up to 24 months of consumption data to a consumer if the consumer, or their agent, requests it.
- 10 A 'retailer' is a participant that supplies electricity to consumers, and includes traders and retailers that are not traders. A 'consumer' includes a residential consumer and a non-residential consumer.
- 11 If requested, a retailer must provide a consumer who is or was its customer with the same consumption data the retailer used to calculate the consumer's electricity consumption or to provide services to the consumer.⁴ This means that a retailer who calculates consumption and provides a service using half-hourly data must provide 35,040 (24 months) consumption data points. If a retailer calculates consumption and provides services using monthly data they must provide 24 consumption data points.
- 12 This is the key change to the Code amendment proposal the Authority consulted on, which required each retailer to hold and provide each consumer's electricity consumption data. The proposed amendment meant a retailer who calculated consumption and provided a basic service using monthly data from a smart meter would have had to provide 35,040 (24 months) consumption data points.
- 13 Agents may request this information on behalf of the consumer. They must show they have proper authority from the consumer to obtain the information.

⁴ A consumer or their agent may need to request consumption data from more than one retailer to obtain 24 months of consumption data.

Decision – retailers must use a reasonably standardised process for providing and exchanging consumption data

- 14 A consumer may request up to 24 months of consumption data for each installation control point (ICP) where a retailer supplies (or has supplied) electricity to that consumer.⁵ When meeting a request, a retailer:
- a) must give the information to the consumer within 5 business days
 - b) must not charge the consumer (or the consumer's agent) a fee for the consumer's first four requests in a 12 month period
 - c) can impose a reasonable charge if a consumer makes more than four requests in a 12 month period.⁶
- 15 A retailer that receives a single request by an agent for multiple consumers must treat it as a request by each consumer.
- 16 The retailer must respond to requests in the manner they are made (such as by email or post) or in the manner the consumer requests. For example, a retailer should respond electronically to an electronic request for data unless the consumer asks for the data in some other form.

Decision – retailers must use a standard format to exchange consumption data

- 17 Standard formats, specified by the Authority, will apply whenever retailers exchange consumption data.
- 18 The formats will be based on the electronic information exchange protocol (EIEP) 3A format described in the Authority's consultation paper,⁷ or other appropriate formats developed with input from a technical working group. The technical working group will have broad representation, including 'non-participant' energy services companies.

Decision – retailers must protect information privacy

- 19 Retailers are expected to make sure that the privacy of consumer data is protected. Consistent with the requirements of the Privacy Act 1993, each request for data will require the consumer's written (which may include electronic) authorisation.

Implementing the amendment

- 20 The amendment will apply from 1 February 2016. Before it takes effect:
- (a) The Authority, with input from a technical working group, will finalise the standard formats for exchange of consumption data. The target is to achieve this by May 2015.
 - (b) Retailers will have systems and processes in place to exchange consumption data and to meet the standard formats.

⁵ An ICP is a physical point of connection on an electricity distribution network at which a retailer is deemed to supply electricity to a consumer. Each ICP is assigned an ICP identifier.

⁶ The provision for a retailer to impose a reasonable charge is consistent with the Privacy Act 1993.

⁷ Retail data project: access to consumption data, Consultation paper, 15 July 2014.

How the Authority made its decision

- 21 The Authority began the retail data project in late 2013. The goal of the project is to enhance retail competition in the electricity market by:
- (a) making consumers' electricity consumption data readily available in a useful manner
 - (b) improving consumers' access to relevant tariff and connection data
 - (c) improving clarity around electricity prices paid by consumers.
- 22 So far, the Authority's focus has been on improving consumers' access to their electricity consumption data. Consumers are more likely to participate in the electricity retail market,⁸ decide about their electricity usage, or both, if they can easily gain access to information that is useful to them. The result will be improved retail competition, as electricity retailers and providers of energy services compete more vigorously for consumers' business. In turn, improved retail competition will increase the incentives on retailers and energy services companies to deliver innovative products and services and to seek operational efficiency gains.
- 23 The Authority published an issues paper in January 2014 seeking comment on the problems with existing arrangements for retail data. Twenty nine submissions were received. The Authority held a forum in March 2014 to discuss submissions on the issues paper. About 60 people attended the forum.
- 24 The Authority published a consultation paper in July 2014 in which it proposed to amend the Code to give consumers easier access to their consumption data. The proposal took into account submissions on the issues paper, comments made at the forum, and feedback from one-on-one discussions with interested parties.
- 25 The Authority received 27 submissions on the consultation paper.⁹ Table 1 lists the parties who made submissions.
- 26 Many submitters supported the Authority's intention to improve consumers' access to their consumption data. However, opinion was divided on whether the proposal would have a material impact on retail competition.
- 27 Some submitters considered that the proposal could have major benefits in the long term by freeing up access to consumption data and enabling retailers and energy services companies to develop new innovative services/products.
- 28 Other submitters considered the proposal was unnecessary. Reasons given included that existing legislation already provides consumers with access to their consumption data, and that retailers already provide access to consumption data. Some submitters considered the costs of implementing the proposal outweighed the benefits.
- 29 Several submitters also argued that a requirement for retailers to store and provide interval data would reduce retail competition, particularly for low cost retailers, by prescribing business models and imposing costs.

⁸ And possibly other electricity markets, such as that for small-scale generation.

⁹ Two submissions contained confidential sections.

Table 1 List of parties making submissions

Generator/Retailers	Consumers	Distributors	Energy services providers
Contact Energy	Major Electricity Users' Group (MEUG)	Orion	Arc Innovations
Electric Kiwi	Ian McChesney	Powerco	Cortexo
emhTrade	Glen McGeachen	The Lines Company (TLC)	Energy Link
Energy Direct NZ (EDNZ)	Molly Meluish	Unison	Energy Management Association of New Zealand (EMANZ)
Flick Energy	Electricity & Gas Complaints Commission (EGCC)	Vector	Energy and Technical Services Ltd (ETSL)
Genesis Energy			Rabid Technologies
Meridian Energy/ Powershop ¹⁰			
Mighty River Power			
Nova Energy			
Pioneer Generation			
Trustpower			

30 A summary of submissions is available from the Authority's website at <http://www.ea.govt.nz/development/work-programme/retail/retail-data/>.

¹⁰ Meridian Energy and Powershop made a joint submission.

Why the Authority made this decision

- 31 When markets work well, firms are encouraged to compete to provide what consumers want in a better and more cost-effective manner than their competitors. Effective competition provides significant benefits for consumers through greater choice, lower prices, and better quality services. Competition helps raise productivity by providing strong incentives for firms to be more efficient than their rivals, to reduce their costs and to innovate.
- 32 Making sure consumers can easily access useful information is necessary for effective competition. Accurate information enables consumers to compare the prices and terms of products and services. This information allows consumers to shop around and seek the best deal, which enhances competition between suppliers.

The amendment promotes retail competition and efficiency

- 33 After considering all submissions on the Code amendment proposal, the Authority believes the final Code amendment will deliver long-term benefits to consumers by promoting the first and third limbs of the Authority's statutory objective. In other words, the Authority expects that enabling consumers to have better access to useful consumption data will promote competition in, and the efficient operation of, the electricity industry for the long-term benefit of consumers.
- 34 The different formats that retailers use to provide information, and the different timeframes, are the main limits to consumers accessing and using consumption data as part of their search for a better electricity deal.¹¹ The amendment addresses this by enabling greater standardisation in this area.
- 35 The amendment also lowers the risk to consumers from retailers not providing easy access to data in a useful form, because it may not be in the retailer's commercial interest to do so. For example, it may enable a customer to more easily get another party to analyse the consumption data, which may show the customer would be better off with a different retailer.
- 36 The specific benefits of providing consumers with access to their consumption data are:

The amendment will promote competition

Under the Code amendment consumers will incur reduced 'search costs' when choosing their retailer and retail tariff plan, and when making other energy-related decisions.¹² These search costs hinder consumers from identifying and switching to alternative retailers.

Giving consumers easier access to useful consumption data will make consumers more likely and better able to participate in the retail electricity market. This will provide incentives for increased competition between existing retailers, and will also encourage new retailers and energy services companies to enter the retail market.

¹¹ This includes exchanging the data with a third party the consumer has sought assistance from.

¹² Search costs are the time, effort and money spent by a consumer researching a product or service to buy. Rational consumers will search for a better electricity deal until the marginal cost of searching exceeds the (expected) marginal benefit.

Increased competition will encourage retailers to develop more innovative products and services, and seek operational efficiency gains. This will improve the productive, allocative and dynamic efficiency of the electricity industry.

The amendment will promote efficiency

The operational efficiency of electricity markets will improve if consumers' search costs are lowered or if the cost for participants to transact in the market is reduced. More standardised formats and processes will reduce the costs for consumers to access their consumption data, and for retailers and energy services companies to exchange consumption data.

- 37 The Authority does not expect the amendment to materially affect reliability of supply (the second limb of the Authority's statutory objective). However, the amendment may have some reliability benefits if consumers make more informed decisions that improve reliability of supply (e.g. load shifting in response to price signals).

The benefits are greater than the costs

- 38 The Authority has assessed the expected economic benefits and costs of the amendment, and expects it to deliver a net economic benefit.
- 39 The amendment's primary benefit is more innovation in the electricity industry from greater availability of consumption data. While some benefits arise in the form of greater downward pressure on retail electricity prices, this is secondary to the longer term benefits from innovative product and service offers from retailers and energy services companies.
- 40 The amendment's primary cost is the effort retailers require to implement it. The Authority estimates the implementation costs of the proposal are between \$425,000 and \$1 million. There is also the risk that retailers may reduce their investment in AMI or similar innovations if they are concerned that regulatory intervention will undermine such investments.
- 41 The Authority considers the benefit from making this amendment will be materially larger than the cost. The Authority's estimates of the costs and benefits are described in more detail later in this paper.

The amendment is consistent with regulatory requirements

- 42 The amendment to the Code is consistent with the Authority's statutory objective and with the requirements of section 32(1) of the Electricity Industry Act 2010.
- 43 The amendment is also consistent with the Code amendment principles; it is lawful and it will improve the efficiency of the electricity industry for the long-term benefit of consumers. The Authority has used a quantitative cost-benefit analysis to assess the expected net benefit, in conjunction with a qualitative cost-benefit analysis. The amendment is also consistent with the Authority's principle for small-scale 'trial and error' options because it is relatively low cost.

Matters the Authority considered in making this decision

- 44 All submitters recognised that consumers are entitled to their consumption data. Submitters also agreed that residential consumers have a statutory right under the Privacy Act to request their data. This means the key consideration for the Authority was not whether to facilitate access to consumption data, but rather how best to ensure that the data provided was useful.
- 45 Submitters were divided on the likely effects of the proposed Code amendment. Submitters had seven main objections to the proposal:
- (a) they saw no link between availability of consumption data and retail competition
 - (b) consumers do not want access to detailed consumption data
 - (c) the market was responding to the information needs of consumers and would provide consumers with the data they require, and hence Code changes are unnecessary
 - (d) the proposal would discourage investment in the electricity sector by undermining retailers' ability to recoup their investment in advanced metering infrastructure (AMI)
 - (e) the proposal duplicates existing statutory requirements under the Privacy Act
 - (f) the specific requirements proposed would create barriers to retailer entry, raise industry costs unnecessarily and impede retail competition
 - (g) the Authority's assessment of the benefits and costs of the proposal was incorrect.
- 46 In making its decision, the Authority has considered these objections, along with the following:
- (a) whether retailers or metering equipment providers (MEPs) should provide access to consumption data
 - (b) how to develop standard formats and processes
 - (c) what kind of consumption data should be provided
 - (d) whether consumption data should be provided to both residential and non-residential consumers
 - (e) whether there should be any limits on the number of data requests in any 12 month period
 - (f) how to ensure agents of consumers are properly authorised
 - (g) the merits of alternatives to the proposal.

Better access to consumption data will promote retail competition

Submitters' views

- 47 Seven submitters clearly agreed there was a link between better access to consumption data and improved retail competition. Some saw great potential to provide innovative products and services to consumers from improved access to consumption data.
- 48 One submitter clearly disagreed there was a link between better access to consumption data and improved retail competition.

- 49 Submitters generally agreed that competition has economic benefits. Submitters also generally agreed that competitive markets work well when there are efficient interactions on both the demand (consumer) side and the supply (retailer) side. On the supply side, retailers try to identify consumers that are least expensive to serve, and develop new products that will appeal to them. On the demand side, consumers increase competition by choosing the firms that best meet the consumers' needs.

The Authority's decision

- 50 The Authority considers that allowing consumers to access their consumption data in ways that are useful to them will promote retail competition. The debate turns primarily on whether consumers' search costs are affected by how consumption data is made available.

The theory

- 51 'Market frictions' can restrict the ability of consumers to identify and switch to alternative retailers, and constrain competing retailers from identifying consumers who could be served at lower cost. These market frictions reduce competitive pressure and consumer welfare.¹³ Two different forms of market friction have been studied in the economics of industrial organisation. One source of market friction is the search costs that consumers face in gathering information about alternative suppliers of a product or service. Another source is the switching cost a consumer may incur as a direct result of changing supplier, perhaps due to additional effort or lost loyalty discounts.¹⁴
- 52 In many cases, search costs are more anti-competitive and damaging to consumer welfare than switching costs.¹⁵ Search costs are detrimental to the competitive process because:
- (a) the decision to incur search costs must be made when a consumer is relatively uninformed and the costs are incurred whether or not the consumer decides to switch retailer
 - (b) an increase in search costs prompts consumers to search fewer firms and the consumer may remain unaware of potential benefits from alternative retailers
 - (c) the cost of the switch can be weighed against the expected benefit and the consumer can decide whether the expected benefits exceed the costs of switching.

Applying the theory

- 53 The main reason New Zealand consumers search for, and switch to, another electricity retailer is because they expect to gain financially.¹⁶ New Zealand consumers currently face

¹³ Consumer welfare is the benefit obtained by a person as a result of consuming a product or service.

¹⁴ See for example Baye M.R., Morgan J. and Scholten P. (2006) *Information, Search and Price Dispersion* in Handbook on Economics and Information Systems", T. Hendershott (ed.) Elsevier Press, Amsterdam on search costs and Farrell and Klemperer (2007) *Coordination and Lock-In: Competition with Switching Costs and Network Effects* in Handbook of Industrial Organization, Vol. 3", M. Armstrong and R. Porter (eds), North-Holland, on switching costs.

¹⁵ Chris Wilson, (2012), *Market frictions: A unified model of search and switching costs*, European Economic Review, 56(6), 1070-1086.

¹⁶ UMR research (2014) *Shopping around for electricity retailers: a quantitative study among the general public* (Electricity Authority: Wellington, New Zealand), p.23. The UMR research showed that over 80% of survey respondents who had switched in the past two years cited financial reasons. This is

some limitations accessing and using their electricity consumption data. This includes limitations on providing the data to third parties that may use the data to offer a product or service to the consumer.

- 54 The main limitation to consumers accessing and using their consumption data (either themselves or via a third party) in their search for a better electricity deal is the format of their data and the response time for retailers to provide the data.
- 55 The Authority also notes that, under the Privacy Act, there are certain grounds on which retailers may refuse access. One ground is that the consumption data cannot be readily retrieved. In addition, the Privacy Act does not cover requests from businesses for consumption information.¹⁷
- 56 These limitations mean that consumers' search costs (particularly the time and effort expended) are higher than they might otherwise be. This reduces the savings available to consumers from switching electricity retailers. It also means fewer consumers can make informed decisions about their consumption (such as using devices that are relatively less energy-intensive, or using alternative energy sources). This reduces the incentives on retailers to compete for consumers and to innovate in their product and service offerings.
- 57 The search costs on consumers arising from these limitations are difficult to estimate. They depend, for instance, on:
- (a) how long it takes consumers to gather their consumption data and put it into a useful format for analysis
 - (b) whether consumers undertake their own research or engage a third party
 - (c) the type of research that is undertaken (e.g. spreadsheet analysis; conversations with friends, work colleagues, family members to compare products/services; discussions with suppliers of heating products)
 - (d) the value that consumers place on their time.
- 58 A consumer may spend from half an hour to several hours searching for a better energy-related product or service. This implies a per-event search cost for a consumer of between \$10 to \$100-\$200,¹⁸ using the average New Zealand hourly wage of \$22 to estimate the hourly value of a consumer's time.¹⁹
- 59 The Authority considers that requiring retailers to provide consumers, or their agents, with consumption data using more standardised formats and processes will:
- (a) reduce the costs faced by consumers when they look for more favourable electricity supply deals
 - (b) improve consumers' decisions about their electricity consumption.

consistent with international experience – see for example, Catherine Waddams Price, Catherine Webster and Minyan Zhu (2013) Searching and switching: empirical estimates of consumer behaviour in regulated markets, CCP Working paper 13-11.

¹⁷ The Privacy Act aims to promote and protect the privacy of living natural persons. The Act's provisions apply to personal information, which is defined as information about an identifiable living natural person.

¹⁸ That is, each time a consumer decides to shop around for a better energy deal.

¹⁹ Refer to Statistics New Zealand's website: http://www.stats.govt.nz/browse_for_stats/snapshots-of-nz/nz-social-indicators/Home/Labour%20market/med-hourly-earnings.aspx.

- 60 A key way by which the Code amendment will result in lowered search costs is by enabling consumers to easily provide their consumption data to prospective retailers or energy services companies. The latter will help consumers to assess their consumption data and to decide about energy-related matters, including their choice of retailer and tariff plan, and their energy usage.

Consumers will want products and services that use detailed consumption data

Submitters' views

- 61 Several (retailer) submitters stressed that consumer preferences vary and that there are not many consumers interested in detailed consumption information.

The Authority's decision

- 62 The Authority agrees that many consumers may not be interested in detailed consumption data. However, they may be very interested in services that use this data.
- 63 Currently, retailers are the natural choice to help consumers interpret their consumption data and find the best electricity offer. However, if consumers have better access to their consumption data in standardised formats, other organisations may also offer this service (e.g. comparator websites, or software applications that interpret consumption data). In this way, analysing consumption data may become a service in its own right, separate from other retailer services such as price and volume risk management. The Authority expects that if consumers can easily exchange their data with other retailers and energy services companies, this will promote innovation and benefit for consumers.

The current market response will not result in consumers receiving consumption data in ways that are useful to them

Submitters' views

- 64 Several submitters pointed out that retailers already offer consumers access to their electricity consumption data, and that a growing number of consumers access half-hourly consumption data.
- 65 Mighty River Power stated in its submission that 53% of all residential customers have access to detailed consumption data now and once Contact Energy implements new systems, 75% of residential customers could access their data.
- 66 Some submitters noted that the real benefits of access to consumption data would come from being able to easily exchange and use the data. That is, improving consumers' access to their consumption data is not, on its own, enough to materially reduce the costs faced by consumers searching for a better retail electricity offering. The information retailers provide needs to be useful to consumers.

The Authority's decision

- 67 The Authority considers that the Code amendment will promote the long-term benefit of consumers by helping them to access electricity consumption data that they can easily use. Better access to useful data means it will be easier for consumers to get help to assess the data and make informed decisions. Making consumption data available to

consumers does not necessarily mean that data is useful to them, and that it will lead to more consumers making decisions about their choice of product/service offering or their energy usage. It is important to reduce the effort that consumers must make when considering energy deals or making decisions about their energy usage. Otherwise they are less likely to begin or complete the process. This in turn reduces the incentives on retailers and energy services companies to compete to provide consumers with better deals and services.

- 68 The Authority recognises that many retailers differentiate their services by the kind of data they provide to their customers, and that there is some competitive pressure for this to continue. Retailers that provide access to consumption data in some form include Mercury Energy, Genesis Energy, Meridian Energy/Powershop, Trustpower and Contact Energy.
- 69 However, as noted earlier, the different formats that retailers use to provide information, and the different timeframes, are the main limits to consumers accessing and using consumption data as part of their search for a better electricity deal.
- 70 Further, under the current arrangements, retailers tend to be the 'gate-keepers' of consumption data. In some circumstances, it may not be in a retailer's commercial interest to provide easy access.

The amendment is unlikely to reduce incentives for investment in the electricity sector

Submitters' views

- 71 Two submitters commented that the amendment would provide a commercial benefit to energy services companies, by enabling them to 'free-ride' on the AMI investments retailers have made. These submitters observed that many retailers have invested heavily in technology to analyse and allow access to consumption data. These investments include long-term service contracts with AMI providers. The concern is that providing access to consumption data in ways that are useful to consumers will reduce incentives to invest in the electricity sector. For example, retailers will not continue to invest in AMI or similar innovations if they are concerned that regulatory intervention will undermine their investments.

The Authority's decision

- 72 The Authority considers that the positive economic impact on retailers and consumers from greater product and service innovation over the longer term will outweigh any adverse impact on retailers' AMI investments initially.
- 73 The Authority is conscious that pro-competition initiatives can reduce overall economic efficiency. Regulatory changes that lead to inefficient duplication of resources and/or activity are contrary to the long-term benefit of consumers. So too are regulatory changes that adversely affect the value of fixed investments after those investments have been made.
- 74 Any regulatory intervention by the Authority must be consistent with its statutory objective. This provides regulatory certainty to industry participants insofar as they know the Authority will only regulate to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers.

- 75 The Authority notes there is a small risk the Code amendment will discourage retailers from further investments in AMI. This possible chilling of investment would represent a dynamic inefficiency cost.
- 76 However, the Authority expects retailers to continue investing in AMI after it amends the Code, even if retailers believe that energy services companies may obtain some commercial benefit from the amendment. The Authority believes that any economic benefit accruing to energy services companies at the expense of retailers will be far smaller than the economic gains to retailers from continuing to install AMI. Additionally, retailers would seek to minimise any economic gain to energy services companies by competing with them for the consumer's business.
- 77 It is precisely this competitive market dynamic that delivers outcomes which benefit consumers.

The amendment does not duplicate requirements under the Privacy Act

Submitters' views

- 78 Submitters supported high standards for privacy, confidentiality and security of consumer data. Some echoed the Authority's statement that retailers and MEPs already had systems and processes to meet Privacy Act obligations.
- 79 Several submitters argued that the proposal duplicated existing statutory requirements (particularly in the Privacy Act) and risked placing participants in a position where their obligations conflicted or were not easily reconcilable.

The Authority's decision

- 80 The Authority considered the requirements of the Privacy Act and has concluded that the Code amendment proposal enhances the rights participants have to access information under that Act. The Authority does not consider there is a conflict between the Code amendment and the Privacy Act.
- 81 Section 7(1) of the Privacy Act provides that "nothing in principle 6 (Access to personal information) or principle 11 (Limits on disclosure of personal information) derogates from any provision that is contained in any enactment and that authorises or requires personal information to be made available." This section provides clear guidance that initiatives to allow consumers to access their own data in the electricity sector and other sectors can build on those available in the Privacy Act.
- 82 The Privacy Act creates a statutory right for consumers to access their data held by retailers, including consumption data. However, the Authority considers the reduction in search costs under the proposed Code amendment will be greater than if they are only able to rely on the provisions of the Privacy Act.
- 83 The Privacy Act is silent on the use of more standardised formats and processes. Also, under the Privacy Act only individuals can request access to their consumption data – businesses are not covered. Lastly, retailers may refuse to provide consumption data requested under the Privacy Act for reasons including that the data cannot be readily retrieved.

The amendment does not unnecessarily create barriers to retailer entry, raise industry costs unnecessarily, or impede retail competition

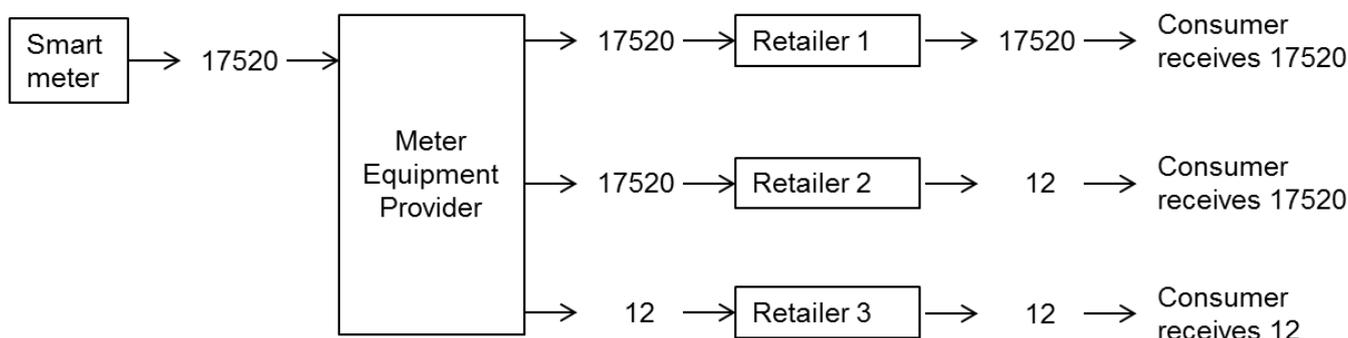
Submitters' views

- 84 Some submitters raised concerns that the requirement to hold consumption data would:
- (a) impose needless costs on retailers that had already invested in providing consumption data to their customers
 - (b) create a barrier to low cost retailers entering the retail electricity market.
- 85 They submitted that, as a result, the requirement to hold consumption data would reduce competitive differentiation and harm competition in the retail electricity market.
- 86 Several submissions pointed out that retailers are gaining competitive value in the retail electricity market by offering customers access to their electricity consumption data. This service offering is particularly applicable to half-hourly consumption data, where a growing number of consumers are accessing this information.

The Authority's decision

- 87 The Authority has revised the Code amendment to clarify that retailers are required only to provide the same consumption data the retailer uses to calculate the customer's electricity consumption, or to provide services to consumers. For example, a retailer providing a basic service and normally billing a consumer on a monthly basis is required to provide 24 consumption data points. A retailer providing a web-portal that a consumer can use to see half-hourly consumption data is required to provide 35,040 consumption data points (even if the data is accessed via a portal operated by a different party).
- 88 This change continues to support retail competition and innovation but will be cheaper to implement. For example, the change means low cost retailers would provide their customers with the 12 consumption data points used for billing during a 12 month period, even though some or all of the retailer's customers may be half-hourly metered.²⁰
- 89 Figure 1 provides three examples of the type of consumption data a retailer would need to provide to a consumer.

Figure 1 Examples of what consumption data points a retailer would need to provide



Notes: 1. There are 17,520 half hours in a non-leap year.

²⁰ Low cost retailers might outsource metering and billing but will hold some consumption data, such as the data they would use for their billing.

- 90 Retailer 1 would provide consumers with half-hourly consumption data because that is what it uses, for example to provide a service such as a web-portal. Retailer 2 would provide consumers with half-hourly consumption data because that is what it uses, for example for billing purposes. Retailer 3 would provide consumers with aggregated monthly consumption data because that is what it uses, for example for billing purposes.
- 91 The Authority recognises that retailers try to differentiate their product and service offerings from those of their competitors, and look for better ways to meet the varied preferences of consumers. In differentiating their services, retailers may hold and use different amounts of consumption data.

Retailers should provide access to consumption data

Submitters' views

- 92 Some submitters suggested the Authority should change the proposal to require MEPs, rather than the retailer, to provide access to consumption data. These submitters noted that the near real-time exchange of consumption data via application programming interface protocols would be enabled if MEPs provided access to the data.²¹ In addition, retailers and others would deliver more innovative products and services.

The Authority's decision

- 93 Under current industry arrangements, MEPs only hold information about ICPs, not consumers. On the other hand, retailers can match the billing or physical address of their customers with an ICP's physical address, and identify the customer's metering data. For this reason, the Authority has decided that the obligation to provide access to consumption data most appropriately sits with retailers rather than MEPs.
- 94 Retailers also have the relationship with consumers and would be the obvious party for consumers to expect to provide them with the consumption data.

Standardised formats and processes will be used

Submitters' views

- 95 Most submitters supported standardising formats and processes. Many had helpful, specific ideas about how to respond to requests for consumption data and the standardised structures and formats that might be used. Many submitters supported an Authority-led process that involved participants in the design and specification of procedures and standards.
- 96 One major retailer (Mighty River Power) expressed concern about a mandated standard. Mighty River Power has invested in systems that allow all customers (regardless of meter type) to access consumption data for entire periods back to May 2012. The consumption data available includes both an interval file and a billing period usage file, which is consistent with the Authority's proposed data types. Mighty River Power submitted that a very significant amount of work and cost would be involved in making this data align with a mandated standard.

²¹ An application programming interface is a set of routines, protocols and tools for building computer software applications.

The Authority's decision

- 97 The Authority will work with the industry to develop standards and formats. The Authority will seek input from participants on the design of procedures and anticipates a process like the one it used to develop and maintain the standard specification for the EIEPs. This is likely to be through a broad-based technical working group with interested parties, including non-participants. The Authority will ask the working group to consider current formats, such as the proposed EIEP3A, as well as international standards such as the OpenADE/ESPI standard used in the United States.
- 98 As noted earlier, the Authority is conscious of regulatory risk. The technical working group should address Mighty River Power's concern that its systems might not comply with a mandated standard. The Authority considers it unlikely to be for the long-term benefit of consumers for it to specify a standard that wastes recent investments that deliver improved services to consumers.

Retailers should provide consumption data that they use

Submitters' views

- 99 A number of submitters asked for clarification about whether accumulation data was covered under the proposal, given the wording of clauses 11.32A(2) and 11.32A(3) in the July 2014 consultation paper.

The Authority's decision

- 100 The Authority has revised the Code amendment to refer to the data used by retailers, and the specific reference to half-hourly data is no longer required.

Residential and non-residential consumers should have access to consumption data

Submitters' views

- 101 Clause 11.32D of the Code amendment proposal required retailers to treat a consumer that is not an individual as an individual.

The Authority's decision

- 102 The Authority has revised clause 11.32D to express the purpose of the clause more clearly. That is, the clause states that, for whatever type of customer making a request, the retailer will be sure to take appropriate steps to identify the customer before releasing any information about them. This includes customers that are businesses.

Constraints on the number of free data requests

Submitters' views

- 103 Submitters were divided on whether retailers should be able to charge a fee for providing consumption data.

The Authority's decision

- 104 In the Code amendment the Authority has retained the following limits on requests, which were set out in the Code amendment proposal consulted on:

- a) the retailer has to give the information to the consumer within five business days
 - b) the retailer cannot charge the customer a fee for the customer's first four requests in a 12 month period
 - c) the retailer can impose a reasonable charge if a customer makes more than four requests in a 12 month period.
- 105 The limit enabling retailers to not provide consumption data if they had done so within the last three months has been removed. The Authority agrees this is unnecessary, overly prescriptive, and could lead to perverse and frustrating outcomes for consumers. A minimum number of free requests in any 12 month period is the only necessary requirement.
- 106 The limit on how often a retailer has to provide information to a consumer at no charge is intended to keep retailers' costs of responding to requests down to a reasonable level. The incremental costs of responding to some requests are potentially very small (e.g. the cost of electronic exchange of data using a .csv file format is cents per request). However, the incremental costs of other requests are measured in dollars (e.g. mail or phone requests).
- 107 The provision for a retailer to impose a reasonable charge is consistent with the Privacy Act (section 35). In the case of a fixed charge for making available information, the Privacy Act states that regard may be had to the cost of the labour and materials involved in making the requested information available and to any costs incurred if the request is urgent.
- 108 The Authority notes a concern raised in submissions is that retailers who currently provide consumption data for free may use the Code amendment as an excuse to begin charging for any data feeds that number more than four in any 12 month period. This is not the Authority's intent. Instead, the Authority expects that where data is currently provided for free, this will continue post the Code amendment. In these situations the Code amendment is not imposing an additional cost on the provision of such data, so there is no reason to use the Code amendment as an excuse to charge for the data.

Agents must be authorised to act

Submitters' views

- 109 The use of agents could cause privacy and security concerns and costs for retailers, who would be required to assess whether an agent was properly authorised. Some submitters also noted that the authorisation process could be used to inhibit the activities of agents.

The Authority's decision

- 110 An agent must show it has written authority from the consumer to seek the information or is otherwise properly authorised by the consumer to obtain the information. Written authority is anything that creates a permanent record, and includes e-mail, security log-ins to web portals or online conversations.
- 111 Consistent with the requirements and expectations of the Privacy Act, each request for data by the consumer directly, or an agent of the consumer, will require adequate authorisation by the consumer. The retailer needs to adopt procedures to make sure that it provides a consumer's information only to the consumer or its agent.

The merits of alternatives to the Authority's proposal

Submitters' views

112 The Authority considered three alternatives to the proposal (Option 1):

- a) Option 2: the status quo
- b) Option 3: provide 12 months of consumption data on the customer's bill
- c) Option 4: A central meter data store, which could hold all consumption data. Retailers (or MEPs) would be required to submit the data to the meter data store, where authorised parties could access it.

113 Where submitters expressed support for an option, they were split between supporting the Authority's proposal, the status quo, and a centralised data store. Option 3 was not a focus of submissions.

114 Some submitters proposed simplifications to the Authority's proposal, such as providing monthly register level data rather than providing half-hourly metered data, or providing a maximum of 12 months of accumulation data. One submitter proposed an alternative whereby consumers accessed their consumption data via Powerswitch. Another submitter considered that instead of amending the Code the Authority should facilitate the development of a Privacy Code of Practice for electricity retailers.²² Enabling individual customers to transfer their data between retailers when they switch was put forward both as an alternative to the proposal and as an add-on to the proposal.

The Authority's decision

115 For the reasons set out in this document, the Authority has decided to pursue Option 1, with some changes to the proposed Code amendment.

116 The Authority believes that Option 4 would be materially more expensive and would take much longer to implement. It notes that Option 4 could provide wider benefits such as synergies with reconciliation and improved reporting on embedded generation. Hence, it agrees with those submitters that believed Option 4 should not be entirely discounted as an option. The Authority could reconsider Option 4 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.

117 The Authority considers the alternatives identified by submitters either would not achieve the objectives of the Code amendment, or would not achieve the same level of net benefits. In summary:

- (a) the availability of only non-half-hourly metered data is not expected to deliver the same amount of innovation benefits as would the availability of half-hourly metered data
- (b) Powerswitch is a provider of competitive energy services, so consumers accessing their consumption data from it is not consistent with the Code amendment's objectives

²² For example the Telecommunications Code of Practice, available at www.privacy.org.nz/assets/Files/82227719.pdf.

- (c) enabling consumers to transfer their consumption information to their new retailer, as an alternative to the proposal, would not reduce consumers' search costs by as much as would the proposal
- (d) enabling consumers to transfer their consumption information to their new retailer, as an add-on to the proposal, appears to impose unnecessary costs on retailers (e.g. consumers can request and hold this information themselves before switching)
- (e) developing a Privacy Code of Practice for electricity retailers, such as that for telecommunications, would not reduce consumers' search costs by as much as the proposal and would not meet the Code amendment's objectives, since it would apply only to information about individuals and not to information solely about corporate bodies (such as companies and incorporated societies).²³

Assessment of benefits, costs and net benefits

118 The analysis of benefits and costs in the consultation paper estimated the combined benefits of making consumers' electricity consumption data readily available in a useful format and improving consumers' access to relevant tariff and connection data. However, the analysis in the consultation paper estimated only those costs directly attributable to the Code amendment proposal. The consultation paper noted the estimated benefits were difficult to quantify and uncertain but were expected to be significantly greater than the estimated costs.

Submitters' views

119 Five submitters clearly agreed with the Authority's assessment of benefits, costs and net benefits. Eight submitters believed the benefits were overstated and/or the costs understated. However, with the exception of one submission, there was little evidence provided in the submissions in support of these views.

The Authority's decision

120 The Authority considers that the Code amendment will result in a net benefit to consumers.

121 The Authority's estimate of benefits remains unchanged from that contained in the consultation paper.

122 The Authority has revised its estimate of costs under the final Code amendment to account for feedback in submissions. The Authority estimates the costs of the proposal are between \$425,000 and \$1 million.

123 The Authority also notes the cost-benefit analysis is reasonably insensitive to the estimate of costs, as the benefits are expected to substantially exceed costs.

Assessment of costs

124 Under the Code amendment proposal, the Authority anticipated that retailers would incur costs to modify systems and processes so they could provide consumers with better access to consumption data. The Authority estimated retailers' costs on the basis that they would use a .csv file transfer protocol. This cost would be relatively modest, at around \$15,000 to \$50,000 per retailer, since many participants already transfer data in this

²³ Refer to clause 4 of Schedule 2 of the Telecommunications Information Privacy Code 2003.

manner. In the Code amendment proposal, the Authority estimated a total cost across all retailers of \$425,000. Table 2 provides a breakdown of this cost.

- 125 The Authority estimated that medium-sized retailers would face the highest modification costs because their existing systems would be more complex to alter than the systems of small and large retailers. (Small retailers’ systems would be relatively simple and therefore low cost to alter, while large retailers’ systems would not require changes to their .csv file transfer functionality, but would require some workflow additions / changes.)

Table 2 Present value estimates of modification costs to implement the proposal

Retailer size	Average cost estimate	Number of retailers	Total cost
> 250,000	\$30,000	5	\$150,000
15,000-250,000	\$50,000	4	\$200,000
< 15,000	\$15,000	5	\$75,000
Total for all retailers			\$425,000

Source: Electricity Authority, Retail data project: access to consumption data consultation paper, 15 July 2014

- 126 Based on submissions, some retailers may not need to incur systems development costs. Mighty River Power, for example, advised that it already provides its customers with access to both interval data and billing period data in a manner that is consistent with the Authority’s proposed data types. Mighty River Power went on to say that around 75% of residential customers will have access to consumption data in some form once Contact Energy implements its systems.
- 127 However, not all retailers would seem to have systems that can provide interval data. For instance, Meridian Energy/Powershop estimated that their system cost changes were likely to be \$200,000 for mandatory provision of half-hourly consumption data. Meridian Energy/Powershop advised that the costs would be “significantly lower” for their preferred option of providing monthly register-level consumption data, although they did not provide an estimate of the cost for this alternative.
- 128 As already noted, the final Code amendment requires a retailer to provide its customers with the same consumption data the retailer uses to calculate the customer’s electricity consumption, or to provide other services to the customer. The final Code amendment should be less costly for retailers to implement than the proposal consulted on, which required retailers hold and provide to a consumer that consumer’s electricity consumption data. The original proposal would have required retailers to hold information that they did not hold in the ordinary course of their business.
- 129 Despite the lower anticipated costs of the final Code amendment, the Authority has decided to make its estimate of the costs for the final Code amendment higher than the cost estimate for the original proposal. The Authority has estimated that the present value

of the cost of the Code amendment will fall between \$425,000 and \$1,000,000. The increase in the cost estimate takes into account submitters' feedback that the cost estimate for the original proposal was too low.

- 130 Table 3 shows the Authority's revised cost estimate for retailers to amend their systems and processes (including some support staff training). The estimate retains the assumption that medium-sized retailers will face the highest modification costs, for the same reason given above.

Table 3 Present value estimates of modification costs to implement the proposal

Retailer size	Average cost estimate	Number of retailers	Total cost
> 250,000	\$30,000-\$90,000	5	\$150,000-\$450,000
15,000-250,000	\$50,000-\$100,000	4	\$200,000-\$400,000
< 15,000	\$15,000-\$30,000	5	\$75,000-\$150,000
Total for all retailers			\$425,000-\$1,000,000

- 131 The Authority remains of the view that the costs incurred by many retailers will be towards the lower end of this range because:

- (a) some retailers may not incur any costs to modify systems, because they already have a .csv file transfer system in place
- (b) other retailers should face lower costs than under the original proposal, because there is now no requirement to hold data they would not ordinarily hold.

Assessments of benefits

- 132 The Authority anticipates the Code change will, over time, lead to allocative, productive and dynamic efficiency gains.
- 133 *Productive efficiency* is achieved when products and services desired by consumers are produced at minimum cost to the economy.
- 134 *Allocative efficiency* is achieved when the marginal value consumers place on a product or service equals the cost of producing that product or service, so that the total of individuals' welfare in the economy is maximised.
- 135 *Dynamic efficiency* is achieved by firms having appropriate incentives to innovate and invest in new products and services over time, thereby increasing their productivity and lowering the relative cost of products and services over time.

Allocative efficiency

- 136 The Authority estimated allocative efficiency gains that might be achieved under the Code amendment proposal. The estimates are provided in Table 4 below.
- 137 Meridian Energy/Powershop were critical of the Authority assuming, as a base case, a 5-10% increase in switching and an annual saving of \$150-200 per consumer. They noted the 2014 UMR report referred to earlier in this document showed 47% of consumers were

interested in power data.²⁴ They argued the Authority’s assumption implied a 10-20% uplift in switching for members of this smaller consumer group.

138 This criticism appears not to recognise that consumers incur search costs whether or not they decide to switch retailer. If search costs were reduced so that a further 6-7% of consumers found a better deal with an annual saving of roughly \$150, the allocative efficiency gains alone would offset all of the estimated costs of the Code amendment. This is shown in Table 4.

Table 4 Estimates of present value allocative efficiency gains

Additional consumers moving to a lower price (%)	NPV ²⁵ savings available from moving to a lower price (\$/consumer)		
	\$100	\$150	\$200
1% more (or 21%)	\$67,721	\$152,373	\$270,886
5% more (or 25%)	\$338,607	\$761,866	\$1,354,428
10% more (or 30%)	\$677,214	\$1,523,732	\$2,708,856

Source: Electricity Authority, Retail data project: access to consumption data consultation paper, 15 July 2014

- Notes:
1. 20% base switching rate
 2. 10 year discount period at 8% with no inflation
 3. -0.26 elasticity of demand (sensitivity of demand to a change in price)

139 Allocative efficiency gains are typically quite small compared to productive and dynamic efficiency gains (particularly the latter) arising from initiatives that improve competition.

Productive efficiency

140 The Authority expects the Code amendment to stimulate productive efficiency gains by encouraging retailers to reduce costs. The pressure to reduce costs will result from increased searching by consumers for lower priced offers.

141 If productivity gains under the proposal equate to just 1.5% of the estimated economic wealth transferred from retailers to consumers who switch to lower priced offers, these productivity gains would equate to the estimated cost of the change. This assumes an additional 5% of consumers switch retailers, and receive an annual saving on their power bill of \$150.

142 The above numbers may underestimate the potential for productivity gains from improved access to consumption data. The estimated benefits consider only the impact on the energy side of the industry. Some submitters pointed to additional economic savings if consumers use consumption data better when deciding how they use energy. For example, The Lines Company observed that a 1% reduction in power demand growth from better informed consumers would equate to a \$17 million saving in ongoing costs in the

²⁴ UMR research (2014) *Report: Charge Transparency* (Electricity Authority: Wellington, New Zealand).

²⁵ The consultation incorrectly stated that the values were annual savings.

electricity distribution sector.²⁶ This benefit has not been included in the Authority's assessment.

Dynamic efficiency

- 143 The Authority expects the Code amendment to increase competition in the retail electricity market as retailers compete with each other and against energy services companies to provide products and services to consumers who are more actively engaged in the retail market.
- 144 The increased competition will lead to greater innovation in products, processes and business models over time, to the benefit of consumers and the economy more generally. These dynamic efficiency benefits typically have a far greater impact on the long-term benefit of consumers than allocative or productive efficiency benefits.
- 145 The Authority agrees with submitters such as MEUG that the dynamic efficiency benefits of the Code amendment could be significant. However, measuring dynamic efficiency benefits is challenging. The Authority has not identified a robust approach for quantifying these potential benefits.
- 146 The Authority has therefore relied on empirical evidence from economic studies looking at dynamic efficiency effects where poor regulatory decision-making resulted in delayed innovations.
- 147 A good example is the 1997 study by Professor Jerry Hausman, from the Massachusetts Institute of Technology, on regulating the telecommunications sector in the United States of America. Hausman's analysis demonstrated dynamic efficiency effects that were many times larger than the combined allocative and productive efficiency effects.²⁷
- 148 It is now widely accepted among economists that this will often be the case across different sectors of the economy.
- 149 As discussed earlier in this paper, the Authority considers there is a small risk that the Code amendment will discourage retailers from further investments in AMI, which would represent a dynamic inefficiency cost.
- 150 The Authority cannot estimate the size of the possible inefficiency cost. However, it does not consider the cost would be significant because other parties, such as distributors, would take the opportunity to supply AMI. In any event, retailers and others have primarily invested in AMI to obtain productive efficiency benefits from reduced transaction costs (such as reducing manual meter reads). Consequently, the Authority does not anticipate that requiring retailers to exchange consumption data with consumers would materially alter the benefits accruing to retailers from investing in AMI.
- 151 The Authority considers that the possible dynamic inefficiency costs would be more than offset by the dynamic efficiency benefits from increased retail competition and innovation.

²⁶ The Lines Company referenced PwC's 2014 Information Disclosure Compendium for New Zealand's electricity lines businesses.

²⁷ Hausman, J.A, "Valuing the Effect of Regulation on New Services in Telecommunications", Brookings Papers on Economic Activity: Microeconomics, 1997, p. 23.

Conclusion

152 When assessed against the potential for allocative, productive, and dynamic efficiency, the Authority expects the Code amendment to produce long-term benefits to consumers several times larger than the cost of implementing the amendment. Even if the allocative and productive efficiency gains are lower than forecast, the long-run dynamic efficiency benefits are likely to be material.

Code amendments

Part 11 : Registry information management

...

11.1 Contents of this Part

This Part—

- (a) provides for the management of information held by the **registry**; and
- (b) prescribes a process for switching **customers** and **embedded generators** between **traders**; and
- (c) prescribes a process for a **distributor** to change the record in the **registry** of an **ICP** so that the **ICP** is recorded as being usually connected to an **NSP** in the **distributor's network**; and
- (d) prescribes a process for switching responsibility for **metering installations** for **ICPs** between **metering equipment providers**; and
- (e) prescribes a process for dealing with **retailer events of default**; and
- (f) requires **retailers** to give **consumers** information about their own consumption of **electricity**.

...

Access by consumers to information about their own electricity consumption

11.32A Retailers must give information about consumer electricity consumption

- (1) Each **retailer** must, if requested by a consumer with whom the retailer has a contract to supply **electricity**, or with whom the **retailer** has had such a contract in the last 24 months, give the **consumer** any of the information specified in subclause (2) that the **consumer** requests.
- (2) The information referred to in subclause (1) is information relating to any period in the 24 months preceding the request—
 - (a) about the **consumer's** consumption of **electricity** relating to each **ICP** at which the **retailer** supplied **electricity** to the **consumer**; and
 - (b) used by the **retailer** to—
 - (i) calculate the amount of **electricity** consumed by the **consumer** at each **ICP**; or
 - (ii) provide any service to the **consumer**.

11.32B Requests for information

- (1) A **retailer** to which a request is made must give the information to the **consumer** no later than 5 **business days** after the date on which the request is made.
- (2) In responding to a request, the **retailer** must comply with the procedures **publicised** by the **Authority** under clause 11.32F.
- (3) A **retailer** must not charge a fee for responding to a request, but if 4 requests in respect of a **consumer's** information have been made in a 12 month period, the **retailer** may impose a reasonable charge for further requests in that 12 month period.

11.32C Retailers must notify consumers of availability of information

Each **retailer** must notify each **consumer** with whom it has a contract to supply **electricity** of the **consumer's** ability to make a request to the **retailer** under clause 11.32B, so that the **consumer** is notified at least once in each calendar year.

11.32D Information security

A **retailer** that receives a request for information under clause 11.32B—

- (a) must not give access to that information unless it is satisfied as to the identity of the **consumer** making the request; and
- (b) must ensure, by the adoption of appropriate procedures, that any information intended for a **consumer** is received—
 - (i) only by the **consumer**; or
 - (ii) where the request is made by an agent of the **consumer**, only by the **consumer** or the **consumer's** agent.

11.32E Agents

If a **consumer** authorises an agent to request information under clause 11.32B, a **retailer** must treat a request from the agent as if it were a request from the **consumer**, if the agent has the written authority of the **consumer** to obtain the information or is otherwise properly authorised by that **consumer** to obtain the information.

11.32F Authority must publicise procedures for responding to requests for consumption information

- (1) The **Authority** must, no later than 20 **business days** after this clause comes into force, **publicise** (and must keep **publicised**) procedures under which a **retailer** must respond to a request from a **consumer** under clause 11.32B.
- (2) The procedures **publicised** by the **Authority** must—
 - (a) specify the manner in which information must be given to **consumers**; and
 - (b) specify 1 or more formats in which information must be given to **consumers**.