

9 October 2024

Energy Use policy team
Ministry of Business, Innovation and Employment
Via email: energyuse@mbie.govt.nz

Tēnā koe,

Instantaneous standardised energy data sharing will benefit consumers

New Zealand's energy system is changing and a framework for instantaneous standardised data sharing will be central to optimise outcomes for consumers in our future system.

Powerco supports a consumer data right (CDR) as one part of a future focused energy data system. Powerco is one of Aotearoa's largest gas and electricity distributors, supplying around 357,000 (electricity) and 113,000 (gas) urban and rural homes and businesses in the North Island. These energy networks provide essential services to around 1 million kiwis and will be core to Aotearoa achieving a net-zero economy in 2050.

We have responded to the questions in the discussion document in the attached table and would be pleased to work with MBIE alongside other key parties to develop options. Our summary views are:

Data flow & standardised approaches will drive a new system & need robust assessment

- Streamlined and instantaneous data flow with standardised approaches are a key enabler in New Zealand's future energy system.
- Data systems and uses are complex. Reducing administrative and compliance costs is possible through design of systems and automated responses.
- The costs of implementing a CDR for electricity will fall on all consumers and it needs to be assessed against the customer's benefit and understanding of customers' willingness to pay. A CDR may appear to add value for customer decision-making, but the case for a CDR vs other mechanism is not yet clear. Detailed cost-benefit assessment will be important for MBIE's next stage of electricity CDR development.

A CDR needs to integrate with other regulations & agreements

- There are critical interactions with the Electricity Code, other work programmes looking at data and coordination in various aspects of the energy sector, and with consumer gas services.
- We accept that systems for Powerco and multiple entities will need to change. There is opportunity to reduce time and cost impacts and maximise benefits by Government and industry working together on solutions that are integrated across the sector and can meet multiple purposes, including a CDR.

- Consumption data is a key input to EDB network planning and pricing. While broader data access arrangements (through DDA, commercial agreements or future regulation) are beyond the scope of CDR, MBIE needs to be aware of these in the design and drafting of the regulations to ensure no unintended consequences.

This submission does not contain any confidential information. We understand the privacy statement and this submission may be published and used in full. Further information about Powerco is provided for reference in attachment 2. If you have any questions regarding this submission or would like to talk further on the points we have raised, please contact Irene Clarke (Irene.Clarke@powerco.co.nz).

Nāku noa, nā,



Emma Wilson

Head of Policy, Regulation and Markets

POWERCO

Attachment 1 – Response to discussion document questions

Table 1 Powerco responses

Status quo and problem definition	
1.	<p>What are your experiences of accessing consumer and product data for electricity under the status quo?</p> <p>We have significant experience in accessing consumer and product data. Technology and the energy system are changing at pace. To maximise consumer benefit, our interest is in a regulatory outcome which will achieve seamless data exchange across the energy system, by the most efficient approach.</p> <p>Our experiences are in accessing consumption data across our network, rather than for individual consumers but ultimately for their benefit. Consumption visibility across the network is fundamental to managing the power system. Distributed Energy Resources (DER) data is necessary to improve visibility and manage or coordinate DER, for example DER connection, type, state, contracted volume, and capacity of the distributed resources.</p> <p>We have experienced barriers to accessing meter data with the cost, administrative and compliance burden. This is due to the number of interested parties involved (Electricity Distribution Businesses (EDBs), retailers, meter providers etc) who work one-on-one to agree the framework, type of data, process, and cost. Meter data providers must cater to the different requirements and needs from a significant number of data consumers (eg 29 EDBs) and a standardised approach to data would help to eliminate some of these transaction costs, and ultimately help reduce consumer bills.</p> <p>We have experienced considerable variability across data providers, for example, ranging from provision of consumption data at no cost, to data provided for a marginal processing cost (eg \$600 per month), to data provided at a cost premium per ICP which can accumulate to hundreds of thousands of dollars per annum.</p> <p>In the general comments section below we have referenced the recently released Ara Ake EDB Challenge report¹ which found data access to be a significant barrier, in fact the barriers of data access were too high to enable the piloted initiatives to be commercially viable.</p>
2.	<p>Do you agree with our summation of the status quo and problem definition? Is anything missing or incorrect in your view? And please provide any evidence you may have to support your views.</p> <p>We fully support the vision of near instantaneous transfer, download and access of data via electronically standardised mechanisms (page 20).</p> <p>We agree that access to consumer and product data in the electricity sector is not new. The Electricity Authority, the Electricity Industry Participation Code (the Code) and the Electricity Information Exchange Protocols (EIEPs) already manage consumption and product data and procedures. The Electricity Authority is also progressing a number of workstreams relevant to data and the future energy system, and this work includes response to various past reviews such as those outlined in Box 3.</p> <p>We agree there is scope for improvement in the practices for provision of data. The discussion document does not adequately analyse the full scope of relevant work underway by the Electricity Authority, the potential of the Code or other existing instruments to address the problem, or how a CDR would fill a gap not possible through other tools. The discussion document states that 'the Authority and MBIE are working</p>

¹ Ara Ake EDB Challenge Learnings and insights report October 2024 available here: [Electricity Distribution Business Challenge » Ara Ake](#)

together closely as their respective work programmes progress to minimise or avoid duplication, gaps and overlaps' and we endorse the importance of this to avoid unnecessary regulatory cost for many parties involved in the energy system (and ultimately cost to consumers).

We note the CDR is focused on customer competition. EDBs use consumption data such as time of use data for network planning and pricing. While not a consumer competition benefit, more efficient network plans and more cost reflective prices will lead to lower costs for consumers which is consistent with a customer benefit purpose.

Given our experience in complexity with terms of access and costs for bulk consumption data, there would be customer benefit in providing bulk access to data through the CDR for accredited requestors – including EDBs for purposes directly related to their core customer line services, specifically network planning and pricing.

There is a significant gap in the problem definition. The discussion document focuses only on electricity, it does not address gas and is therefore not addressing the complete scope of energy delivered to consumers. Over 310,000² customer connections are for both electricity and gas. Around 1/3 of gas connections on the Powerco network have smart meters and this will continue to grow as smart gas meters are rolled out. A consumer seeking to manage their energy or investigate switching will be looking at both electricity and gas in the case of over 310,000 homes and businesses in New Zealand. If new regulation is seeking to support consumer decision making and streamline data transfer, it will be incomplete to only address electricity.

3. Do you think that regulatory options are necessary to unlock better access to customer and product data?

Yes, we support regulatory options where this does not result in any adverse consequences. We encourage careful analysis to adopt the most efficient regulatory options, which may or may not be CDR.

4. What do you consider to be the likely outcomes for access to customer and product data in the absence of a CDR for electricity?

This is dependent on the scope and outcome of various workstreams underway by the Electricity Authority. Should that work programme make significant changes to data access, there may be no effective difference in the absence of a CDR.

What a consumer data right for electricity could look like

5. Who else may be impacted by a designation of the electricity sector? Should particular groups or classes of entities be explicitly included or excluded from a potential designation?

As stated above, we fully support the vision of near instantaneous transfer, download and access of data via electronically standardised mechanisms (page 20).

The parties listed (page 21) that could be captured and impacted by a CDR appears comprehensive. We consider that some parties could be explicitly included in the designated categories to recognise statutory roles and avoid duplication, administration or vetting processes. The regulations should confirm all energy retailers, meter equipment providers (MEP) and distributors as 'accredited requestors' and 'data holders' (for specified data). Energy distributors can use consumption data for ICP based pricing. As an accredited requestor, the distributor could then work with a customer on an individual pricing approach.

² Total gas ICPs in the 2023 reporting year was 311,296 recorded in Commerce Commission disclosure data for the 4 gas distributors [Commerce Commission - Information disclosed by gas pipeline businesses \(comcom.govt.nz\)](https://www.comcom.govt.nz/information-disclosed-by-gas-pipeline-businesses)

Our view is that all consumers should be in scope of the regulations. We comment on this further in question 7.

6. **What customer data do you think is the most important? And what else (now or in the future) would be important? And why? What are the benefits from consumers having ready access to this data?**

The framework for considering what datasets could be included (page 22) is appropriate. However, this framework should also explicitly consider whether the dataset is, or could be, available through other regulatory mechanism or tools.

We endorse consumption data in half hourly increments, going back 2 years, being central to the purpose of the CDR. In our view, all data collected by smart meters should be within scope of a CDR. Some meter data may not be collated currently, but this does not mean it should not be included as data designated under a CDR. However, we would discourage including data sets which would require new data to be collected or stored. The focus should be on data already being collected.

There is a balance in prescribing the data designated for a CDR, and the expectation that data collected (and relevant) will change over time. For example, 30-minute consumption data may be collected currently, but this may change to 5-minute data in the future, or additional data may become available. If systems for a CDR are built to instantaneously share 30-minute data only, this may prevent changes to data sharing in the future. It is not clear if changes in standard data collected would automatically become consumer data, and how implementation challenges will be managed.

The discussion document identifies retailers as the proposed data holder. This is appropriate as a consumer's primary relationship is with the retailer. We note that retailers may not hold 2 years of data for a consumer, but the MEP would hold the current and historical data. As the holder of the consumer data may vary between the retailer and the MEP, it would be advantageous to ensure that a designated retailer is required to make the data available, notwithstanding this may be through a subcontract with a MEP.

The discussion document poses a question about whether DER data should be within scope. The Electricity Authority is already working to make basic DER master data available (e.g. rating, type of DG / BESS) via the Code and electricity registry. Some DER data is already available to consumers via the Electricity Authority's 'your meter' platform. In our view DER data should remain part of the Code and electricity registry rather than the CDR.

Network quality data is also mentioned as an item not proposed to be included. If the objective of the CDR initiative is limited to supporting customer choice, then quality data at customer level may not be relevant as customers do not have a choice of network provider and therefore this is not relevant in consumer switching decisions. This may change in future with Distribution System Operator (DSO) offerings with alternatives in terms of reliability. Historical network performance data is generally not collected or stored in a format ready for instantaneous data transfer so would likely result in a manual process and significant cost to administer, compared to meter data. ICP specific network performance forecast data is likely to become more accessible in the future, but as for DER, this is something the Electricity Authority is already looking at and more appropriate to be addressed through the electricity regulator on a network basis³.

³ Powerco's large scale DG hosting capacity map is a similar example which illustrates of the approximate DG hosting capacity on our high voltage network. This is a mapping tool rather than an ICP database. [Powerco Large Scale DG Hosting Capacity \(arcgis.com\)](http://arcgis.com)

7. If access to customer data is designated for all consumers (residential, small business, large business and large consumers) what are the potential benefits, risks or costs associated with each type of customer? And why?

We acknowledge that many very large customers have bespoke energy products, and these customers could be excluded from the regulations. Alternatively, including large customers would have little additional cost and could provide very large customers an alternative process for them or their agent to collate and analyse data. For example, a large industrial customer or a large public service customer may have multiple sites nationally with different configurations or retailers (for administrative or historic reasons) so CDR could improve data access for the customer and their agents.

8. What product data do you think is the most important? And what else (now or in the future) could be important? And why? What are the benefits from this data?

We are unclear what is meant by 'network' in the list of proposed product data (page 24). Is this network manager (EDB), network pricing, network quality or something else? If this is just the network a customer is on, this does not seem relevant as customers do not have a choice of network provider and therefore is not relevant in consumer switching decisions (and the network footprint of each of the 29 networks is public information)⁴.

Distribution network pricing information is already fully disclosed as a requirement of the Commerce Act⁵. In the future, network pricing will become more locationally specific, likely for groups of ICPs. For network price signals to be effective, tariff parameters (eg applicable time of use periods, kWh rate) will need to reference the specific subset of ICPs within the network constrained area (same applies to bilateral contracts). ICP is the unique reference (below Grid Exit Point) that is consistent across the whole industry. Similar to our comments on network quality data in question 5, sharing of network pricing data between networks and traders would be a matter beyond the CDR, even though the information is relevant for customers. The important thing about network pricing is that retailers "observe" it. They may choose to respond by investing in new capacity (batteries) or they may choose to send signals to customers to change behaviour e.g. hour of power. However, their passthrough of network prices doesn't have to be directly cost reflective as the retail pricing product repackages our network pricing in various ways which is more relevant to the customer.. Requiring transparency on the network component may cause unintended consequences for retail competition (which CDR seeks to improve). This is also highlighted in the EAs letter to distributors.⁶

The discussion document requests feedback on product data such as distributed energy products. DER product data may be relevant in the network value offering for deploying that DER. These are price signal elements and may be deployed through contracts or standard tariffs. While this is part of 'network product data' with reference to an ICP, it is secondary to the retail product offerings which the CDR targets.

We have commented on network quality data in question 6.

9. Are there any other issues with product data we should be aware of? And why? Please provide examples.

We agree that product data can be complex. However standardising product data so offerings can be fairly compared is an opportunity with the CDR.

⁴ Interactive lines company map: [Lines Company Map | ENA](#)

⁵ Powerco's pricing methodology and regional prices are available here: [Electricity pricing \(powerco.co.nz\)](#)

⁶ [Distribution Pricing Reform: Next steps \(ea.govt.nz\)](#), at 5.11

We encourage the CDR to focus on information that is already collected, and standardising the form and approach to sharing that data. This will still have implications on data, IT systems and data holders' processes, but it will reduce the impact.

It would be hard to define the circumstances when retailers are excluded from providing data for certain customers and type of product. We have commented in question 7 on large customers and bespoke products and are of the view that there is more advantage for customers than disadvantage for data holders to attempting to exclude some types of product data. For example, schools have different electricity products from different retailers and many of these are likely not generally available tariff plans. However, there is advantage in individual schools or an agent for public education services being able to easily access data for analysis and comparing.

10. **What factors should be considered when identifying who the best data holder is under a potential CDR regime? And how might contracting agreements affect the application of a CDR in regard to data holders? (e.g., contracts between metering equipment providers and retailers to share data).**

We consider that the entity or group of entities with most cost-efficient and direct access to the data should be designated. A small group of designated data holders is appropriate.

We agree that a focus on retailers appears the efficient option for all data that is likely to be part of a CDR. As noted in question 6, this will involve retailers subcontracting the obligation to MEPs in some cases. With the number of retailers, subcontracts, and potential variance in approach, it will also require a system which uses technology for instantaneous data transfer, not controlled by individual retailer decisions.

Powerco is willing to be a designated data holder for data that we directly manage where this is not available from the primary designated data holder.

11. **Do you agree with our initial framework for how to identify/designate data holders? Why or why not?**

We agree with the 4 items in the framework on page 26. One of the listed considerations is about the purpose for which the data is held being aligned to the purpose for which it would be used if designated. The discussion document is not clear about the actual purpose the regulations would seek to address, or the intended use of the designated data. This seems fundamental to designing a CDR. If it is about comparing retail plans, switching, or a consumer considering new electricity options (such as DER installation) which is suggested but not stated as the purpose, this should be made clear in the regulations, so the system is designed according to the purpose.

As the datasets are likely held by multiple parties, considering the most cost-efficient option is important.

12. **What actions could be designated for electricity under a CDR? And why? What are the potential benefits from these? Please provide examples.**

The designated actions would become clear once the purpose is defined (see our response in question 11). The discussion document does not propose any actions which illustrates the fact that the Code may already deal with actions and data relevant to a potential CDR. We comment on this link with the Code further in question 23.

The discussion document identifies operation of hot water by flexibility provider as a potential action. Timely data on usage patterns will be important as flexible load is used more actively. However, this is a matter of broader consumption data and flexibility across a network and does not seem relevant for CDR.

Potential benefits and risks

13. What are your thoughts on the potential impacts of a designation on the interests of consumers? Are there any specific benefits that are likely to be enabled with designation? What is the likely scale of the benefits, and over what timeframe would they occur?

There are potential benefits over and above what the Code provides for, however some benefits could also be implemented through the Code eg form, timing and approach to sharing consumer data. A new benefit with the designation could be a role for third parties or accredited requestors to have easier data access.

Ultimately, the consumer or all consumers will pay for any implementation of a CDR. The systems and resourcing for data management are complex and costly. There is some alignment on systems within the sector for interaction with the electricity registry, however in our experience, systems set up for the registry are now outdated and will require significant upgrading to meet the expanded expectations on data collected and transferred. Our current systems (like CWMS, CMS) are not capable of integrating new capabilities without significant work and will likely need replacement. We expect to upgrade our systems in the future, and other entities will likely need to do the same to achieve sector alignment and instantaneous standardised data transfer. We will commit to the resourcing necessary for upgrades or system changes to achieve sector and consumer outcomes, but this is not currently in our business plan for either FY25 or FY26. The costs need to be further assessed, and an acknowledgement that ultimately, this will be a cost for consumers. We comment on this further in question 15.

The benefits of the CDR depend on nominated parties (primarily retailers) delivering instantaneous data access rather than prescribing the form of delivery. In some cases nominated parties may hold data themselves (but distributed across the industry), in other cases they may subcontract that role to others (most likely MEPs). With open data access arrangements fully in place there should be no need for a central registry of customer data such as the current electricity registry whose design and implementation reflects technology and architecture of the early 2000s.

14. Do you have any comments on the specific interests of different types of consumers, such as, residential, business, industrial, rural, Māori, or other groups of consumers?

Improved data access and sharing has the potential to benefit all types of consumers. For ease of administration, regulatory requirements should apply to all types of consumers.

15. What are your views on the nature and scale of costs/benefits? Who would these costs/benefits apply to and when?

We have commented on the potential costs of system upgrades in question 13. The best approach to minimising ongoing implementation costs is to ensure that the regulatory requirements are fully automated, instantaneous and standardised. Any data requiring manual collation or transfer will be very resource-intensive and significantly increase costs.

Implementing new data systems will take time and will need to align with Code/registry changes in progress or planned by the Electricity Authority. Given the likely significance of data system changes, we recommend the policy process work to future-proof systems. This means not just considering the proposed CDR and current or pending Code requirements but looking ahead to the future power system in New Zealand and likely systems needed. For example, transparency in a more distributed flexible system with more localised pricing or quality options which will influence a consumer's decisions on retail offerings.

Consideration of timing and transition will be important in assessing costs and benefits of proposals and ensuring coordination of obligations.

In setting up new data systems to meet both Code and CDR and future-system requirements, it would be efficient if systems can automatically address compliance and reporting to the regulator. We note that technology is changing quickly, and new metering technology may offer opportunities to avoid administrative and compliance costs, particularly where data is not being collected for revenue-related purposes.

We note that EDBs have data access arrangements with retailers for the purposes of billing which are anticipated as part of the Default Distributor Agreement (DDA). EDBs may also have commercial agreements with MEPs for access to smart meter consumption data. Any CDR regulations must be designed so they do not interfere with existing regulatory or commercial agreements where one party may be a 'data holder' and one a 'data requestor' for purposes completely separate to the CDR.

Costs for new requirements will be faced by retailers, MEP, EDBs and third parties. However, these costs will be passed on to consumers through pricing so the consumer will ultimately pay. If a CDR for electricity is explored further, the costs of implementing a CDR for electricity need to be well understood and assessed against the customer's benefit. The scale of cost, benefit and the customers' willingness to pay needs to be transparent in order to justify a CDR vs other mechanisms for data sharing. Detailed cost-benefit assessment will be important for MBIE's next stage of electricity CDR development.

16. **Would you be able to quantify potential additional costs to your organisation associated with designation under the Bill?**

We recommend MBIE work directly with the Electricity Authority on the combined CDR and Code data proposals, and liaise with the sector on proposal options and likely costs. We would welcome the opportunity to work with you as you develop the cost/benefit analysis on more specific proposals. As noted in question 13, we will likely require replacement data systems to meet changing data sharing expectations associated with both a CDR and other Code changes.

17. **Do you have any comments on the benefits and risks to security, privacy, confidentiality, or other sensitivity or customer data and product data?**

No further comment.

18. **Are there any risks from the designation to intellectual property rights in relation to customer data or product data?**

Some products will have intellectual property considerations, eg operational aspects of DER, however as per comments above, we do not anticipate this type of product data being relevant for a CDR.

Other aspects of a potential designation

19. **What do you consider to be important if designing an accreditation regime for the sector?**

The proposed accreditation criteria are appropriate. In question 5 we recommended that the regulations should confirm all energy retailers, MEPs and distributors as 'accredited requestors'. The compliance costs and time for both applicants and the regulator should be avoided for those parties known to meet the criteria (eg due to existing regulatory requirements) and known to be a relevant accredited requestor for the purposes of the CDR.

20. What are your views on fees for requests for customer electricity data under the Bill? If fees are charged, what limits or restrictions should be placed on fees? Do you have any comments on the costs and benefits of the various options?

Data sharing should be free for the customer as the customer has already paid for the data collection through their retail charges. The process must be instantaneous and automatic to be workable, and with automated responses to requests, fees for individual requests should not be relevant. This is predicated on the necessary data systems and processes being available for all parties involved. In question 13 and 15 we discussed the importance of systems and the associated costs for the data holder in establishing the necessary systems. This should be viewed as part of doing business rather than charged to a customer on a CDR request, noting that these costs will ultimately be shared across all consumers.

21. Are there any particular considerations for electricity that should be taken into account for a consumer consenting process?

Customer electricity data is already collected and shared. This occurs as part of the Code requirements and also under separate agreements between entities within the electricity sector. Customer consent protections for a CDR will need to be considered in the context of other data sharing activities. This may create differences to the banking sector so that not all learnings are relevant.

22. Do you think that standards should be led by industry, by government or co-led? What is the role of industry in developing standards? And why?

Standards and protocols are important for operation of a smart energy data sharing system. We are happy to be involved in any of the standards development options through input and partnership. On balance, co-developed standards with industry and government working together would be the option most likely to achieve industry involvement, cross government⁷ considerations, and maintain momentum.

Industry has an important role to contribute to assessing different options including workability, cost/benefit, and timing.

23. How do you believe a CDR and the Code could/could not work together?

We encourage a systems approach where data sharing is instantaneous “machine to machine”. Manual data sharing is not workable.

We support a regulatory approach to unlock better data access. This could either be via the Code or a CDR but the interaction needs to be clear. Using the electricity registry may be the most efficient option for the sector, and we strongly discourage any new system which would duplicate the registry.

The Electricity Authority is already working on expansions to the registry and also working on data access for the future operation of New Zealand’s power system in other work streams. MBIE must work closely with the Electricity Authority on these interactions.

Registry or data system changes can be costly and have significant lead time. Long transition periods should be planned where data holders need to share new data sets. We have commented on this further in questions 13, 15 and 20.

We also commented at question 15 that any unintended consequences with regulated data agreements (eg DDA) or commercial agreements will need to be avoided.

⁷ To ensure standards are workable in the context of various regulatory and future focused use cases, which are in scope of a number of different government agencies.

General Comments:

We support an outcome of instantaneous standardised energy data sharing for the benefit of consumers.

Data flow and standardised approaches will be key enablers for consumer choice and sector coordination in New Zealand's future energy system. It is timely to look at new approaches to efficiently share data across interested parties, but this needs to be worked on across relevant government agencies and industry, not focused on CDR alone.

The recently released Ara Ake EDB Challenge report⁸ documents the partnerships between EDBs and innovators looking for solutions in a system with more DER and need for visibility of low voltage networks. Relevant to considerations for a CDR (and related Code improvements), the pilots found data access to be a significant barrier, in fact the barriers of data access were too high to enable the piloted initiatives to be commercially viable. The report identifies recommendations for Electricity Authority regulation to enable ease of data access and use:

- Address lack of competition between MEPS
- Introduce a robust data governance framework and coordination process to ensure transparency and equitable access to smart meter data for all entities (including flexibility providers) offering services within the network
- Address the lack of data standardisation provided by MEPS
- Build a framework to resolve the excessive liability terms attached to using smart meter data.

Data sharing for consumer benefit goes beyond the current electricity system. This is not addressed in the consultation paper. The Interactions with the gas network or other energy types such as LPG or flexibility providers are important and understanding these interactions and providing coordinated responses for consumers is crucial.

⁸ Ara Ake EDB Challenge Learnings and insights report October 2024 available here: [Electricity Distribution Business Challenge » Ara Ake](#)

Attachment 2 – Information about Powerco and our network

Providing an essential service

We bring electricity and gas to around 1 million kiwis across the North Island. We're one part of the energy supply chain. We own and maintain the local lines, cables and pipes that deliver energy to the people and businesses who use it. Our networks extend across the North Island, serving urban and rural homes, businesses, and major industrial and commercial sites. We are also a lifeline utility. This means that we have a duty to maintain operations 24/7, including in the case of a major event like an earthquake or a flood.

The cost of operating our business is not dependent on the amount of gas or electricity we distribute in our networks. These costs reflect the need to maintain the safe operation of the network and are mostly driven by compliance with safety regulations. This includes replacing assets when they reach their end of life. Additional costs to grow the size or the capacity of the network are often met by customers requiring the upgrade or new connection.

Under Part 4 of the Commerce Act, Powerco's revenue and expenditure are set by the Commerce Commission as part of monopoly regulation. We are also subject to significant information disclosure requirements, publicly publishing our investment plans, technical and financial performance, and prices. The regulatory regime allows us to recover the value of our asset base using a regulated cost of capital (WACC) set by the Commission, and a forecast of our expenditure. Every five years, the Commission reviews its forecasts and resets our allowable revenue. This process is designed to ensure the costs paid by customers for us to manage and operate our network is efficient given we are a monopoly and an essential service.

Our electricity customers

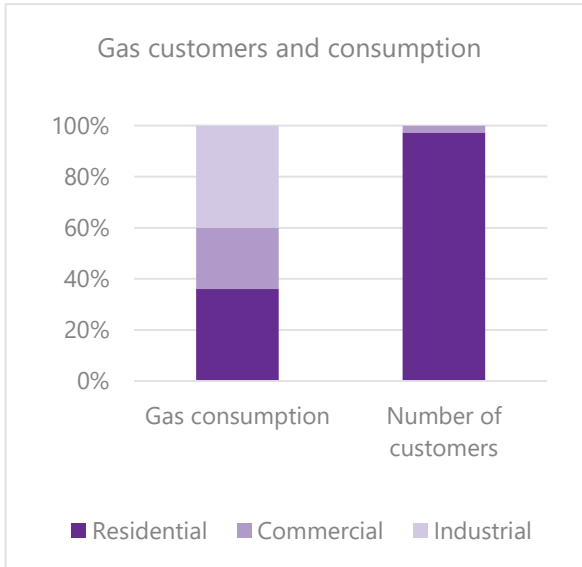
Powerco is New Zealand's largest electricity utility by the area we serve. Our electricity networks are in Western Bay of Plenty, Thames, Coromandel, Eastern and Southern Waikato, Taranaki, Whanganui, Rangitikei, Manawatu and Wairarapa. We have over 29,000 km of electricity lines and cables connecting around 357,000 homes and businesses. Our place in the electricity sector is illustrated below.



Our network contains a range of urban and rural areas, although is predominantly rural. Geographic, demographic, and load characteristics vary significantly across our supply area. Our development as a utility included several mergers and acquisitions that have led to a wide range of legacy asset types and architecture across the network. Powerco is one of 29 electricity distribution companies. Our customers represent around 13% of electricity consumption (similar in magnitude to the Tiwai aluminium smelter) and around 14% of system demand. Powerco's

network is almost three times the size of Transpower’s in terms of circuit length. The peak demand on our combined networks (2023) was 974 MW, with an energy throughput of 5,225 GWh.

Our gas customers



Powerco is New Zealand’s largest gas distribution utility. Our gas pipeline networks are in Taranaki, Hutt Valley, Porirua, Wellington, Horowhenua, Manawatu and Hawke’s Bay. We have over 6,200 km of gas pipes connecting to around 114,000 homes and businesses. Our customers consume around 8.6 PJ of gas per year.

Our industrial customers are less than 1% of our customer base and consumer approx. 40% of gas on our network. Our residential customers are 97% of our customer base and consume approx. 35% of gas on our network. The remaining 25% of gas is consumed by our commercial customers.

Around 30% of our larger customers are in the food processing sector, around 20% in the manufacturing sector and around 10% in the healthcare sector.

Our network footprint

Our network represents 46% of the gas connections and 16% of the electricity connections in New Zealand. We operate assets within six regions and across 29 district or city council areas.

