Improving pricing plan options for consumers: Time-varying retail pricing for electricity consumption and supply

Consultation paper

Energy Competition Task Force Initiatives 2B and 2C

12 February 2025

ELECTRICITY AUTHORITY
TE MANA HIKO

Executive summary

These proposals promote competition, reliable supply and efficient operation of the electricity industry for the long-term benefit of consumers. They do this by giving consumers new options and enabling them to better manage their costs, preferences, consumption and investment decisions. We expect this would lead to lower costs for all consumers over the long term as less flexible generation and network investment would be required.

The Energy Competition Task Force (the Task Force), jointly established by the Electricity Authority Te Mana Hiko (the Authority) and the Commerce Commission Te Komihana Tauhokohoko (the Commission), is proposing initiatives to encourage consumers to adopt:

- time-varying consumption plans (referred to as 'time-of-use' plans) that reward consumers for shifting power use away from peak periods (Task Force Initiative 2B)
- time-varying buy-back plans that fairly reward consumers for supplying electricity (for example from rooftop solar) into the network when it is most needed (Task Force Initiative 2C).

When households and businesses intentionally shift their energy use (and supply) to reduce demand (and increase capacity) at peak times, those consumers and the electricity system benefit. This behaviour change also benefits all New Zealanders over time, as reduced demand on the system lowers the lines costs we all pay for through our power bills.

We are proposing that retailers be required to do more to encourage these behaviours.

Encouraging more consumers to choose time-of-use plans and change their habits to reduce demand on the system and lower their power bills

Time-of-use plans encourage consumers to shift their electricity use away from peak periods. We propose requiring all retailers above a certain size to offer these plans. With lower off-peak rates available, consumers can reduce their costs by:

- changing their habits to take advantage of cheaper electricity – for example by running appliances or charging an electric vehicle (EV) during off-peak times
- choosing appliances with delay functions or 'smart' functionality
- allowing third parties to manage or control certain appliances, such as hot water cylinders or EV charging, to avoid periods when prices are high.

We acknowledge that these choices are not yet accessible to all households but are confident that the system benefits will lead to lower costs for all consumers over time. We also anticipate a future in which these choices and benefits are universal.

Fairly rewarding consumers who supply excess solar generation during peak times

Electricity retailers already pay consumers for energy they supply into the electricity network, for example from rooftop solar systems. However, most retailers' buy-back rates do not reflect the changing value of electricity throughout the day. Only a small number of retailers offer variable buy-back rates.

We propose requiring all retailers above a certain size to offer variable buy-back rates to reflect the higher value of electricity supplied at peak times. This will fairly reward those

consumers who have rooftop solar and batteries and incentivise other consumers to make that investment.

Ensuring large retailers all offer time-varying plans

Some retailers already offer consumers time-varying plans, and they are becoming more available, but there are significant gaps. A data request in October 2024 revealed some of the largest retailers do not currently offer time-varying consumption plans, or only offer them to select customers (typically EV owners). None of the largest retailers offer a plan with a variable buy-back rate. While many intend to develop time-varying plans in the future, we consider some retailers have been too slow to respond to the changing environment.

Retaining retailers' freedom to innovate

Retailers should be free to innovate, including on price, and determine how best to engage with different consumer groups. This paper proposes a balanced regulatory approach to make time-varying plans accessible to more consumers while continuing to support retail competition. Our proposed approach is to:

- require retailers with more than five per cent market share to make at least one time-varying consumption plan available to all mass-market customers, and one with a variable buy-back rate
- require those retailers to promote their time-varying plans
- create a reporting and monitoring regime to track progress, and sunset provisions
- ensure all retailers see, and can therefore signal, the full costs of their customers' contribution to peak demand (which impacts how distributors assign charges to consumers and the data they use for billing).

We are proposing the new time-varying plans must be in place by 1 January 2026 (preferably earlier), with an initial compliance report to follow six months later.

We recommend reading this consultation paper alongside our 'Requiring distributors to pay a rebate when consumers supply electricity at peak times' consultation paper (Task Force Initiative 2A) . That proposal considers ways to change distribution pricing so it reflects the benefit to distributors when consumers supply electricity into the network at peak times.

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1. What you need to know to make a submission

What this consultation is about

1.1. The Electricity Authority Te Mana Hiko (the Authority) is seeking feedback on issues and possible solutions to improve price signals that support flexibility provided by consumers. Consumers can provide flexibility through demand response and efficient investment in, and operation of, distributed energy resources.

1.2. The Authority wants consumers to have greater control over their energy use and costs. This consultation paper considers and addresses the issue of the existing market not yet delivering sufficient retail options for consumers to benefit from shifting their consumption or injection.

1.3. This paper is part of two Energy Competition Task Force (Task Force) initiatives:

(a) consider requiring retailers to offer time-varying consumption pricing (2B)

(b) consider requiring retailers to better reward consumers for supplying power (2C).

1.4. The consultation paper proposes Electricity Industry Participation Code (Code) amendments that would place new obligations on retailers and distributors.

1.5. We are now seeking feedback to explore these issues further and test the proposed possible solution.

How to make a submission

1.6. The Authority's preference is to receive submissions in electronic format (Microsoft Word) in the format shown in Appendix A. Submissions in electronic form should be emailed to taskforce@ea.govt.nz with 'Consultation Paper—Time-varying retail pricing for consumption and injection' in the subject line.

1.7. If you cannot send your submission electronically, please contact the Authority on taskforce@ea.govt.nz or 04 460 8860 to discuss alternative arrangements.

1.8. Please note the Authority intends to publish all submissions it receives. If you consider that the Authority should not publish any part of your submission, please:

(a) indicate which part should not be published and explain why you consider we should not publish that part, and

(b) provide a version of your submission the Authority can publish (if we agree not to publish your full submission).

1.9. If you indicate part of your submission should not be published, the Authority will discuss this with you before deciding whether to not publish that part of your submission.

1.10. However, please note all submissions received by the Authority, including any parts that the Authority does not publish, can be requested under the Official Information Act 1982. This means the Authority would be required to release material not published unless good reason existed under the Official Information Act to withhold it. The Authority would normally consult with you before releasing any material that you said should not be published.

When to make a submission

1.11. Please deliver your submission by 5pm, Wednesday 26 March 2025.

1.12. The Authority will seek cross-submissions for a two-week period following the deadline for submissions above.

1.13. Authority staff will acknowledge receipt of all submissions electronically. Please contact the Authority at taskforce@ea.govt.nz or on 04 460 8860 if you do not receive electronic acknowledgement of your submission within two business days

2. Introduction

This consultation package supports initiatives of the Energy Competition Task Force to provide consumers with more options

2.1. The Authority and the Commission jointly established the Energy Competition Task Force (Task Force) in the context of a period of elevated wholesale electricity prices in August 2024 (driven primarily by fuel shortages). The Task Force was established in addition to a number of immediate steps the Authority, and others, took to help manage security of supply and bring prices down during this period. The Task Force, with the Ministry of Business, Innovation and Employment as an observer, is focusing on short- to medium-term actions to improve the performance of the electricity market.

2.2. The Task Force's work programme focuses on two overarching outcomes:

(a) enabling new generators and independent retailers to enter, and better compete in the market

(b) providing more options for end-users of electricity

2.3. These outcomes will encourage more and faster investment in new electricity generation, boost competition, enable homes, businesses and industrials to better manage their own electricity use and costs, and put downward pressure on prices.

2.4. The Task Force is considering both new initiatives and some that are already underway but can be accelerated so New Zealanders can benefit from a better performing electricity system sooner.

2.5. This consultation paper relates to two initiatives under the second Task Force outcome: provide more options for end-users of electricity.

The energy system of the future relies on flexible resources to support a more affordable, resilient and secure electricity system

2.6. New Zealand's electricity system is transforming, creating some key challenges that we must manage:

(a) Electricity demand is projected to grow rapidly in the next couple of decades

(b) Peak demand – ie, the point when electricity use is highest – is also growing

(c) The country's generation mix is changing, with increasing penetration of intermittent renewable generation – particularly wind and solar.

2.7. Appendix C contains detailed projections about these changes.

2.8. Electricity supply and demand must always be in balance. The future electricity system will have a more intermittent generation base, which requires more flexibility from either flexible generation, storage or demand response to manage periods when intermittent generation is less available. These flexible resources can be difficult and expensive to build and operate, so the cost of providing electricity may be higher at the times when those resources are needed to fill gaps between generation and demand.

2.9. Consumers can provide flexibility too. When there's a lot of demand and electricity prices are high, consumers can put energy back into the system from their own

generation and batteries or reduce how much they are using. This is known as demand-side flexibility.

2.10. Stored rooftop solar energy or demand response can be a cheaper alternative to generating electricity at peak times. If enough consumers provide flexibility in this way, it can reduce electricity prices for everyone, both in the short and long-term. Electricity costs can come down in the long-term because reducing the growth in peak demand means generators can defer building new power plants, and distributors can avoid or defer the need to build more poles and wires, creating substantial savings[1].

2.11. Crucially, demand-side flexibility can also enhance the resilience and security of the electricity system, including in response to significant weather events and natural disasters.

The Task Force initiatives fit with the Authority's strategic priorities and other projects

2.12. Through our work, we continuously seek opportunities to drive value for money and promote competitive and efficient mechanisms to enable an electrified future for New Zealand. We are currently working on other regulatory measures to encourage more competition in the market, manage electricity price risks, and ensure best outcomes for consumers. Specifically:

(a) We are making changes to support retail competition through our work to improve consumer plan comparison and switching services, which will support retail competition.[2]

(b) We have changed the Code to introduce the Consumer Care Obligations, which impose minimum standards on retailers to support residential consumers in accessing and maintaining an affordable electricity supply. This includes measures aimed at ensuring consumers receive advice to help them choose the best plan for their household circumstances at different times, such as when signing up with a retailer, and when enquiring about changing plans.[3]

(c) We are improving our mechanisms for collecting retail market data to monitor the retail market, consumer outcomes, and the effectiveness of the Consumer Care Obligations.[4]

(d) We have reviewed the risk management options for electricity retailers, and will take appropriate action in response to the findings. The availability of efficient risk management options for electricity retailers is an important enabler of retail competition, especially for those retailers focused on domestic consumers and small business customers.[5]

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1 'Distributed Energy Resources – Understanding the potential' Sapere Report

2 Improving consumer choice | Our projects | Electricity Authority

3 Consumer Care Obligations | Our projects | Electricity Authority

4 Improving retail market monitoring | Our projects | Electricity Authority

5 Risk management review | Our projects | Electricity Authority

(e) We have a programme of work to strengthen the wholesale electricity market for the challenges arising from a high renewables-based electricity system.[6]

(f) As outlined in Appendix D, we have a programme of work to enable demand-side flexibility.

2.13. These programmes have the potential to make a significant difference to conditions in the retail market, and the ability of independent retailers to compete with incumbents and drive greater innovation.

2.14. However, change will take time, and there is potential for New Zealand consumers to face significant costs in meeting growing peak demand in the interim. The Task Force initiatives aim to accelerate benefits to consumers, including by providing them with more choices, in the interim.

6 Pricing in a renewables-based electricity system | Our projects | Electricity Authority

3. Existing arrangements

3.1. This chapter discusses the existing arrangements for engaging consumers to make decisions that help to lower system costs. These decisions can include shifting consumption to lower price times and targeting injection to higher price times.

Retail competition should drive innovation and efficiency that minimises costs for consumers

3.2. Currently, mass-market[7] consumers buy the electricity they consume, and sell any excess electricity they produce or store, through a retailer.

3.3. As discussed in more detail in Appendix D, the role of a retailer is to package multiple cost components into a simplified price plan that consumers can engage with. These cost components include:

(a) wholesale energy costs and receipts

(b) distribution and transmission costs

(c) hedging / firming costs

(d) metering costs

(e) levies and tax

(f) retail overheads and margin.

3.4. Many of these costs can change based on consumers' decisions – both in the short-term and the long-term. If the electricity prices that consumers see are broadly reflective of the underlying costs and how they arise, decisions that consumers make to reduce their own costs can also reduce electricity system costs.

3.5. There are currently more than 40 retailers serving New Zealand's electricity consumers. Each retailer has options for managing these costs, including packaging them into different price plans for consumers. If a retailer does not offer competitive pricing and a service that consumers value, all other things being equal they will lose customers to retailers that offer a better deal.

3.6. A retailer that can reduce their costs or offer a better service can compete more effectively. Competition between retailers drives innovation and cost efficiencies that lead to lower prices and better services for consumers.

Costs could be reduced if consumers saw the benefit of reducing peak demand

3.7. Peak demand typically occurs on cold weekday mornings and evenings, when consumers tend to be at home using heating, lighting and appliances.

3.8. Some of the costs retailers pass on to consumers are increasingly signalling that costs are higher at times of peak demand. Specifically:

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7 In this paper, we use 'mass-market' to refer to consumers that are on standard contracts defined by the Commission's information disclosure rules. This includes households, small and medium business, farms etc, but excludes large industry.

(a) Wholesale electricity prices are set every half hour, reflecting the constant variation in the balance of electricity supply and demand. Supply of flexible generation is tightening and the proportion of generation that is intermittent is increasing, so wholesale electricity prices have become more volatile, particularly at times of high demand or low generation from intermittent renewables.

(b) Hedging costs increase when prices are more volatile because there is greater price risk. Further, the Authority's recent Risk Management Review raised concerns about the availability and pricing of hedge contracts that provide morning and evening (ie, at times of peak demand) cover against these volatile prices.[8]

(c) Distributors have been re-structuring their prices to be more reflective of how network costs arise. Distribution prices now often include a component that signals that more demand at peak times could eventually require more investment in the network.

3.9. Because their underlying costs are increasingly signalling the high costs of meeting peak demand, retailers are increasingly incentivised to find ways to manage or reduce those costs.

3.10. If a consumer shifts their consumption to off-peak times, retailers will benefit because their wholesale costs will be lower, it will be easier and cheaper to hedge their flatter load profile, and it may allow them to reduce their share of distribution costs.

3.11. Similarly, if a consumer injects electricity at peak times, retailers will benefit because they could sell it on the wholesale market for a high price, or they could use it to supply electricity to their other customers, instead of having to buy it from the wholesale market.

3.12. When the system is short of generation, relatively small differences in net demand can have a significant impact on wholesale prices.

3.13. As such, retailers have an incentive to encourage consumers to shift their consumption and injection, which they could do by signalling that electricity costs more at peak times.

Consumers could move consumption away from peak times

3.14. If a consumer saw that consumption costs more at peak times (ie, it had a direct bill impact), they might make different decisions around their electricity use – particularly where these have a minimal impact on their energy utility, such as:

(a) turning on non-essential appliances during off-peak times, including dishwashers, washing machines or dryers

(b) charging electric vehicles overnight

(c) pre-heating their home during off-peak times to reduce heating during peak-hours

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8 Review identifies risk to retail electricity competition | Electricity Authority

(d) investing in appliances with delay functions, timers, or ‘smart’ functionality such as remote control, or automated responses

(e) allowing third parties to manage certain appliances, such as hot water cylinders or electric vehicle charging, in exchange for lower aggregate prices.

3.15. By moving more of their electricity use to off-peak times to reduce their own costs, these consumer decisions could also help to reduce wider system costs.

Consumers could target injection to peak times

3.16. Typically, when a consumer has solar panels or another form of distributed generation, the energy they generate will first and foremost be used to offset their own consumption. However, when they produce more energy than they are consuming, the consumer can sell the excess to a retailer and inject it to the grid.

3.17. If a consumer saw they could earn more for injection at peak times, they might make different decisions that would improve the value of their generation. For example:

(a) If a consumer had a battery, they could store their excess solar generation until later in the day, allowing them to offset their peak consumption or inject into the network when the electricity has a higher value.

(b) Consumers may be able to configure a new solar set-up to supply more energy at peak times – ie, through its orientation and tilt angle – which could maximise its value, despite lower output.

(c) Consumers are increasingly investing in mobile batteries through their vehicle choices. Some electric vehicles can discharge their batteries when plugged in (assuming they are not needing to actively charge at the time). These batteries could potentially be deployed to help manage peak demand, if incentivised.

(d) Consumers with injection potential could additionally choose to reduce their consumption to increase injection at times of high value.

3.18. By making decisions to increase their injection at peak times to maximise their own income, these types of decisions could also help to reduce wider system costs.

Some retailers are incentivising consumers to change the timing of their consumption and injection

3.19. Time-varying prices reflect that electricity has a different cost at different times of day. They can also reflect that costs vary over the week or year.

3.20. Time-varying consumption prices allow consumers to get cheaper electricity by moving their electricity use to off-peak times. Time-varying injection prices better reward consumers that supply power when it is needed more.

3.21. Some retailers are already offering consumers the opportunity to reduce their costs through time-varying prices.

3.22. For example, Flick Electric launched a technology-based electricity retail business in 2014, offering consumers the option of purchasing electricity at the wholesale market price. While the volatility of wholesale market prices has seen it withdraw

this particular offer, it still offers to buy consumers' injection at the wholesale market price.

3.23. In 2015, Electric Kiwi entered the market offering a free hour of off-peak power, to encourage consumers to shift load from peak. Within five years it had gained over 70,000 customers. It now additionally provides set prices for different periods of the day that include a peak price signal.

3.24. In 2021, Contact Energy launched a retail price plan that offered free off-peak power between 9pm and 12am. It has since introduced other plans, including one focused on electric vehicle owners with half-price power overnight, and one that offers free power between 9am–5pm on weekends. In August 2024, Contact Energy reported more than 100,000 households have taken up the plans.[9] Contact Energy's Chief Executive stated:

> *"The households that are on those, they have shifted their peak, and we are delighted by that. We actually think it is really important that ordinary Kiwi homes can participate in the transition like that*."[10]

3.25. Octopus Energy entered the New Zealand electricity market in 2022. In addition to structured peak/off-peak price plans for consumption, it also offers a structured peak/off-peak price plan for injection targeted at consumers with batteries.

3.26. There are other potential ways to engage demand-side flexibility. For example, Octopus Energy offers 'saving sessions' where it pays customers for reducing their electricity usage during times when there is particularly tight supply. Some retailers also offer lower charges in exchange for hot water heating and electric vehicle charge control.

3.27. All these examples highlight that some retailers are actively developing opportunities to minimise costs by incentivising consumers to help manage peak demand. The cost savings that result allow these retailers to offer a sharper price to other customers, and this helps them attract and retain customers. In so doing, this should encourage other retailers to innovate and engage with demand-side flexibility to remain competitive.

High smart meter penetration allows these offers to be rolled out widely

3.28. Smart meters allow retailers to offer consumers sophisticated electricity price plans that can signal consumption has different costs at different times of day. 93% of mass-market electricity consumers have communicating smart meters installed at their properties, which allows their consumption to be recorded remotely and measured every half hour.[11] Injection is similarly, but separately, metered.

3.29. With such high penetration of smart meters, there is significant scope for price-plan innovation and for flexibility provided by consumers to play a role in the market. Further, the data that smart meters provide allows for an accurate assessment of

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9 'Busy' 2025 of renewables delivery ahead – Contact | Energy News

10 Contact says Kiwis are flocking to TOU plans | Energy News

11 Based on information in the Registry for category 1 and 2 meters, as at September 2024.

how much electricity a retailer’s consumers have purchased at what price, and what retailers owe to distributors and generators.

4. Problem definition

4.1. This chapter discusses the Authority's concern that there are poor incentives for consumers to behave in ways that help minimise costs, because:

(a) time-varying price plans are not readily available to all consumers

(b) current injection plans tend to offer fixed rates only.

4.2. It then discusses four issues that could be limiting the availability of these offers:

(a) a 'chicken or egg' issue where the plans are not offered because they are not demanded, and they are not demanded because there is low awareness of their potential benefits

(b) uptake of time-varying price plans is currently limited by switching rates

(c) retail competition may be reduced due to retailer or customer specific factors

(d) some retailers do not face the true costs of their contribution to peak.

4.3. The Authority's view is that change may be needed to address these issues now, because consumers will face higher costs if we wait for retail competition alone to drive change.

There are poor signals for consumers to make decisions that minimise costs

There are big gaps in the availability of time-varying consumption plans

4.4. Time-of-use price plans are the most common type of time-varying price plan.[12] These make up a modest proportion of the total plans available to consumers. This proportion has been increasing over time, though progress has been slow – increasing from 15% at the start of 2019, to 19% today, though reaching a brief maximum of 28% earlier this year. The subsequent decline likely reflects an increase in load-control plans, rather than a decrease in time-of-use plans – though noting these are not necessarily mutually exclusive.

4.5. The slow up-take is illustrated in Figure 1a below, which shows the availability of different types of price plan, based on data that underpins Consumer NZ's Powerswitch price comparison service.[13]

4.6. Figure 1a does not consider how many consumers might be readily able to take up the available pricing plans. Figure 1b attempts to adjust for this by considering the proportion of consumers who can access the pricing plans through their own retailer.[14]

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12 Time-of-use plans generally include structured peak / off-peak prices.

13 The graphs do not show how many consumers are on the different plans. We recently consulted on a requirement for retailers to provide this data to the Authority for monitoring purposes. More information on that work can be found here: https://www.ea.govt.nz/projects/all/improving-retail-market-monitoring/

14 Without this adjustment, a plan available to a small number of ICPs within a region would be treated the same as a plan available to tens of thousands of ICPs in the same region. For example, consider a retailer with a 99% market share offering only uncontrolled plans and another retailer in the same region with only a 1% market share offering only time-of-use plans. Without the ICP weighting, these two plans would show a 50/50 split between uncontrolled and time-of-use offerings.

4.7. The improvement in availability is less pronounced in this context, increasing by just 2% over the timeframe, and reaching a maximum of 19%.

4.8. We note that neither graph accounts for criteria that consumers may need to meet to take up a plan, for example, some plans may require a consumer to have an electric vehicle.

4.9. We further note that in some cases, while a retailer may have a time-varying price plan, it may not be available for comparison through Powerswitch or advertised on the retailer's own website.

Figure 1a: Residential tariff type trends[15]

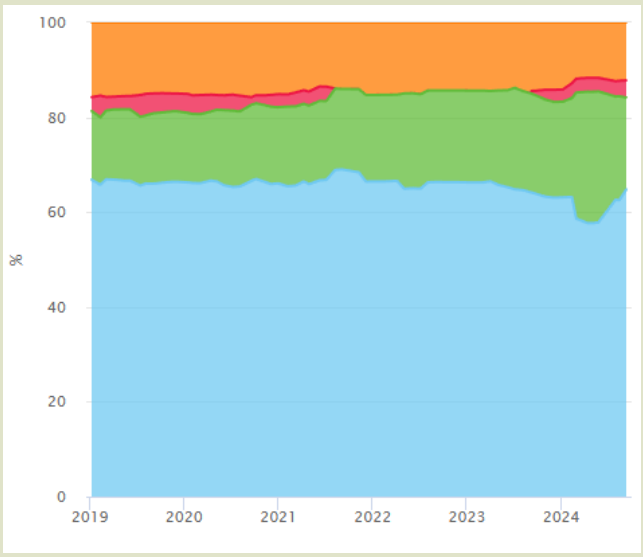
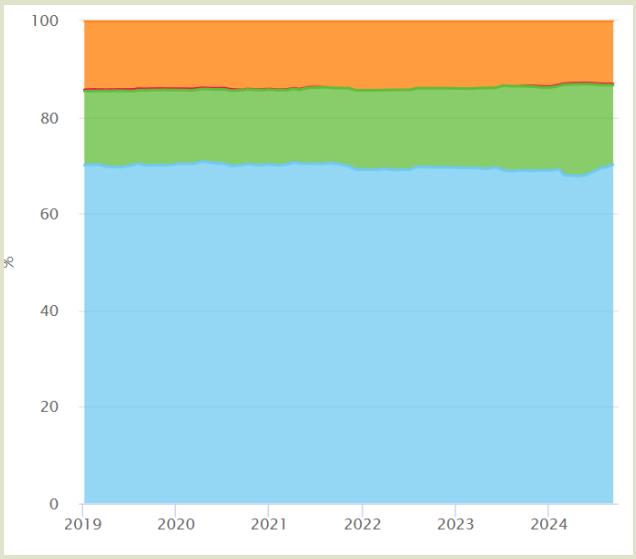


Figure 1b: Residential tariff type trends weighted by market share[16]



4.10. In October 2024 we made a voluntary request to various major electricity retailers about what time-varying price plans they offer consumers, and the reasons why they do or do not offer them. Nine retailers responded to our questions, which collectively serve 94% of all consumers.[17] The results suggest the availability of time-varying price plans and other opportunities to manage demand is mixed. Except for Contact Energy, the largest retailers seem to only offer time-varying price plans where:

(a) a consumer's meter is specifically configured for a particular price plan – eg, it might record daytime consumption and night-time consumption separately, with each part individually priced by the distributor

15 https://www.emi.ea.govt.nz/Retail/Reports/OKGPIW?Weight=NONE&_si=v|3

16 https://www.emi.ea.govt.nz/Retail/Reports/OKGPIW?Weight=ICP&_si=v|3

17 From Mercury (25.2% market share), Genesis Energy (24.2%), Contact Energy (19.5%), Meridian Energy (16.2%), Nova Energy (3.9%), Electric Kiwi (2.7%), Switch Utilities (2.4%), Octopus Energy (0.3%), Rural Energy (<0.1%), Market share based on data as at 31 August 2024.

(b) the distribution network requires a consumer to be assigned to a price category that features time-varying charges

(c) a consumer specifically requests to be on a time-varying price plan, or

(d) a consumer has an electric vehicle.[18]

4.11. We note that some retailers suggested they intend to offer time-varying price plans more comprehensively in future, although the timing and priority of this is unknown, and relies on IT system upgrades.

4.12. We do not expect all consumers will engage with time-varying price plans, nor will they be appropriate for all consumers. For many consumers the simplicity and certainty of a single fixed consumption price plan will be preferable. If that fixed price signals the marginal costs of their consumption, then the outcome can be efficient. However, the averaging of retail pricing across large numbers of customers inevitably means some pay less than the true costs they contribute to, while others pay more. Absent price plan options, the consumption decisions of some customers could increasingly lead to higher prices for all.

4.13. Further, if some consumers are willing to shift some of their load to off-peak times to save money but are not presented with the incentive and opportunity to do so, these consumers will face higher costs than necessary for power, and contribute to higher prices for others without realising. While one answer to this may be that the consumer should shift to another retailer, we do not accept that this should be the only option available for consumers or for the sector.

4.14. If prices rise with increasing peak demand, some consumers may choose to reduce load to avoid paying more, where an option to shift load to a lower-priced time instead would result in better social outcomes, as well as more economically efficient outcomes.

4.15. Overall, while some consumers have been benefiting from more innovative price plans, the Authority considers a significant portion of consumers are not being given sufficient incentive or opportunity to shift their consumption to off-peak times. This will inevitably drive higher peak demand and therefore higher system costs than might be efficient.

Current injection plans tend to offer fixed rates only

4.16. The Authority is concerned there are insufficient price signals for consumers to invest in the capability to inject excess generation at higher value times, as most injection price plans offer a single fixed injection rate that does not reflect the variation in value.

4.17. Time-varying price plans for *consumption* can provide an incentive for consumers to invest in distributed generation that can supply at peak times, as it will offset higher-priced consumption.

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18 This likely reflects a marketing strategy to attract high-value customers, as electric vehicle owners are more likely to use a large amount of electricity and less likely to default on their bills due to being higher income households

4.18. However, there are few time-varying *injection* price plans available in the retail market. The Authority is concerned this does not give consumers with distributed generation who can supply at peak times sufficient options for a retailer that will reward them for peak injection. As such, there is a lack of incentive for consumers to invest in, or efficiently use, this capability beyond what is required to offset their own consumption, even when doing so may be efficient from a whole-of-system perspective.

4.19. The nine retailers that responded to our questions about time-varying price plans also answered questions about the injection plans they offer, what they pay for injection under those plans, and what influences those rates.

4.20. Most retailers offer plans that pay a single fixed price for all injection, regardless of when electricity is injected. These plans feature a wide range of injection prices – from 8 c/kWh through to 18 c/kWh.

4.21. Some retailers offer more than one plan, featuring different injection rates, as well as different consumption rates. Some injection plans – particularly those offering a higher injection rate – have certain conditions attached to them. For example, they may require a customer to sign up to a long-term contract, or to have a new solar system installed by a specific provider.

4.22. Only three smaller retailers are known to offer more dynamic price plans where injection rates either:

(a) are higher during peak periods and lower during off-peak periods

(b) change every half-hour depending on the wholesale spot price.[19]

There are several issues that may be causing subdued signals

There may be low consumer awareness of the potential benefits of time-varying price plans

4.23. While time-varying price plans will not appeal to all consumers, lack of consumer knowledge or understanding of time-varying plans may be limiting demand. For the most part, consumers have historically only been offered retail price plans that charge a single fixed price for all consumption.

4.24. As such, many consumers will be unfamiliar with the concept of time-varying price plans. Many consumers will not be aware that underlying electricity costs vary with time, and the choices they could make to manage costs – not just how much to consume, but also, when.

4.25. This lack of familiarity with time-varying price plans and the benefits they can provide to some consumers means consumers will be unlikely to seek them out. Low demand for time-varying price plans may mean some retailers have not felt compelled to offer them, contributing further to the lack of awareness of the plans, and therefore low demand for them.

4.26. Similarly, there are currently few consumers who can inject at peak times, and these consumers likely only inject a small amount after offsetting their own

[19] This includes one retailer that answered our questions and two that did not.

consumption.[20] Low demand for time-varying injection plans may mean retailers do not yet consider it worthwhile to make these plans available, meaning there are weak signals to invest in the capability to inject at times of peak, so few consumers do so.

4.27. This suggests there is a 'chicken-or-egg' problem with time-varying price plans that may be limiting their availability.

Where plans are available, uptake is limited by switching rates

4.28. Consumer switching rates in New Zealand have remained consistently below 10% for the past 10 years.[21] Despite cost savings likely being available, around 45% of consumers have not switched retailer in more than five years – and some more than 20 years.[22] This suggests that many consumers may be unaware that different price plan options are available to them.

4.29. Furthermore, it is not necessarily straight-forward to compare plans, and existing switching services can struggle to provide meaningful or accurate information.

4.30. We note there are a range of complex barriers to switching, which the Authority is addressing through its 'Consumer plan comparison and switching' work.[23] The current focus of this work is on an improved switching website service, with procurement underway to have a new contract in place by 1 July 2025. In the longer term, we will consider further initiatives that could support consumers to find the best plan, such as best plan notices and community advisors.

4.31. Whatever the cause, the current level of switching suggests that consumers may not necessarily change to another retailer even if there is a better rate available. This may reduce the competitive discipline on retailers to offer innovative price plans and find efficiencies.

4.32. The Authority also recognises that some of the more innovative retailers are finding it difficult to grow in the current environment of constrained generation and are not actively seeking new customers, reducing the price plan options available to consumers that do look to switch. If the more innovative retailers are not actively seeking new customers, there is reduced competitive pressure on other retailers.

Competition may be reduced due to retailer or customer specific factors

4.33. The limited availability of more innovative pricing plans may reflect limits to retail competition in some areas.

4.34. For example, some retailers who have their own generation may, at times, see a reduced value from injection provided by their customer base, because it could lower the price they receive for their generation. This was raised by the Market

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20 There are fewer than 8,000 ICPs with solar and battery systems (out of the 2.4 million ICPs nationwide). The average capacity of these systems is around 6kW, and the average demand during peak times is around 5kW per ICP.

21 Switching trends, EMI, Electricity Authority (residential trader switching trends - 1 December 2019 to 30 November 2024), accessed 19 December 2024 www.emi.ea.govt.nz/r/yzgnz.

22 Electricity Authority, Consultation Paper - Options to support consumer plan comparison and switching.pdf pp 53

23 Consumer plan comparison and switching | Our consultations | Our projects | Electricity Authority

Development Advisory Group in its final recommendations report in 2023.[24] As the Market Development Advisory Group states, this issue can reduce the incentives to engage demand-side flexibility, though it does not eliminate them.

4.35. There may also be additional factors that affect competition for consumers with distributed generation, meaning some retailers may not compete hard to attract these customers. Specifically:

(a) Consumers with solar generation may not be particularly attractive to some retailers, even if they have peak injection capabilities. This is because those consumers are likely to be very low energy users, with a winter-biased residual profile. These consumers may hence provide lower revenue compared to non-solar customers, and potentially have a higher cost to serve (on a per kWh basis).

(b) As identified in our recent review into risk management options, noted in paragraph 3.8(b), the Authority has concerns regarding the availability and pricing of hedge contracts for retailers that cover times when solar is less likely to generate (ie, morning and evening peaks).

(c) Some retailers with generation may prefer to operate in a way that prioritises load with better revenue certainty.

Some retailers do not face the true costs of their contribution to peak

4.36. In some instances, retailers are not paying an accurate share of the costs they contribute at times of peak demand. This is more commonly the case for the large generator retailers whose IT systems were established before smart meters (and the detailed data they provide) were widespread.

4.37. This issue was highlighted by the Authority's Innovation and Participation Advisory Group in 2021 and the Market Development Advisory Group in 2023. It arises because the reconciliation manager relies on data from retailers to determine what they owe in the wholesale electricity market. While this would ideally be provided from half-hourly smart meter data – and is by many retailers – some retailers continue to provide aggregated monthly totals where a profile is applied to estimate their half-hourly contribution to demand. For around 40% of all volume, half-hour usage data is not used in central reconciliation and settlement processes.[25] With smart meter penetration at over 90%, this approach seems out of date.

4.38. By relying on estimated profiles, retailers whose customers contribute proportionally more to peak demand will not see this attributed to them, or will only do so after months of reconciliation wash-ups. Further, customers who reduce their demand in any particular half-hour will see the effect of that 'smeared' across the month according to the profile. Any benefits accruing to the retailer (and therefore to its customers) from moving consumption off-peak will be a fraction of that achieved within the half-hour periods when it was executed. This will significantly dilute the incentives for the retailer to engage demand-side flexibility.

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24 Price discovery in a renewables-based electricity system: Final Recommendations PAPER 2023, pp 117

25 Price discovery in a renewables-based electricity system: Final Recommendations PAPER 2023, pp 100,

4.39. A similar issue arises for distribution billing. Distributors assign charges to consumers, and retailers provide distributors with the consumption data for each of their customers to determine what is owed in each month.

4.40. Most distributors have time-varying charges that include peak and off-peak components, and would ideally assign these to most consumers. However, consumers are not always assigned to these charges even when that would be appropriate. This means that retailers' costs do not signal the higher costs of consumption at times of peak to the extent they should.

4.41. In some cases, distributors have simply not assigned as many consumers to time varying tariffs as they could. In other cases, retailers influence the distribution charges that a consumer is assigned to. The retailer may ask for the consumer to be changed to a flat tariff, which may simplify their job in repackaging costs and avoid the need to provide detailed data for billing. In some cases, retailers have full discretion around tariff assignment. Inefficient tariff assignment could be an issue affecting as much as 20% of residential consumers.[26]

4.42. Further, where consumers are assigned to time-varying charges, retailers do not always provide accurate data for billing. Sometimes, they provide meter data as an aggregated consumption total, which the distributor must then apportion between the different time periods. The Authority ran a survey of distributors earlier in 2024 that suggested 34% of data was provided as an aggregate figure, where it would ideally have been split out.

4.43. Again, these distribution billing processes mean retailers do not see accurate costs for their contributions to peak demand. Some retailers' costs may be borne by other retailers, which reduces the incentives of some retailers to engage the flexibility within their customer base.

The Authority is addressing these issues now to accelerate engagement by consumers

4.44. New Zealand's electricity system is transforming at a rapid scale and pace as the country electrifies and the mix of generation changes. These changes to our electricity system create challenges, particularly at times of peak demand.

4.45. The Authority is focused on ensuring the electricity system evolves as efficiently as possible, while maintaining energy security, and affordability for consumers.

4.46. The Task Force is seeking to enable consumers to more actively manage their own energy use and costs. Against this outcome, we consider time-varying price plans should already be a staple of retail offers, and their low availability reflects a range of issues that are unlikely to be resolved in aggregate soon without direct action. Time-varying plans represent a basic step forward in price-plan innovation, consumer engagement, and supporting efficient investment by consumers, which some retailers have not prioritised for various reasons.

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26 This is on the basis that around 31% of residential ICPs were still assigned to standard flat distribution tariffs by their distributors on 1 April 2024. Given around 7% of ICPs do not have s smart meter, this leaves around 20% of residential ICPs with smart meters that could potentially be assigned to a time varying distribution tariff.

4.47. Our proposals will promote consumer choice and give consumers greater ability to control their energy costs. Our proposals will also have broader benefits in terms of reducing New Zealand's energy system costs. By contrast, a slower and less direct approach could have high costs for consumers, given the increase in investments in generation, storage and networks that could be necessary in the interim.

4.48. While we consider fixed-price plans have their place, consumers must have ready options for price plans that reward them for shifting consumption and injection. The Authority's view is that some retailers have been slow to respond to the changing environment, and that these issues need to be addressed now, rather than relying only on consumers switching to a different retailer. There are clear benefits to consumers from intervention.

Q1. Do you agree the issues identified by the Authority are worthy of attention? If not, why not?

5. Proposed solution and alternative options

We propose a four-part solution

5.1. The Authority is proposing to improve the availability of opportunity and incentive for mass-market consumers to shift their consumption to off-peak times, and their injection to on-peak times, through four interventions:

1) Require retailers with more than five percent market share to make time-varying price plans available to all mass-market customers

This intervention would ensure the retailers who serve the majority of consumers provide time-varying price plan options to their customers. These retailers would need to provide at least one set of time-varying prices for consumption, and at least one for injection – though they do not need to be in the same plan or apply to every plan.

We do not propose to set restrictions around the design of the plans – except to ensure they will meet the purpose of the intervention – as we recognise the value of giving retailers space to innovate. This consultation paper proposes changes to the Code to enact this intervention.

2) Require those retailers to promote their time-varying price plans

This intervention would require the retailers captured by the provisions above to advertise the plans on their websites and the Authority's preferred switching site, and make a proactive switching offer to certain customers. This consultation paper proposes changes to the Code to enact this intervention.

3) A monitoring and reporting regime to ensure compliance and provide transparency of developments in demand management

This intervention would require the retailers captured by the provisions above to report to the Authority on their compliance with the provisions. This consultation paper proposes changes to the Code to enact these arrangements. It also discusses the Authority's intentions for monitoring the success of the intervention.

We also propose a sunset provision, which would see the Code requirements to offer, promote and report on time-varying price plans (parts 1-3) expire after five years. This gives the requirements time to achieve the intended effects, but ensures they do not unnecessarily constrain retail offers in the longer-term, in a changing environment.

4) Ensure all retailers see the full costs of their contribution to peak demand through distribution billing and wholesale reconciliation

This intervention would require that distributors assign consumers to time-varying charges where available, and require that all retailers provide accurate time-based data for billing and reconciliation where smart meters are in place. This would ensure all retailers face more accurate costs for their contribution to peak demand, and therefore better incentivise them to manage it. This could also incentivise IT system upgrades that may reduce a barrier to further price plan innovation. We are consulting on Code changes to address the issues for distribution billing.

Similar changes for wholesale reconciliation are currently planned to be proposed later in 2025 when the Authority reviews Part 15 of the Code.

5.2. As discussed further in the Regulatory Statement in Chapter 7, the Authority considers this proposal will support the long-term benefit of consumers by promoting:

(a) *Efficiency:* The proposal will improve efficiency because it will increase the signalling of costs to parties that can act on them. Specifically:

(i) It will improve the extent to which distribution price signals are received by retailers, who can then ensure these signals are passed through to consumers in an effective way

(ii) It will improve the extent to which wholesale and distribution price signals are received by consumers, who can then make better decisions about their consumption, injection, and associated investments.

This is expected to lead to reductions in peak demand that will reduce or defer the need for high cost generation and network investments to meet that demand in the longer term. It will mean that future investments in the electricity system better reflect the willingness and ability of consumers to pay for those investments, better ensure costs are recovered from those that contribute to them, and support more efficient investment by consumers.

(b) *Competition:* This proposal may increase competition for consumers that are willing and able to shift their consumption or export, and improve consumers' ability to compare and consider different price plans (and therefore engage with competitive retail offerings).

(c) *Reliability:* The proposal will have reliability benefits as it may increase investment in batteries, and helps to reduce peak demand, including when supply is scarce and networks may be constrained so there is a higher risk of shortage.

5.3. The proposal will also support the Authority's additional objective of protecting the interests of domestic consumers and small businesses, by improving their visibility of and ability to access plans that enable them to manage their electricity costs.

5.4. The details of the options and preferred proposal are discussed in Chapter 6.

5.5. In developing the proposal, the Authority considered alternative approaches to improving the incentives for consumers to behave in ways that minimise costs by shifting their consumption to off-peak times, and their injection to on-peak times:

(a) relying on the status quo

(b) options with more prescriptive measures about the price plan design

(c) making time-varying plans the default offer

(d) requiring retailers to offer control-based plans, in addition to, or instead of, time-varying price plans

(e) a pared-back version of the proposal.

5.6. This chapter explains the rationale for the preferred approach. An evaluation of all the options is discussed further in the Regulatory Statement under Chapter 7.

We considered relying on the status quo

5.7. We considered not making any intervention.

5.8. As discussed in paragraph 2.12, we have other programmes of work that may help improve the incentives available for consumers to help manage peak demand. Specifically:

(a) We are considering changes to distribution pricing to reflect the benefit to networks from customers with distributed generation injecting at peak times. This is a Task Force initiative to enable more options to consumers, which can increase competition.[27]

(b) The Authority is considering other initiatives proposed by the Task Force that would enable new generators and independent retailers to enter, and better compete in the market.[28]

(c) The Authority's 'Consumer plan comparison and switching' project aims to support and improve retail comparison and switching services and tools for consumers, which will support retail competition.[29]

(d) The Authority's 'Consumer Care Obligations', which impose a set of minimum standards on retailers to support residential consumers in accessing and maintaining an affordable electricity supply. This includes measures aimed at ensuring consumers receive advice to help them choose the best plan for their household circumstances at different times, such as when signing up with a retailer, and when enquiring about changing plans.

5.9. These programmes have the potential to make a significant difference to conditions in the retail market, and the ability of new and growing retailers to compete and drive greater innovation. We consider that, in time, these changes could be sufficient to support the level of competition and innovation that we expect, and that is necessary to ensure the long-term benefit of consumers.

5.10. We also note the incentive for retailers to engage consumers to help manage peak demand has increased in recent times, as the generation available to meet peak demand has become more constrained. This may give greater impetus to developments.

5.11. However, these changes will take time to filter through and change behaviour (compared to say a requirement for all large retailers to offer a time-varying consumption plan). In the meantime, we consider that it is in the long-term interests of consumers to offer them more choice regarding how the manage their electricity costs, and that this choice is one of the mitigants for the risk of New Zealand facing significant costs in meeting growing peak demand[30]. Therefore, it would be beneficial to progress these changes now.

5.12. Furthermore, under the status quo, retailers could continue to avoid using accurate data for distributor billing purposes, and therefore would not face the true costs of

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27 Energy Competition Task Force | Our projects | Electricity Authority

28 Energy Competition Task Force | Our projects | Electricity Authority

29 Consumer plan comparison and switching | Our consultations | Our projects | Electricity Authority

30 See for example Transpower's Security of Supply Assessment 2024.

their contribution to peak demand. Their incentives to engage their customers to help reduce peak demand would remain subdued.

5.13. Under the status quo, fewer consumers will have control over their electricity costs. Consumers will be less likely to take up a plan that incentivises them to reduce costs by shifting their consumption or injection. These consumers will face higher costs than necessary for power, and this will contribute to higher prices for all consumers in the longer term. Further, consumers who contribute relatively little to peak demand will be more likely to face increasing costs caused by the consumption decisions of others.

5.14. We recognise there are risks to intervening in the retail market in the way proposed. Requiring retailers to offer a particular price plan may undermine the competitive position of retailers who already offer those plans and have made it a point of difference. This could weaken competition, and hence reduce innovation and efficiency in the longer term.

5.15. In addition, our proposal may mean the retailers captured by it to some extent deprioritise other innovations they were developing, in order to comply with the new requirements.

5.16. The Authority is therefore cognisant that the status quo may have dynamic efficiency benefits that would not be realised under the proposal, and there is the potential for a decline in retail competition that could have a negative impact for consumers in the longer term.

5.17. However, we consider this risk to be relatively low, and note that the retailers that have innovated around time-varying price plans are now innovating in other ways.[31] Requiring time-varying plans does not preclude this innovation, so the negative impacts on innovation are likely to be small. Ultimately, we consider the proposal is expediting developments that would occur in time anyway, and for which the costs of a slow response are high. We therefore expect the overall net benefits of the proposal to be greater than the status quo.

We considered more prescriptive pricing approaches

It is important for retailers to be able to innovate

5.18. The Authority considered an option that would have included a requirement for retailers to offer a time-varying pricing plan for consumption that included prescriptive pricing rules. The rules could have included:

(a) a requirement to pass through a distributor's time-of-use tariff

(b) requirements around the structure of prices (eg, the number or duration of price periods), or magnitude of peak and off-peak price differentials.

5.19. A prescriptive approach would more significantly restrict retailers' ability to develop innovative price plans that appeal to consumers and elicit a beneficial response from them. Not all consumers will engage with the same type of offer or require the same signal to respond, and trial and error may be required to figure out what

[31] See chapter 4 in the Risk management options for electricity retailers

works. For example, we understand some retailers have struggled to engage consumers with a traditional peak/off-peak approach[32], whereas plans that offer free power for set times have proved popular for some retailers. Furthermore, some retailers like to target customer niches and may be better at engaging a certain customer type than other retailers.

5.20. The Authority does not want to preclude a beneficial, targeted approach to time-varying pricing by a retailer that a more prescriptive intervention did not allow or foresee.

5.21. A prescriptive approach would also present a particular risk around 'secondary peaks', as all consumers would be given the same incentive to make the same response, and therefore may all shift demand to the same time. Our proposed approach would instead allow a diversity of designs and therefore a diversity of responses.

5.22. The Authority further notes there is a risk that prescriptive settings could become outdated if market conditions change, with costs being incurred before regulations could be changed and price plans adjusted. This could include system security challenges such as creating localised congestion or a 'secondary peak'. The proposed approach would instead allow for tweaks and changes to manage issues as they arise. The amount of uncertainty in energy system evolution over coming years also suggests that a prescriptive approach should be favoured.

5.23. The Authority therefore does not consider a prescriptive approach preferable to the proposal.

A prescriptive approach to injection pricing would not improve confidence

5.24. The Authority considered requiring retailers to offer an injection plan with prescribed pricing. This could have included requirements for retailers to set minimum injection rates based on:

(a) the real-time wholesale electricity price (ie, spot price)

(b) the wholesale forward contract price on the Australian Securities Exchange

(c) historical wholesale prices

(d) a combination of the above.

5.25. There are significant risks to setting an injection rate because:

(a) Mandating an 'anytime' injection rate risks introducing unintended subsidies, as the 'true value' of injection will vary by timing and location. We do not seek to introduce subsidies for distributed generation through this proposal, as they would come at high costs for consumers and have the strong potential for unintended consequences, ie, likely have some level of conflict with the Authority's efficiency objective.

(b) More prescriptive intervention in retail price setting may reduce the scope for innovation in retail injection price plans.

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[32] For example, we understand that some retailers previously had a TOU price plan that had little uptake.

(c) As discussed in paragraph 3.3, retail price plans include multiple cost components that are packaged together into a simplified price plan. If we constrain retailers' ability to reflect total costs through a repackaged injection rate, those costs may be reflected in other charges – resulting in no net effect (unless we also regulated consumption rates, at which point the Authority would essentially be setting retail prices).

(d) Consumers may invest in distributed generation with an expectation that the prescribed rate will continue, potentially de-valuing their investment if injection rates subsequently change.

5.26. We do not consider there is evidence of a problem that would require us to introduce prescriptive regulation for injection rates.

5.27. We note that:

(a) It is reasonable for injection rates to be lower than consumption rates, as not all of a retailer's underlying costs disappear or are offset when injecting.

(b) The single fixed rate that most retailers offer represents a 'hedged' rate that manages volatility risk (similar to power purchase agreements for grid-scale generation).

(c) Injection rates may differ from the forward wholesale electricity contract price on the Australian Securities Exchange depending on when a retailer's prices were set, and in reflection of the likely timing of a consumers' injection.

5.28. While we think there could potentially be weaker competition for solar customers than others (as described at paragraph 4.35), this does not adequately outweigh the potential costs of setting injection prices.

We considered making time-varying plans the default offer

5.29. The Authority also considered an option to make time-varying price plans the default plan that retailers must assign all its mass-market customers to – with customers then needing to opt out to go on another plan.

5.30. This option would likely have the highest gross benefits in terms of its impacts on peak demand. Experience in the United Kingdom suggests retention of time-varying price plans is high under an opt-out approach, and the subsequent decreases in peak demand are greater than an opt-in approach.[33] Theoretically, more efficient outcomes will typically result if a greater proportion of consumers see the costs they contribute to the system, and make decisions that minimise those costs.

5.31. However, we consider taking this approach for time-varying consumption price plans has a significant risk of poor consumer outcomes, as many consumers will not engage with the more complex tariffs, and higher costs could fall on those that are least well placed to respond.

5.32. We also do not see a strong rationale to require time-varying plans as the default for injection, as most existing consumers with distributed generation will not see an

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33 The Value of TOU Tariffs in Great Britain, Insights for Decision-makers, Volume I Final Report.

additional benefit from these plans. This is because most customers that own generation do not also have batteries and therefore cannot respond to time-varying prices. We expect that more customers will have household batteries in future, and we expect those customers will benefit from time-varying plans for injection.

5.33. We therefore do not consider making time-varying plans the default offer would be preferable to an opt-in approach combined with promotion requirements.

We considered requiring retailers to offer control-based plans

5.34. Another way retailers can engage the flexibility within their mass-market customer base is through load and battery control price plans. This is when the retailer (or another aggregator) adjusts or controls the use of one or more of the consumer's appliances. For example, they might have control of:

(a) a large load such as the hot water cylinder, and manage its use to avoid high prices and also help manage system demand. The consumer benefits through reduced consumption when prices are high, and may also receive an additional payment or price discount.

(b) a consumer's battery, and manage its injection to target high prices and help manage system demand. The consumer benefits from increased injection income, and may also receive an additional payment or incentive.

5.35. Control of hot water cylinders has long been used by distribution companies for grid and network control, but is emerging specifically as a form of demand response in the retail market due to recent technological developments. Charging of electric vehicles is another example where load control may have a significant role in future. While the current amount of battery and electric vehicle load available for control is limited, it is expected to increase rapidly.

5.36. We consider load and battery control plans are an essential part of demand-side management and will be key for engaging large amounts of mass-market demand. However, we consider they are complementary to time-varying price plans, not a substitute. Not all load is suited to load management, and not all consumers will be receptive to the idea of giving control of their appliances to another party. Controlled price plans also require more technology and suffer constraints from metering that will mean they may take time to be rolled out, particularly in some areas.

5.37. For these reasons, we do not consider load control plans to be a substitute for the proposal, and that time-varying price plans could have a more immediate impact on peak demand that is beneficial to pursue now. However, we support retailers and other aggregators in pursuing load and battery control options.

We considered a pared-back version of the proposal

5.38. The Authority's proposal has four parts. We considered a variation on the proposal that included just two parts:

(a) a monitoring regime to provide transparency around developments in demand management – note the compliance reporting aspect would not be required under this pared back option.

(b) ensure all retailers see the full costs of their contribution to peak demand through distribution billing and wholesale reconciliation.

5.39. This pared-back proposal is broadly consistent with the recommendations of the Market Development Advisory Group, as set out in its 2023 report to the Authority.[34]

5.40. We consider this pared back option represents the minimum intervention, and that on its own, it could have significant benefits.

5.41. Requiring the use of accurate data for billing and reconciliation will ensure all retailers pay for the costs they contribute to, which will improve their incentives to manage those costs. However, where retailers have other ready options to manage their costs, their incentives to engage consumers to help reduce peak demand may remain insufficient to drive meaningful activity.

5.42. Without a mandatory requirement to offer time-varying price plans, we expect some retailers will remain slow to offer their mass-market customer base more innovative price plans that offer them greater control over their electricity costs. Further, without the need to proactively offer these plans to consumers, uptake will also be slow – particularly amongst customers who are less likely to consider their switching options.

5.43. Given the proposal would likely see a faster rate of uptake, and subsequent faster impacts on consumer costs and peak demand than this pared-back option, we anticipate greater benefits from the proposal that would offset the higher compliance costs. We therefore consider the proposal preferable to a pared-back option.

Q2. Which option do you consider best addresses the issues and promotes the Authority's main objective? Are there other options we have not considered?

[34] Price discovery in a renewables-based electricity system: Final Recommendations PAPER 2023

6. Details of the proposal

6.1. This chapter has four sections, with the content structured as per the below table.

Table 1: Structure of this chapter

Proposal		Design details and considerations
Part 1:	Requirement to offer time-varying price plans	• Price plans required • Design requirements • Pass-through of peak injection payments • Retailers captured • Consumers captured • Timeframe for implementation
Part 2:	Promotion requirements	• Availability • Proactive offer
Part 3:	Monitoring and reporting regime	• Reporting regime • Monitoring regime • Review requirements
Part 4:	Ensure all retailers see the full costs of their contribution to peak demand through distribution billing and wholesale reconciliation	

6.2. The Code amendment to enact the proposal is included in Appendix A.

Proposal Part 1: Require retailers with more than 5 percent market share to make a time-varying price plan available to all mass-market customers

Price plans required

6.3. The Authority proposes to amend the Code to require retailers with more than five percent market share make available to all their mass-market customers:

(a) at least one time-varying price plan for consumption

(b) at least one time-varying price plan for injection.

6.4. At this stage, we are not proposing that these must be the same plan, or that time-varying prices for either consumption or injection must be applied to all of a retailer's other plans. This is because we expect retailers are best positioned to decide whether and how the plans integrate with each other, and their existing offers. Requirements around when or how to combine plans may restrict their ability to provide innovative offers, or lead to a proliferation of price plans.

6.5. However, the strongest price signals would be provided by a plan that features time-varying prices for both consumption and injection. The combination would best incentivise and reward parties that could target their injection to peak times. Therefore, there may be value in requiring a combined plan.

Q3. Should we require retailers to offer a price plan with time-varying prices for both consumption and injection? Why or why not?

Price plan design requirements

6.6. We are not proposing to regulate precisely what the plans must look like. Our concern is not with exactly how retailers set their prices, but with the extent to which consumers are being offered price plans that signal and support them to manage their own costs and the costs of growing peak demand.

6.7. Further, as discussed, consumers will benefit if retailers have space to find out what different consumers will engage with. An aspect of trial and error could be expected. We are therefore proposing an approach that aims to allow retailers maximum space to innovate, while ensuring they develop high quality plans that will help to reduce peak demand and its associated costs.

6.8. We propose that the plans must meet high-level design requirements. Specifically, the requirements for the price plans are that it must set the prices each customer is charged for consuming electricity to:

(a) reflect the relative economic costs to the retailer of the customer's consumption of electricity during peak and off-peak times during a day; and

(b) reflect the relative economic benefits to the retailer of the customer's injection of electricity (if any) during peak and off-peak times during a day.

(c) provide a financial benefit to each customer which is in proportion to the extent to which that customer's consumption or injection patterns reduce the retailer's economic costs

(d) have regard to transaction costs, consumer impacts and uptake incentives.

6.9. We have drawn on the Authority's distribution pricing principles for these design requirements. However, we recognise that competition places a discipline on retailer pricing and permits a level of freedom that does not exist to the same extent for a natural monopoly. The time-varying price plan design requirements are therefore significantly pared back from the distribution pricing principles.

6.10. For clarity, the drafting of the design requirements are intended to require the development of price plans that:

(a) use time-varying prices as a mechanism to drive desirable behaviour, without precluding other incentives to shift load or inject.

(b) reflect within-day price variation, as this is the most actionable signal for consumers to respond to, without precluding price variations that occur on different timeframes.

(c) have consumption rates that reflect the costs to the retailer from customers consuming at peak times, compared to the costs of them consuming at off-peak times. This is likely to include:

(i) reduced costs of purchases in the wholesale market (which may include spot market and hedge market costs, including opportunity costs)

(ii) any reduction in network costs that result from reduced peak consumption (offset by increased off-peak consumption)

(d) have injection rates that reflect the economic benefits to the retailer from the consumer injecting at peak times, compared to the economic benefits to the retailer if the consumer injects off-peak. This is likely to include:

(i) the increased wholesale market value of energy during peak times (which may mean the retailer is paid more if they on-sell this energy, pays less if it offsets demand from their other customers, or is able to defer investment in batteries, flexible generation or other ways of dealing with market volatility)

(ii) any reduction in distribution charges that may result from peak injection payments under the Authority's proposal in the accompanying consultation paper "Requiring distributors to pay a rebate when consumers supply electricity at peak times".

(e) pass through benefits to the consumer, taking into account that:

(i) repackaging between different rates and charges is justified where it improves consumer uptake or likelihood of consumers responding to the price signals

(ii) some discounting of the benefits can be justified to reflect a contribution towards common costs and allow retailers to share some of these benefits for the role they play as an intermediary.

(f) actively engage the consumer in load or injection shifting, ie, plans that rely solely on load control by another party would not be consistent with the design requirements – though this is not precluded.

6.11. Further, the drafting is intended to provide retailers with full discretion to apply whatever structure they desire to meet the design requirements. For example, we consider an 'hour of power' type plan that encourages sufficient load shifting as to reduce economic costs would be consistent with the design requirements. Distributors have outlined concerns about secondary peaks caused by 'hour of power' style plans. This issue was also raised during consultation on the issues paper on "Targeted reform of distribution pricing"[35]. As noted in our May 2024 paper "Distribution Pricing Reform: Next Steps",[36] distributors have tools to address this problem, such as shoulder pricing. We are open to discussing this point with distributors further as retail pricing (and consumer responses to that pricing) develops.

6.12. We welcome submitters' feedback about any aspects of the drafting of the design requirements.

Q4. Do you have any feedback on the design requirements?

Pass-through of peak injection payments

6.13. As stated, we expect price plans to incorporate any reduction in distribution charges that may result from peak injection payments under the Authority's proposal in the

35 Targeted reform of distribution pricing | Our consultations | Our projects | Electricity Authority

36 Distribution Pricing Reform: Next steps

accompanying consultation paper 'Requiring distributors to pay a rebate when consumers supply electricity at peak times'.

6.14. That paper proposes distributors provide rebates for injection according to high-level principles, which are expected to result in injection rebates targeted to areas of a distributor's network that are facing constraints. For a targeted rebate to be effective, it needs to be passed through to the consumers it applies to with some accuracy.

6.15. When we surveyed retailers in October 2024 about their time-varying price plans, we also asked if their retail prices could reflect distribution prices that varied within network areas. All retailers who responded suggested their pricing generally reflects the different categories within a distributor's pricing schedule.

6.16. As discussed in that accompanying paper, we anticipate that distributors would apply injection rebates by assigning the relevant consumers to a new price category within their price schedules. Therefore, we expect retailers would naturally pass-through the rebate to the consumers it is intended for – subject to it being re-packaged in the retailer's price structure.

6.17. However, if this was not the case, we would be concerned that the rebates were being diluted across a larger customer base than they are targeted to. We welcome feedback on the extent to which this is a risk.

Q5. Is there a risk that injection rebates will not be passed through to the consumers targeted? If so, how could we safeguard against this risk?

Retailers captured by the proposal

6.18. We are considering three main options as to which retailers should be included in Parts 1-3 of the proposal:

(a) five percent market share by retail trader[37] (preferred option)

(b) one percent market share by retail trader

(c) five percent market share by parent company – but applying to all subsidiaries of the parent company.

6.19. For clarity, Part 4 of our proposal would apply to all retailers.

6.20. The Authority's current preference is option (a), placing obligations on retail traders with a market share of greater than five percent. We propose this would be assessed as at 1 January 2025 for obligations starting 1 January 2026, and annually thereafter. This option would currently capture the following retail traders:[38]

(a) Mercury

(b) Genesis Energy

(c) Contact Energy

37 The entity that has the relationship with the customer.

38 Based on ICP shares available in EMI, at 30 October 2024, Electricity Authority - EMI (market statistics and tools).

(d) Meridian Energy

(e) Powershop[39]

(f) Frank Energy.[40]

6.21. Collectively, these retailers serve 83% of all consumers.

6.22. We consider this size-based threshold could be appropriate because:

(a) it ensures the largest retailers, who serve the greatest number of consumers, must offer time-varying price plans. This means that these plans will be easily available to the majority of consumers,[41] without imposing excessive compliance costs on smaller retailers.

(b) five of these large retailers do not have time-varying price plans that all their mass-market customers can access[42]

(c) larger retailers are also more likely to have their own flexible generation assets and therefore, potentially, less incentive to discourage consumption during peak times from their customers, or encourage distributed generation.

6.23. We are alternatively considering capturing all retailers above one percent of market share (option (b)). This would additionally capture the following retail traders:

(a) Nova Energy

(b) Pulse Energy

(c) Electric Kiwi

(d) 2 Degrees

(e) Flick Electric

(f) Ecotricity.

6.24. These six retailers collectively represent 15% of consumers. Four of these retailers (barring Nova and 2 degrees) already offer time-varying price plans – in some cases, exclusively. This means the increased benefits are small, but also means the compliance costs for those retailers are lower and would largely be associated with the reporting regime and pro-active offer requirements.

6.25. We are conscious of creating a compliance burden for smaller retailers that is not justified by the benefits provided. At this stage, the Authority therefore considers a five percent threshold may represent a better balance of consumer benefits and compliance costs.

6.26. Any threshold risks creating perverse incentives to be on one side or the other. In this case, the additional compliance costs of the proposal may deter retailers from growing beyond the threshold we apply. We consider the compliance costs are

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39 Powershop is a wholly owned subsidiary of Meridian Energy

40 Frank Energy has 5.01% of ICPs, is a subsidiary of Genesis and does not currently offer time-varying plans.

41 We note customers of smaller retailers will still have access to time-varying injection price plans – some smaller retailers already offer such plans, other smaller retailers may offer them in the future, and consumers always have the option to switch to a retailer that does offer such a plan.

42 As per the discussion in paragraphs 4.4 to 4.11.

likely to present a greater deterrent to a small new entrant retailer nearing a one percent threshold, than a maturing retailer nearing a five percent threshold that is better able to bear these costs and potentially offering these plans already.

6.27. We are also considering, as an alternative, capturing retailers based on the market share of the parent company (option (c)). Under this approach, the requirement would apply to all subsidiaries of the parent company, even if they did not meet the five percent threshold.

6.28. This would potentially capture two additional retail traders – Ecotricity (1.49% market share[43]) and GloBug (0.87% market share[44]).[45] Ecotricity already offers time-varying price plans, so capturing it would add compliance costs with little additional benefits.

6.29. This approach would also capture any subsidiaries that larger retailers might potentially acquire or develop in the future.[46]

6.30. Retailers have typically used subsidiaries to distinguish new approaches or different types of retail offer from the parent brand. We consider this kind of activity has potential innovation benefits, which may not be realised if all subsidiaries were required to offer time-varying price plans without exception, and that a size limit would still be justified.

6.31. At this stage, we do not consider there is a clear consumer benefit from treating subsidiaries differently from independents of a similar size and think that the rationale for a size threshold equally applies to all retailers. We therefore propose that the market share of the retail trader, rather than the parent company, is used to assess the application of the proposal.

6.32. We have considered excluding retailers from all or part of the proposal where they are already offering time-varying price plans. However, we do not prefer this approach, as we consider there is merit in ensuring those retailers still meet the offer requirements and demonstrate that their plan is consistent with the design requirements. However, it may be appropriate to exclude retailers from the pro-active requirements where all of their pricing plans are consistent with the design requirements – particularly if we were to use a one percent threshold.

6.33. We welcome submitter feedback on this design point.

Q6. Which retailers should be captured by the proposal and why?

Consumers not captured in the availability and offer requirements

6.34. We propose that retailers would not have to make available or offer a time-varying price plan to consumers who do not have a smart meter installed. This is for

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43 As at 31 October 2024.

44 As at 31 October 2024.

45 It would also capture Frank Energy if its market share declined slightly, noting its proximity to the five percent threshold.

46 It may also require consideration of whether companies partially owned, but not controlled, by larger retailers should also be caught in some circumstances.

practical reasons, as any response a consumer may make in response to a time-varying price signal could not be readily recorded.

6.35. We considered not excluding consumers without smart meters on the basis that the need to offer a plan reliant on smart meters may provide an additional incentive to upgrade the remaining meters. However, this applies to just seven percent of consumers. Where smart meters have not been installed, this tends to reflect a specific consumer request, or physical challenges to accessing the meter. We do not expect that this proposal would add a more effective incentive beyond what already exists and would create compliance challenges for retailers that may not be reasonably managed.

6.36. We considered whether this may provide an incentive for some parties to downgrade a consumer's meter to avoid the obligation. However, a lot of meters would need to be changed before this made a material difference to a retailer's obligations and would come at a reasonably high cost. We consider that this is unlikely to be a response to the proposal.

Implementation timeframe

6.37. The Authority is proposing retailers must make time-varying price plans available that meet the design requirements by 1 January 2026.

6.38. An alternative option would be 1 April 2026. This is because distributors reset their prices on 1 April each year, and so retailers tend to align any price adjustments with this same date. However, the Authority is proposing 1 January in order to bring benefits to consumers sooner, noting our proposal is a new offer not a price change. Where possible, it would be preferable for retailers to offer new time-varying tariffs before that deadline.

6.39. We expect this proposed timeframe would allow around six months for implementation from the point the Code is gazetted. We anticipate this timeframe is workable, though note IT system upgrades, where required, may prove a constraint. We welcome submitter feedback on this timeframe.

Q7. What are your views on the proposed timeframe for implementation of 1 January 2026? Would 1 April 2026 be preferable, and if so why?

Proposal Part 2: Promotion requirements

Availability requirements

6.40. We are proposing requirements around how retailers make their time-varying price plans available and offer them to consumers. This is to:

(a) provide visibility of the plans to discipline quality and encourage competition

(b) ensure consumers who are considering their supply options can compare the plans and access them if they wish

(c) ensure consumers who may benefit, but who may be unlikely to otherwise consider their supply options are provided with an opportunity to take up the plans.

6.41. We consider the plans should be made available and offered in three ways:

(a) on the retailer's website

(b) on the comparison and switching website supported by the Authority (currently Powerswitch), even if the retailer is not taking on new customers

(c) the retailer should promote (make a proactive offer) time-varying pricing plans to any of its customers that it reasonably expects would benefit from the time-varying price plans.

6.42. We consider the first two requirements would involve minimal cost to the retailers that would be captured, who all have customer facing websites and already advertise their rates on Powerswitch. We propose a Code requirement similar to the regulations in place for the low fixed charge regulations which state:

> *The electricity retailer must advertise a low fixed charge tariff option at the same time, and in the same manner, as it advertises an alternative tariff option.*

6.43. To clarify, unlike the Low Fixed Charge Tariff regulations, we are not proposing the prescribed injection price plan needs to be available with every existing price plan (and likewise for consumption). We are proposing to adopt the requirement in the LFC regulations to advertise the prescribed price plans in the same way the retailer advertises other price plans.

Proactive offer requirements

6.44. The Low Fixed Charge Tariff regulations also included a promotion requirement, which requires retailers proactively contact customers, and explain the low fixed charge and the benefits they provide.

6.45. Approximately two-thirds of residential consumers are on low-fixed charge tariffs, which suggests the success of the proactive offer requirement in that case.[47]

6.46. We consider a similar proactive offer requirement should apply for the time-varying price plans. We consider a proactive offer of the consumption plan should be made to all customers where it may be the most suitable product offer.

6.47. Not all consumers will benefit from a time-varying price plan. It will depend upon the design of the plan, the consumer's prevailing demand or injection profile, and the extent to which they are willing or able to shift their consumption or injection habits. This last point in particular makes the test of whether a time-varying price plan is suited to a customer somewhat complicated.

6.48. Retailers have detailed data for their individual customers' consumption over the previous two years. We consider this data should be used to provide consumers with sufficient information as to the potential benefits to them of taking up the price plan, and/or the extent to which they would need to change their behaviour to realise benefits.

6.49. We propose that the proactive offer obligation requires:

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47 ERANZ submission to MBIE

(a) identifying the amount of electricity the customer consumed or injected during peak and off-peak times (as defined by the price plan) in the previous year, if the data exists

(b) explaining the availability of the new time-varying price plan for consumption or injection as applicable

(c) setting out the main features of time-varying price plan, and noting risks that may be associated, such as changes to the distribution of bills across the year, or the potential for injection rates to change over time

(d) quantifying the potential benefits in dollar terms (if any) for the customer from being on the time-varying price plan, based on their past consumption or injection, if the data exists

(e) explaining the conditions in which consumers may obtain the greatest benefit from being on the time-varying price plan (eg, based on reasonable changes they might make affecting their peak consumption or injection)[48]

(f) checking in with customers on this plan after one year to confirm the consumer has benefited from the change. We consider this important given the benefits may rely on a change of behaviour that cannot be guaranteed, and consumer circumstances can change.

6.50. A requirement to provide tailored, personalised information will increase retailers' compliance costs. We note feedback on our recent Consumer Care Obligations consultation paper suggested retailers may not currently have systems set up to allow monitoring of customer consumption. However, we note that retailers are uniquely positioned to provide this information to consumers, as the data is not practicably available to switching websites or competitors, and it is unrealistic to expect consumers to source and use the data themselves to make the comparisons.

6.51. The Consumer Care Obligations will require retailers to contact each of its customers once a year. There is a risk of overwhelming consumers with too much information in a single notice if the proactive offer were to be bundled in, but this may reduce the costs of complying with the proactive offer.

6.52. We also considered:

(a) *Requiring that the proactive offer is made to all customers.* The offer may have an educational element through highlighting the costs of peak consumption and injection – even for customers who are unlikely to benefit by taking up the plan. However, there is also the risk that an offer notice creates confusion for some customers, for whom the change in consumption or injection required to see benefits under the plan's design is unlikely to be feasible. While this option may be simpler initially for retailers to comply with, it may also create higher costs through customer enquiries. We therefore prefer an option that only requires an offer is made to customers where the

[48] We note the Consumer Care Obligations will require retailers to assist customers to understand the most suitable plan for their household circumstances, when they sign up or enquire about changing their plan. this will help ensure customers do not sign up to plans that are not in their best interests.

plan may be most suited, but allows retailers to offer it wider at their discretion.

(b) *Not requiring a proactive offer.* However, we consider the proactive offer is important to ensure the broadest possible uptake, including from customers who are most unlikely to switch, and may otherwise not consider a price plan that may be better suited to them.

(c) *Whether the proactive offer should include a link to Powerswitch (or the Authority's procured switching service) to encourage switching between customers*. At this stage, we do not consider this feature would be helpful to address the issues identified in this paper, because Powerswitch does not have access to the same detailed consumer data that the retailer has, creating the potential for mixed messaging. We note the Code already requires retailers to provide information about Powerswitch on consumer bills and on their website. The Authority's 'Consumer plan comparison and switching' project will be considering broader questions about consumer switching.

Q8. What are your views on Part 2 of our proposal that would require retailers to promote the time-varying price plans?

Proposal Part 3: A monitoring and reporting regime to ensure compliance and provide transparency of developments in demand management

Reporting regime

6.53. We are confident that an approach that provides retailers significant leeway in how they design their pricing plans is preferable to an approach that prescribes what price plans should look like, as it allows for greater innovation and efficiencies, with lower risk of unintended consequences.

6.54. However, the corollary is that it makes it more difficult and costly for retailers to demonstrate compliance and for the Authority to assess compliance.

6.55. Competition is an important factor in disciplining retail offers. We anticipate that the significant increase in visibility of the time-varying price plans (ie on websites, Powerswitch, and through proactive offers) will naturally encourage retailers to develop high quality plans, and competitive pricing. However, it is possible that not all retailers will fully engage with the intent of the proposal.

6.56. We therefore propose to require all retailers captured in the proposal to report to the Authority by 1 August each year to:

(a) demonstrate their plans comply with the design requirements

(b) demonstrate they have complied with the proactive offer requirements.

6.57. This requirement will place an expectation on these retailers to provide high-quality information that would clearly demonstrate how their offerings comply with these requirements. Failing to do so would be a breach of the Code.

6.58. We have proposed that the Authority may require this information to be provided in a form that we prescribe. However, we have not yet determined what that form will be, and welcome submitter feedback on this.

6.59. We consider reporting could take a similar form to distribution pricing methodology documents.[49] A key difference would be that aspects of the time-varying price plan methodology may be commercially sensitive, and so would not be made public or published by the Authority.

6.60. The table below summarises the general content of a typical distribution pricing methodology, and the similar information we might expect to receive on the time-varying price plans.

Table 2: Content we might expect on time-varying price plans

Example distribution pricing methodology content	Expected content for time-varying price plan methodology
Pricing strategy	• Overall approach to the price plan and using it as a mechanism to manage demand
Identifying customer groups	• Identifying customer groups targeted by the price plan, and the characteristics of those groups
Calculating target revenues	• Discussion of the key drivers of the retailer's economic costs, and an evaluation of peak and off-peak consumption costs / injection benefits
Allocate costs to pricing areas and customer groups	• Consideration of how costs (including a share of common costs) apply to the target customer groups, and any sub-groups within that (eg regional). • Discussion of how any peak injection payments reflecting the network benefits of consumers' injection have been included in the time-varying injection price plans.
Other pricing considerations	• Consideration of transaction costs, uptake incentives, consumer impacts, and any adjustments they may warrant.
Set unit prices	• Resulting prices and price structure

6.61. We also propose that the reporting regime would require retailers to provide information to demonstrate compliance with the proactive offer requirements. It is not practicable for the Authority to monitor all communications with customers. However, reporting could include information about how the retailer approached customers, what communications it sent, and to how many customers the offer was made. The reporting would also cover communications around the one-year follow-up.

[49] Disclosed under the Commerce Commission's Information Disclosure requirements, https://comcom.govt.nz/__data/assets/pdf_file/0015/321171/Electricity-Distribution-Information-Disclosure-Determination-2012-Consolidated-6-July-2023.pdf

6.62. An alternative approach could be to require retailers to maintain records of its customer communications, which the Authority could require be audited or could ask for under Section 46 of the Electricity Industry Act 2010 (Act).

6.63. The Authority would provide a compliance education package to retailers before the requirements take effect.

Q9. What should the Authority consider when establishing the approach to and format of the reporting regime?

Monitoring regime

6.64. In addition to the compliance reporting regime, the Authority will closely monitor uptake of the price plans to understand the success of the proposal and consider if further intervention is needed.

6.65. Building a baseline of information is essential for the Authority to gauge how the proposed measures are working and whether any further changes are required.

6.66. The Authority's retail data project will provide data to develop this baseline and undertake ongoing monitoring. [50]

6.67. The Authority has a broader interest in monitoring a range of measures to understand and track the degree to which demand-side flexibility is developing in the market. We intend to develop a range of metrics over time. We note the graphs in Figure 1 are an initial step in that direction.

Review provisions

6.68. We are considering two approaches to reviewing the intervention:

(a) including a sunset clause in the Code covering parts 1 to 3 of our proposal. The Authority could of course review the impact of the initial five year period, and extend the Code requirements through a further Code amendment if beneficial. The sunset clause would not apply to Part 4 (see below for details of Part 4).

(b) including a Code obligated review requirement, through which the Authority could then consider a Code amendment to remove the requirements under parts 1 to 3 of the proposal if they are no longer needed.

6.69. In either case, the requirements could be maintained if there was an ongoing benefit. However, the key difference would be in whether the arrangements automatically expire or a review is required to assess their continued appropriateness.

6.70. We recognise there are potential risks to this broader intervention. In particular it could:

(a) impact the competitive position of other retailers

(b) distract retailers from innovating in other valuable ways

[50] See Electricity Authority seeks improved data collection from retailers | Electricity Authority.

(c) become out-dated, or a barrier to change as the market continues to evolve.

6.71. A sunset clause would minimise these risks. We would be particularly concerned about the intervention acting as a barrier to further competition and innovation, given the uncertainty in energy system evolution over the coming years.

6.72. The Low Fixed Charge Tariff regulations are an example where retail offers were regulated, with a series of unintended consequences on market development. The intention is not to replicate the rigidity of those regulations. However, the risks may be relatively low, because the proposal is less of a constraint than the Low Fixed Charge Tariff regulations. It does not need to impact other price plans or be offered to all consumers, and we have not set prescriptive design requirements.

6.73. As discussed in chapter 2.12, the Authority is progressing other initiatives that we expect will improve retail competition and innovation in the longer-term. This proposal may therefore have less benefit in that future context.

6.74. These sorts of interventions can have significant inertia, with the price plans and the processes put in place to offer them lasting well beyond the Code requirements. A sunset clause would reflect that this is likely in this case. We expect many of the benefits of the proposal will likely be achieved from retailers developing the necessary systems and processes to offer the price plans in the first place. There are incentives for retailers to offer time-varying price plans, they have just not been sufficiently strong to overcome barriers to their development to date.

6.75. However, it may be that some aspects of the proposal have greater inertia than others, and some important features could be lost if the requirements expire. Further, if there are incentives for these tariffs to be offered anyway, the risks from maintaining the proposal may be low.

6.76. At this stage, on the balance of risks, our preference is to include a sunset clause in the Code, with the Code amendments relating to Parts 1 to 3 no longer taking effect after five years (from 1 January 2031). The Authority has the ability to review the sunset clause before it comes into effect and make a further Code amendment to extend the arrangements if this is considered beneficial and the requirements of the Act are met.

6.77. We would propose five years as an appropriate period for the Code to be in effect, noting it will take about six months before the price plans are available and offered, and the need to provide half-hourly data for distribution billing has come into effect. Five years would allow time for the Authority's other work programmes to help new generators and independent retailers better compete in the market, and to improve retail comparison and switching tools. Five years would also allow time for the Authority to start identifying trends in data for monitoring purposes and consider if there was any ongoing need for the arrangements to remain in place.

6.78. However, we recognise there are risks both ways, and welcome submitter feedback on these options.

Q10. Should the Authority include a sunset provision in the Code, or a review provision? Why?

Q11. What are your overall views on Part 3 of the proposal?

Proposal Part 4: Ensure all retailers see the full costs of their contribution to peak demand through distribution billing and wholesale reconciliation

6.79. Ensuring that all retailers see the full costs of their contribution to peak demand through distribution billing will improve their incentives to manage those costs. One way they may do this is by engaging the flexibility within their customer demand. This change will also help ensure the intended benefits of making distribution pricing more cost reflective are realised, by better enabling the price signals to get through.

6.80. The Authority is proposing changes only relating to *distribution billing* in this consultation. These concern distributors and all retailers and are not subject to the sunset clause discussed in paragraphs 6.68-6.78.

We previously considered this issue as it applies to distributors in an issues paper

6.81. This issue has been discussed by the Authority in the "Targeted Reform of Distribution Pricing" Issues paper[51]. In that paper we had raised concerns about the continued use of profiles for energy and network billing for ICPs with smart meters and around overly permissive tariff assignment policies.

6.82. In May 2024, the Authority published an open letter to distributors[52]. In this letter, the Authority identified five key focus areas, including that distributors should assign all ICPs to time-varying distribution tariffs. Several distributors have already responded and moved all of their ICPs with appropriate meters to time-varying tariffs.

6.83. Some distributors retain an opt-in approach or opt-out with wide access to exemptions. These approaches can lead to adverse selection (where peakier customers remain on uniform tariffs) and weaken retailer incentives to engage with non-uniform tariffs. Requiring all ICPs to be on time-varying distribution tariffs would avoid this adverse selection problem.

The issue as it applies to retailers was considered by the Market Development Advisory Group

6.84. Proposing changes to these arrangements is consistent with advice from the Authority's Innovation and Participation Advisory Group in 2021, and recommendations from the Authority's Market Development Advisory Group (MDAG) in 2023. Recommendations from both groups related to data for wholesale reconciliation, though the same logic applies to data for distribution billing.

6.85. We note that submissions in response to MDAG's consultation were supportive of phasing-out the use of profiles for wholesale reconciliation. However:

(a) One submitter suggested the change may not lead to a significant change in behaviour for vertically integrated retailers.[53] We consider the other parts of our proposal address this concern.

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51 Targeted Reform of Distribution Pricing

52 Open letter to distributors

53 Enel X submission, pp 3 https://www.ea.govt.nz/documents/2529/Price_discovery_in_a_renewables-based_electricity_system_-_Options_Paper_-_Enel_X.pdf

(b) Another submitter suggested smart meter data may become less relevant over time as individual appliances will collect their own data, and hence the whole area of data management should be looked at instead.[54] This comment takes a very long-term view. Smart meter data will remain highly relevant for the foreseeable future. We do not consider the potential merits of a broader review of data management, which will take considerable time, should preclude us realising the gain from this proposed, more immediate change.

6.86. We understand some retailers' billing systems represent a barrier to the use of accurate data for billing and reconciliation, and some retailers will therefore face costs in meeting this part of the proposal. However, we consider the benefits of ensuring the use of accurate data outweigh these costs.

We are proposing Code changes affecting distributors and retailers

6.87. We are proposing three changes to the Code to ensure all retailers see the full costs of their contribution to peak demand through distribution billing:

(a) Requiring that distributors charge in accordance with time-varying charges where they offer them and where the consumer has a smart meter

(b) Requiring retailers to provide distributors with half-hourly data, where it exists, for billing purposes.

(c) Requiring that distributors charge retailers based on half-hourly data, where provided by retailers.

6.88. These changes are included in the proposed amendment in Appendix A of this paper.

6.89. As an alternative to changing the Code to require the use of half-hourly data, we considered making changes to the business rules for Electricity Information Exchange Protocols (EIEPs). Changing the EIEPs would allow greater flexibility, as these can be amended more readily than the Code. However, the default distributor agreement allows retailers and distributors to agree to different information transfer arrangements, which could mean parties continue to contract around the need to provide half-hourly data. Changes to the default distributor agreement would also be necessary, and these can take time to flow through. We therefore prefer our proposed approach of making changes via the Code.

Implementation timeframe

6.90. The Authority's proposals to require the use of half-hourly data where it exists would come into effect from 1 January 2026. However, where IT system upgrades are required, this timeframe may prove challenging. Submitters are encouraged to provide detailed information to this effect (confidentially where necessary) if this is the case.

Changes to wholesale reconciliation will be considered in a separate review

6.91. We are not proposing changes affecting *wholesale reconciliation* at this stage. However, we intend to propose changes to this effect when we undertake a review

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[54] Solar zero submission, pp 3 https://www.ea.govt.nz/documents/3463/SolarZero.docx

of Part 15 of the Code later in 2025. That review will ensure the rules and processes for reconciliation remain fit-for-purpose in a context of high smart meter penetration. We consider it preferable for changes to the use of half-hourly data for wholesale reconciliation to be considered within the context of other changes that may be relevant to ensure a cohesive approach.

6.92. Many retailers' systems use the same half-hour metering data as inputs to both the reconciliation submissions and the distributor billing information sent to distributors through the Electricity Information Exchange Protocols (EIEP) process. The current reconciliation process permits the use of half-hour data for submissions for all ICPs.

6.93. We encourage retailers to consider using half-hour data for reconciliation submissions if we introduce a requirement to use half hour data for distributor billing processes. There are benefits to retailers from using more accurate, actual data for reconciliation submissions than using profiles to estimate data from a monthly cumulative meter reading. In this way, retailers can get the benefits of reconciliation using half hour data well before we undertake the review of the reconciliation processes in Part 15 of the Code and will reduce the costs of change if ultimately we amend the reconciliation process as a result of that review, following the consultation process. There is, however, no obligation on retailers to make this change. We note that any proposal around use of data for reconciliation purposes will be fully consulted on before a decision is made.

Q12. What are your views on Part 4 of our proposal to amend the Code to require that consumers are assigned to time-varying distribution charges, that retailers provide half-hourly data to distributors for settlement, and that distributors must use this information?

7. Regulatory statement for the proposed amendment

7.1. This chapter details a regulatory statement for the proposed amendment in this consultation paper.

Objectives of the proposed amendment

7.2. The key objective of the proposed amendment is to improve the incentives for consumers to move their consumption away from, and their injection towards, peak times to help minimise system costs. This gives consumers more opportunity to manage their own costs in the short-term, and to reduce costs to all consumers in the long term.

7.3. The key objective aligns with the Authority's main statutory objective: to promote competition in, reliable supply by, and the efficient operation of, the New Zealand electricity industry for the long-term benefit of consumers. The objectives also align with the Authority's additional statutory objective: the protection of the interests of domestic consumers and small business consumers in relation to the supply of electricity to those consumers as set out below.

Q13. Do you agree with the objective of the proposed amendment? If not, why not?

The proposed amendment

7.4. The drafting of the proposed amendment is contained in Appendix A.

7.5. The proposed amendment has four parts:

(a) requiring retailers with more than five percent market share to make a time-varying price plan available to all mass-market customers

(b) requiring retailers to promote these time-varying price plans

(c) establishing a monitoring and reporting regime to ensure compliance and provide transparency of developments in demand management

(d) ensure all retailers see the full costs of their contribution to peak demand through distribution billing and wholesale reconciliation.

The proposed amendment's benefits are expected to outweigh the costs

7.6. We have qualitatively assessed the costs and benefits below. We do not consider a quantitative assessment of costs and benefits is meaningful, as this would necessarily rely on a large number of assumptions that are uncertain.

Efficiency benefits

7.7. The proposal will improve the extent to which price signals are being sent to those that can act on them. Specifically:

(a) It will improve the extent to which distribution price signals are received by retailers, who can then ensure these signals are passed through to consumers in an effective way.

(b) It will improve the extent to which wholesale and distribution price signals are received by consumers, who can then make better decisions about their consumption, injection, and associated investments.

7.8. This improved signalling will result in strong efficiency benefits because:

(a) It will help to reduce peak demand and could flatten the overall demand profile. This will reduce the need for higher cost resources to meet demand, and defer generation and network investments in the longer term.

(b) It will ensure future investments in generation and networks better reflect consumers' willingness and ability to pay for those investments, and that costs are recovered from those that contribute to them.

(c) It will support more efficient investment decisions by consumers, based on a better understanding of the costs and benefits.

7.9. The proposed promotion requirements will ensure broad uptake to support greater efficiency benefits than would otherwise be the case.

Competition benefits

7.10. The proposal will have competition benefits, because it will increase the options available to consumers that are open to shifting load as a means to manage costs. This will increase retailers' need to compete for these customers.

7.11. The proposal will also improve consumers' ability to compare and consider different price plans, which may may increase consumers' propensity to reconsider their supply options more generally.

Reliability benefits

7.12. This measure will have reliability benefits as it will incentivise consumers to make decisions that help to minimise peak demand – including both behavioural decisions, and investment decisions. There is a higher risk of shortage when supply is scarce and networks may be constrained. A consumer's decisions to delay consumption in response to the higher prices that occur at peak demand could hence help to reduce this risk.

7.13. Further, in response to the measure, consumers may be more likely to invest in batteries, which can provide additional resilience benefits to consumers. For example, in the case of a power cut, batteries can provide the consumer with electricity (depending on the battery capacity and charge state) while power is being restored.

Implementation costs

7.14. The Authority expects the implementation costs to be minor and concentrated in the first year of implementation.

7.15. Retailers would face costs in setting up systems to implement the price plans and offer notices, to exchange more detailed data with distributors, and to develop compliance reports to the Authority.

7.16. The Authority understands some of these costs were planned to be incurred anyway, and the proposal would largely just be bringing them forward in time.

7.17. There are also potential risks to the proposal that we have sought to minimise. As noted throughout this paper:

(a) There are potential risks to efficiency, as retailers captured by the requirements may need to deprioritise other developments. Retailers may be

discouraged from investing in innovation if they see a reduced benefit than expected from investments they have made in time-varying price plans. We have sought to mitigate these risks through a sunset provision and by maintaining retailers' ability to innovate around the design of the time-varying price plans.

(b) There are potential risks to competition: requiring retailers to offer a particular price plan may undermine the competitive position of retailers who already offer those plans and have invested to do so. However, we expect any impacts to be small, because retailers that are offering time-varying plans are already innovating in other ways, and the developments resulting from our proposal would likely occur in time anyway. We have also sought to mitigate risks to competition by maintaining retailers' ability to innovate around the design of the time-varying price plans, and hence maintain their ability to target niches and differentiate their offer.

(c) There are risks to reliability, if all consumers received a similar price signal and responded to it in similar ways, potentially creating localised congestion or step-jumps in demand. We have sought to mitigate risks to reliability by maintaining retailers' ability to innovate around the design of the time-varying price plans, making a diversity of designs more likely, and the ability to adapt to issues as they arise.

7.18. Overall, we consider that the mitigations we have put in place ensure that the benefits of the proposal will significantly exceed the costs and potential risks.

Q14. Do you agree the benefits of the proposed amendment outweigh its costs?

The Authority has identified other means for addressing the objectives

7.19. As discussed in Chapter 5, the Authority has identified other means for addressing the objectives. These include:

(a) the status quo

(b) more prescriptive pricing approaches

(c) requiring all consumers be on a time-varying price plan

(d) requiring retailers to offer control-based plans in addition to, or instead of, time-varying price plans

(e) a pared-back version of the proposal including:

(i) monitoring price plan and demand-side flexibility developments

(ii) ensuring retailers see the full costs of their contribution to peak demand through distribution billing and wholesale reconciliation.

The proposed amendment is preferred to other options

7.20. The Authority prefers the proposal to the alternatives because:

(a) The status quo is not providing sufficient choice to consumers, or sufficiently engaging them to help manage costs.

(b) More prescriptive approaches contain significant risks to competition and innovation. These include the risks of the Authority choosing design

specifications that do not achieve customer acceptance, and create system security issues. There are also ongoing risks that the design specifications chosen today may not be appropriate for the future energy system.

(c) Requiring all consumers be on time-varying price plans has a high risk of poor consumer outcomes, as they will not be suited to all consumers, and higher costs could fall on those that are least well placed to respond.

(d) Load control is an essential part of demand-side management. However, we consider this to be complementary to time-varying price plans, not a substitute, as not all load is suited to being controlled, and not all consumers will be willing to provide control of appliances to another party.

(e) We consider the pared back proposal represents the minimum intervention, but that the mandatory offer and promotion requirements within the proposal would achieve greater uptake of time-varying tariffs in a short period of time, increasing the benefits of the proposal.

7.21. These reasons are set out in more detail in paragraphs 5.7 to 5.43. Overall, the Authority expects the proposal will have greater efficiency benefits than the alternatives, at lower overall cost. We therefore prefer it to the alternatives identified.

Q15. Do you agree the proposed amendment is preferable to the other options? If you disagree, please explain your preferred option in terms consistent with the Authority's statutory objectives in section 15 of the Electricity Industry Act 2010.

The proposed amendment complies with section 32(1) of the Act

7.22. Section 32(1) of the Act says the Code may contain any provisions that are consistent with the Authority's objectives and are necessary or desirable to promote one or all of the items set out in Table 3.

7.23. The Authority's main objective under section 15 of the Act is to promote competition in, reliable supply by, and efficient operation of, the electricity industry for the long-term benefit of consumers. The Authority's additional objective is to protect the interests of domestic consumers and small business consumers in relation to the supply of electricity to those consumers. The additional objective applies only to the Authority's activities in relation to the dealings of industry participants with domestic consumers and small business consumers.

7.24. The Authority considers the proposed amendments are consistent with its main objective for the reasons set out in this paper (by promoting competition, reliability, and efficiency).

7.25. The explanatory note to the Bill that led to the Authority's additional statutory objective (to protect the interests of domestic consumers and small business consumers (small consumers)) indicated an intention that the additional objective not apply to how prices (including retail electricity prices) are determined. Nevertheless, where the proposed amendments do touch on dealings between participants and small consumers, the Authority considers the amendments to be consistent with the additional objective. The amendments promote the protection of the interests of small consumers by increasing their access to price plans that improve their ability to manage their electricity costs, as well as providing access to

Code breach dispute resolution processes which ensure requirements are enforceable.

Table 3: How the proposed amendments promote the items in section 32(1) of the Act

Item	How the proposed amendments promote the item
competition in the electricity industry	The proposed amendments aim to increase the price plan options available for consumers, which can increase competition around those plans, including customer engagement with competitive offers.
the reliable supply of electricity to consumers	The proposed amendments aim to increase load shifting to manage peak demand, reducing constraints around the sufficiency of supply at these times and the resulting risks to reliability.
the efficient operation of the electricity industry	The proposed amendments improve price signalling, and provide efficiency benefits by better incentivising parties that can respond to prices to do so. This will reduce the need for higher cost resources to meet demand and defer investments in generation and networks. It will also improve the efficiency of consumption, injection and investment, ensuring it reflects consumers' willingness and ability to pay, and that costs are recovered from those that contribute to them.
the protection of the interests of domestic consumers and small business consumers in relation to the supply of electricity to those consumers	The proposed amendments protect the interests of domestic consumers and small businesses by improving their access and uptake of price plan options that give them more choice about how they manage their electricity costs. They also provide access to Code breach dispute resolution processes which ensure requirements are enforceable.
the performance by the Authority of its functions	The proposed amendments support the Authority's function to undertake measures aimed at protecting the interests of domestic consumers and small businesses (16(1)(ia)). The proposed monitoring and reporting obligations support the Authority's compliance and investigation functions (16(1)(c) and (d)), as well as its industry monitoring function (16(1)(g)).
any other matter specifically referred to in this Act as a matter for inclusion in the Code	n/a

The Authority has complied with section 17(1) of the Act

7.26. Under section 17(1) of the Act, the Authority, in performing its functions, must have regard to any statements of government policy concerning the electricity industry that are issued by the Minister for Energy. Table 4 below sets out our consideration of the Government Policy Statement on Electricity.[55]

Table 4: Consideration of the proposed amendments against the Government Policy Statement on Electricity

Clause	Consideration
5. Meeting this increased demand will require a huge increase in investment in new generation and related services – running into many tens of billions of dollars. This investment must be efficient to deliver reliable electricity supply at lowest possible cost to consumers.	The proposal will support efficient investment by helping mass-market consumers to make more efficient decisions around their consumption and injection, reducing the need to inefficiently invest in generation and networks in a way that does not reflect consumers' preferences.
10(d). Demand-side response and other sources of flexible supply (such as batteries and thermal generation) will become more valuable, particularly in managing demand peaks and periods when short-term capacity is tight.	The proposal will support increased engagement of demand-side resources for managing demand peaks.
29(g). Household and business consumers can make meaningful choices between competing suppliers and technologies, and benefit from the opportunities available in the electricity system. This includes the benefits that consumers may gain from providing demand-side flexibility.	The proposal ensures that more choice is readily available to mass-market consumers.
32. The Electricity Authority is expected to work collaboratively with other agencies across the wider regulatory regime, acknowledging the scope of each agency's remit.	The proposal has been developed in collaboration with the Commission and the Ministry of Business, Innovation and Employment. We have collaborated at the policy development phase and anticipate collaborating through implementation.

[55] New Zealand Government. Government Policy Statement on Electricity - October 2024.pdf (beehive.govt.nz). Accessed 11 October 2024.

The Authority has applied Code amendment principles

7.27. The Authority's Consultation Charter states that to provide greater predictability about decision-making on Code amendments the Authority applies certain Code amendment principles. Table 5 below sets out our consideration of the Code amendment principles.

Table 5: Consideration of Code amendment principles

Principle	Comment
Clear case for regulation: The Authority will only consider amending the Code when there is a clear case to do so	Problem definition is set out in this paper.
Costs and benefits are summarised	The costs and benefits of this proposal are summarised above.
Preference for small-scale 'trial and error' options	Not applicable – all options considered applied to all retailers above a certain size, reflecting the problem the Authority was responding to.
Preference for greater competition	This proposal will create additional options for consumers. It may also increase competition for consumers that are willing and able to shift their consumption or export, and improve consumers' ability to compare and consider different price plans (and therefore engage with competitive retail offerings).
Preference for market solutions	Not applicable, as all options considered here involve regulatory requirements for retailers above a certain size. The Authority considers a purely market-led approach has not led to sufficient progress in rewarding consumers for the benefits of shifting their use away from peak times, or their injection at peak times.
Preference for flexibility to allow innovations	The principles-based approach allows flexibility for retailers regarding the details of their pricing plans, and, and therefore better preserves their ability to innovate (acknowledging that the proposed intervention does create targeted retail pricing requirements).
Preference for non-prescriptive options	This option sets high level principles, but does not prescribe how those principles are met.

8. Consumer financial impacts

8.1. The proposal in this paper will require retailers with greater than five percent market share to make available to all its mass-market customers:

(a) at least one time-varying price plan for consumption

(b) at least one time-varying price plan for injection.

8.2. The chapter considers the following aspects of this proposal that will have consumer financial impacts:

(a) The impact on those consumers who shift to a time-varying retail price plan and receive a benefit from the lower bills due to their existing low peak consumption profile or their ability to shift peak load into off-peak periods.

(b) The increased cost to those consumers who remain on standard retail price plan as the price of the standard tariffs has to increase to become more cost reflective of the remaining consumers' more 'peakier' load profile, and to recoup the cross-subsidy that the consumers that have moved to a time-varying tariff were effectively paying.

Approach and methodology for assessment: Time-varying price plans for consumption

Reallocation of retailer costs and prices

8.3. The approach for assessing the benefit to consumers that shift to time-varying retail tariffs and the increased cost for those consumers that remain on standard retail tariffs directly offset one another as they represent a partial unwinding of a cross-subsidy between consumers with 'peakier' and 'flatter' load profiles. This assessment does not take account of the broader benefits of the proposal, eg, the expected long-term reduction in peak generation and network investment, which are expected to benefit all consumers. As such the assessment likely understates the benefits to consumers that shift and overstates the cost to consumers that remain.

8.4. We have assessed the reallocation of costs between customers on standard price plans and those on time-varying retail price plans using the following steps:

(a) A model retail tariff is determined across various distribution networks based on the actual distribution price for each network, and wholesale costs. This has a daily fixed charge and cost per kWh consumption that does not vary throughout the day. We have not included other cost components (eg, retail overheads, levies etc), as we expect any changes in these components to be minor.

(b) A cost reflective time-varying retail tariff is then developed (a time-of-use tariff) based on the combined distribution and wholesale peak and off-peak costs.

(c) An assumed number of consumers switch from the standard retail tariff to the time-varying retail tariff, which is cheaper due to their flatter assumed load profile. The benefit to these consumers is then quantified based on their assumed peak and off-peak usage profile.

(d) The standard retail tariff's variable cost per kWh is increased to become cost reflective for the remaining 'peakier' consumers and recover the lost revenue

previously paid for by flatter profile consumers. The increased cost to these consumers can then be quantified per customer. We assume that retailers are able to raise its prices to recover this difference.

8.5. To develop the standard retail tariff and the time-varying retail tariff, the following sample of nine distributors' time-varying tariffs (in this case their time-of-use tariffs) and associated daily fixed charge as at 1 April 2014 were used:[56, 57]

(a) Unison's two pricing regions

(b) Wellington Electricity

(c) Powerco's four pricing regions

(d) Orion

(e) Vector Networks

8.6. The percent of volume consumed in peak and off-peak was derived from each distributor's annual compliance statement to calculate the total distribution costs.

8.7. Average peak and off-peak wholesale electricity prices since 2020 were obtained from the wholesale electricity market using the EMI database for electricity nodes in Auckland, Wellington and Christchurch.

8.8. The wholesale cost of electricity for the matching node is combined with the distribution costs to develop a stylised standard retail tariff based on the average costs, and the newly introduced time-varying retail tariff is priced to reflect the peak and off-peak distribution and wholesale costs.

8.9. We have assumed that 20% of consumers will migrate to the time-varying retail price plan to take advantage of the cheaper prices and an 'opt-in' approach. This is based on a 2017 study in the United Kingdom by the Brattle Group and University College London that assessed the uptake rates for different types of time-varying tariffs.[58]

8.10. We have also assumed these consumers shifting to the time-varying retail price plans will consume five percent less electricity in peak time periods and five percent more in off-peak periods. This assumption is supported by the 2017 UK study that five percent of peak demand could be shifted by those consumers that had voluntarily opted in for a static time-of-use plan.[59]

8.11. The savings for those consumers moving to a time-varying retail price plan are determined based on that plan's stylised prices and load that has been shifted.

8.12. This saving does not reflect a change in costs, but an unwinding of a cross subsidy that exists between customers that consume relatively more at peak and those that consume relatively less, when paying a single averaged price. After changing plans,

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56 These were selected as they represent some of the largest distributors in the country that have time-varying tariffs and provide a representative sample.

57 This analysis will ignore the LFC tariffs, as it is assumed the LFC regulations will be phased-out by April 2027.

58 The Value of TOU Tariffs in Great Britain pp.28.

59 The Value of TOU Tariffs in Great Britain pp.29.

the lower peak costs paid by those on the time-varying tariff is offset by higher costs for those remaining on a standard tariff.

8.13. Our key assumptions that we have used are summarised in the table below.

Table 6: Key assumptions

Variable	Assumption	Source
Average annual household kWh consumption	7,500 kWh	Internal EA assumption
ICPs that migrate to a Time varying tariff	20%	The Value of TOU Tariffs in Great Britain
Load shifting from Peak to off-peak following Time-varying tariff uptake	5%	The Brattle Group: The Value of TOU Tariffs in Great Britain: Insights for Decision-makers

Results of analysis for time-varying consumption plans

Reallocation of retailer costs and prices

8.14. On average, our analysis indicates that the reallocation of costs could potentially save those residential households that move to a time-varying retail price plan around $3.87 per month, or around a 1.6% reduction in their total retail electricity bill.[60] Although this ranges from $2.40 to $5.20 savings per month depending on distribution network.

8.15. The reallocation would mean those households that remain on standard retail price plan could have to pay an additional $0.97 on average, or around a 0.4% increase in total power bill. This ranges from $0.60 to $1.30 per month in increased costs depending on distribution network.

Conclusions on consumer impacts of time-varying consumption plans

8.16. The increased availability of time-varying price plans is forecast to provide an overall benefit for those that shift to a time-varying price plan of $3.87 per month, or $46.46 per annum. For those customers that remain on a standard retail price plan, their overall electricity bill could increase by $0.97 per month, or around $11.62 per annum. The following table summarises these findings:

Table 7: Summary of forecast changes in customer bills from Proposal

	Customer Remaining on Standard Retail tariff	Customer Shifting to Time-varying tariff
Reallocation of Retailer Costs and Prices - Monthly Change	$ 0.97	$ 3.87
Total Change in Annual Bill	$ 11.62	$ 46.46

60 This is based on the distribution, transmission and generation components being around 70% of the total cost of a household power bill: Your power bill | Electricity Authority

Approach and methodology for assessment: Time-varying price plans for injection

8.17. Our approach to assessing the consumer impact from the proposed Initiative 2C to require time-varying price plans for injection is to utilise a recent study that was commissioned by EECA that investigates the economics of residential solar and battery technology under various scenarios, including:

(a) Offsetting retail electricity purchases.

(b) Export of excess solar generation.

(c) Arbitrage benefits by storing energy at low price periods and releasing it at high price periods with a household battery.

(d) Under different network pricing structures.

8.18. The analysis assumed that retailers pass on the full payment to consumers who export during the peak. These payments will include:

(a) Distribution peak / off-peak pricing based on existing distribution prices, and distribution peak / off-peak pricing with a capacity limiting envelope, providing a fixed payment in exchange.

(b) Retail prices that reflect energy, retailer margin, and other costs. The retail prices will in all cases be shaped to reflect energy price by time of use, derived from a retailer's existing prices.

8.19. This analysis estimates the incremental financial return that a standalone solar installation and a combined solar/battery installation can obtain from the proposed time-varying injection price plan compared to a flat injection price plan. This is measured using the Internal Rates of Return (IRR)[61] for these two types of investments across Auckland, Wellington, Christchurch and Queenstown.

8.20. This proposal is not expected to have significant additional re-distributional effects associated with it other than those already identified under the Task Force's 2A[62] and 2B proposals.

8.21. Our key assumptions that we have used are summarised in the table below.

Table 8: Key Assumptions

Variable	Assumption	Source
Average annual household kWh consumption	8,000 kWh	EECA assumption
Load profile	Medium level of daytime and peak consumption	EECA assumption
Scale of solar PV	5 kW ac PV System	EECA Assumption

61 The Internal Rate of Return (IRR) of an investment is the rate of return that needs to be applied when discounting the cashflows of a proposed investment to make the investment's Net Present Value (NPV) of its cashflows zero. An IRR greater than the cost of the capital needed to finance the investment suggests that the investment is financially attractive.

62 'Requiring distributors to pay a rebate when consumers supply electricity at peak times' consultation paper

Variable	Assumption	Source
PV System Cost - installed	$12,650	EECA Assumption
Battery Cost – installed	$7,143	EECA Assumption

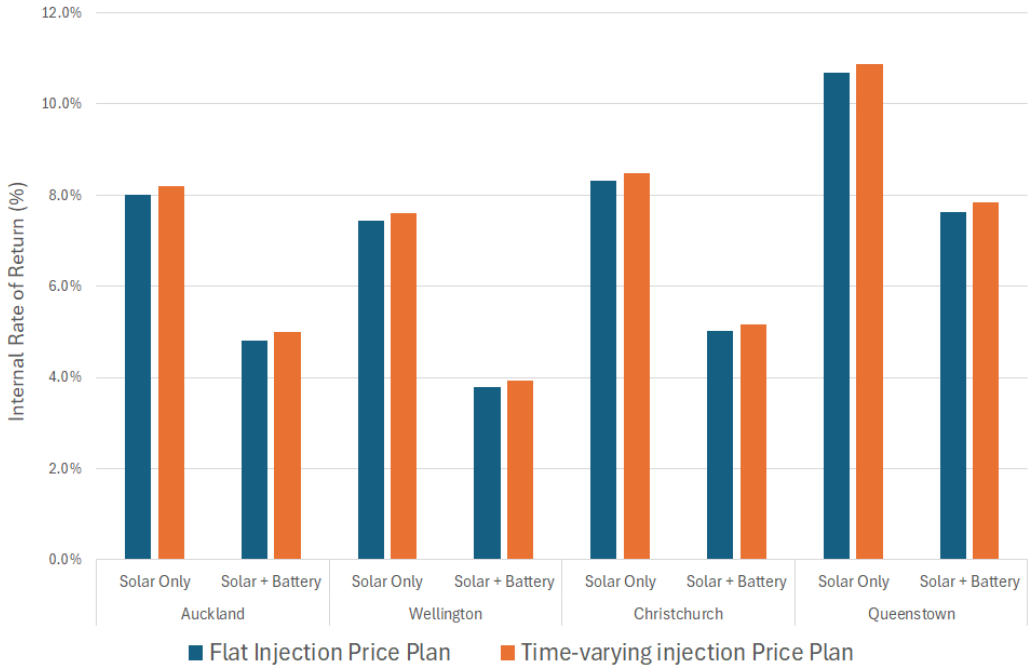
8.22. It is assumed that injection does *not* attract a payment for network benefits based on the proposal in our accompanying consultation paper '<u>Requiring distributors to pay a rebate when consumers supply electricity at peak times</u>'.

Results of analysis for time-varying injection plans

8.23. In all instances the IRR from investing in either a standalone 5kW solar PV system or in a combined 5kW solar PV and battery, is improved by the introduction of a time-varying injection price plan. This finding applies whether a consumer is on either a flat or a time-varying consumption price plan.

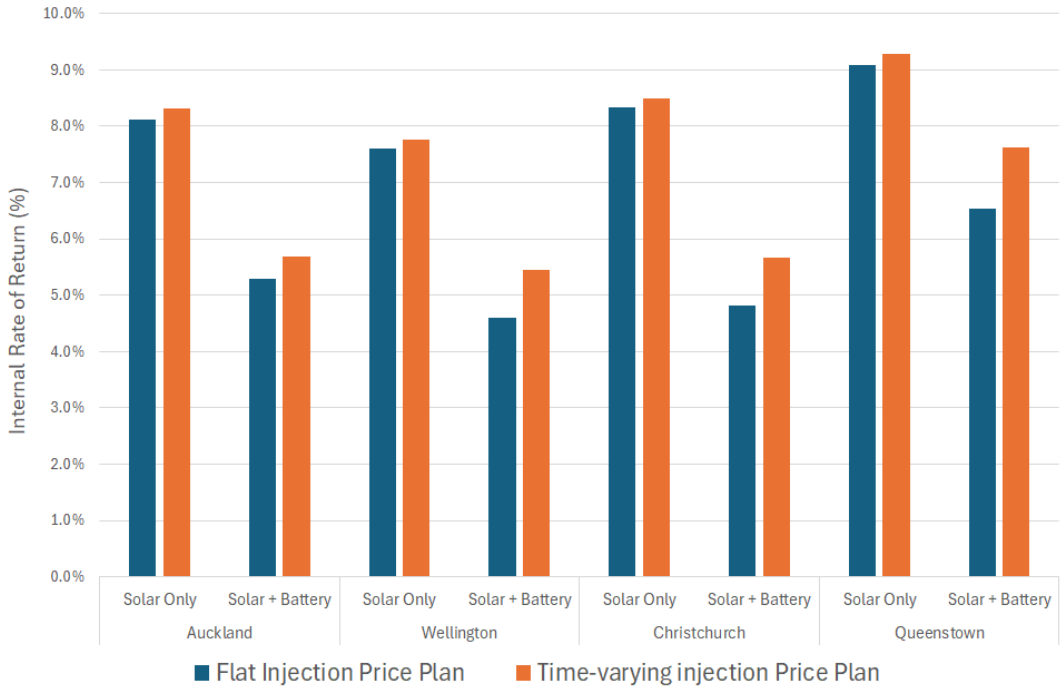
8.24. For consumers that are on a flat consumption price plan, the analysis shows that the average IRR for either investment under a flat injection price plan is 7.0%. The introduction of a time-varying injection price plan increases the average IRR by 0.1% to 7.1%. The following chart illustrates this for the four regions assessed.

Figure 2: Summary of the forecasted IRR for solar and solar/battery investments under a Flat Injection Price Plan or a Time-varying Injection Price Plan – accompanied with a Flat Consumption Price Plan



8.25. For consumers that are on a time-varying consumption price plan, the analysis shows that the average IRR for either investment under a flat injection price plan is 6.8%. The introduction of a time-varying injection price plan is estimated to increase the average IRR by 0.5% to 7.3%. The effect is greater because the lower overnight consumption rates under a time-varying consumption plan gives a battery more opportunity to arbitrage prices. The following chart illustrates the results for the four regions assessed.

Figure 3: Summary of the forecasted IRR for solar and solar/battery investments under a Flat Injection Price Plan or a Time-varying Injection Price Plan – accompanied with a Time-varying Consumption Price Plan



8.26. This analysis demonstrates that a time-varying injection price plan will improve the incentive for consumers to invest in solar and batteries. It also shows that in some instances the time-varying injection price plan will increase the IRR to become greater than the assumed cost of capital of 5%, thus making them more likely to be economic to invest in. Whereas with only a flat injection price plan the investments are more likely uneconomic or marginal at best.

8.27. The IRR for investing in solar and battery installations is lower than that of investing just in solar. This is because the initial cost of purchasing a battery is still relatively high, which reduces the overall IRR. However, we note that with the time-varying injection price plan, these investments are more likely to be economic. Over time, we expect the cost of batteries to continue to fall, making these investments even more economic.

Conclusions on consumer impacts of time-varying injection plans

8.28. The analysis demonstrates that time-varying injection price plans will improve the financial attractiveness of solar and solar/battery investments when compared to a flat injection price plan. The time-varying injection price plan may also make these investments economic in certain regions where under a flat injection price plan they may be either uneconomic or marginal when compared to the assumed cost of capital.

8.29. The IRR for investing in solar and battery installations is lower than that of investing is just in solar due to the relatively high cost of purchasing a battery for both a flat injection price plan and a time-varying injection price plan. The introduction of the time-varying injection tariff will make battery investments more economic, and this will improve further if the cost of installed batteries continues to fall.

Limitations: All analysis

8.30. The analysis relies on several assumptions, as described above. These include how many customers will shift from standard to time-varying injection price plans, and how much these time-varying price plans will encourage consumers to shift peak consumption into off-peak periods. However, the Authority considers these assumptions to be reasonable and their use does not undermine the overall conclusions.

Appendix A Proposed amendment

1.1 Interpretation

(1) In this Code, unless the context otherwise requires,—

standard contract has the meaning given to it in the Electricity Distribution Information Disclosure Determination 2012 made under Part 4 of the Commerce Act 1986, as amended from time to time

time-varying pricing plan means a pricing plan for which the rates charged for **electricity** supplied to the customer vary in respect of consumption or injection depending on when that consumption or injection occurs during a day

Retailer pricing plan requirements

[00.1] Retailers must offer time-varying pricing plans

(1) This clause applies to **retailers** whose customers made up 5% or more of the total number of **ICPs** in New Zealand at the start of the previous calendar year.

(2) Subject to subclause (4), a **retailer** must make available to all of its **mass market customers** by 1 January 2026 one or more **time-varying pricing plans** that individually or together comply with the requirements in subclause (3).

(3) The requirements for the pricing plan or plans required by subclause (2) are that it or they must set prices for each customer which:

(a) reflect the relative economic costs to the **retailer** of the customer's consumption of **electricity** during peak versus off-peak times during a day; and

(b) reflect the relative economic benefits to the **retailer** of the customer's injection of electricity (if any) during peak versus off-peak times during a day; and

(c) provide a financial benefit to each customer which is in proportion to the extent to which that customer's consumption or injection patterns reduce the **retailer's** economic costs; and

(d) have regard to transaction costs, consumer impacts and uptake incentives.

(4) A **retailer** is not required to make the pricing plan or plans required by subclause (2) available to a customer whose premises do not have a **meter** that is able to communicate information about the customer's consumption and injection of **electricity** during peak versus off-peak times during a day to the **retailer**.

[00.2] Retailers must promote time-varying pricing plans

(1) A **retailer** must advertise a pricing plan offered in accordance with clause [00.1](2) at the same time, and in the same manner, as it advertises any other pricing plan which the customer may be eligible for.

(2) A **retailer** must promote a pricing plan offered in accordance with clause [00.1](2) by giving, within 6 months of the plan first being made available and at least once in every 12 months thereafter, a notice of a kind described in subclause (3) to each **mass market customer** to whom it currently supplies **electricity** and who is not currently on a pricing plan offered in accordance with clause [00.1](2) but for whom that plan may be the most suitable product offering.

(3) The notice given under subclause (2) must—

(a) identify the amount of **electricity** the customer has consumed or injected in the previous 12 months during peak and off-peak periods during a day , where that information is held by the **retailer**; and

(b) explain that one or more pricing plans offered in accordance with clause [00.1](2) are available; and

(c) explain, and quantify as a dollar value, based on the customer's consumption or injection patterns over the previous 12 months, what benefits, if any, there would be for the customer if it was on the pricing plan offered in accordance with clause [00.1](2) assuming the customer's past consumption or injection patterns continued; and

(d) set out the main features of the pricing plan offered in accordance with clause [00.1](2); and

(e) information about the conditions the customer would need to meet in order to obtain the greatest benefit from the pricing plan and any drawbacks or risks of the pricing plan.

(4) After a customer has been on a **time-varying pricing plan** for 12 months, the **retailer** must disclose to that customer the actual savings or losses the customer has made, relative to if the customer had continued on their previous plan or the most likely alternative pricing plan.

[00.3] Pricing plan information must be provided to Authority

(1) Each **retailer** must provide the **Authority** by 1 August each year the following information about the **time-varying pricing plan** or plans offered in accordance with clause 00.1 in the preceding year ending 30 June:

(a) the name of the plan:

(b) the prices available under the plan:

(c) the number of customers on the plan:

(d) sufficient information and commentary to enable the **Authority** to understand how the plan complies with the requirements in clause [00.1](3):

(e) information about how the **retailer** has complied with the requirement to promote the plan under clause [00.2].

(2) The **Authority** may require that the information listed in subclause (1) be provided in the **prescribed form**.

(3) Except as required by law, the **Authority** will not disclose information provided under subclause (1).

(4) Subclause (3) does not apply to information disclosed in an aggregated and anonymised form.

[00.4] Retailers must supply half-hourly data to distributors where available

Each **retailer** must supply to each relevant **distributor** the quantity of **electricity** consumed or injected in each **half hour** during a month, for all metered **ICPs** on the **distributor's distribution network** for which the **retailer** holds information, as soon as practicable following the end of that month.

[00.5] Clauses to expire

Clauses 00.1 to 00.3 expire on 31 December 2030.

Distributor requirements

12A.4 Distributors must use half-hourly data provided to calculate charges

Despite anything else in this Code or in a **distributor agreement**, **distributors** must calculate **distribution** services charges payable by a **retailer** using any information provided by retailers under clause [00.4].

12A.5 Distributors must charge in accordance with time-varying pricing plans where offered

(1) Subject to subclause (2), if a **distributor** offers one or more **time-varying pricing plans**, it may only charge a customer on a **standard contract** in accordance with that plan or plans, and may not charge that customer in accordance with any plan that is not a **time-varying pricing plan**.

(2) A **distributor** is not required to comply with subclause (1) in respect of any premises that does not have a **meter** that is able to communicate information about the consumption and injection of **electricity** during peak versus off-peak times during a day.

Q16. Do you have any comments on the drafting of the proposed amendment?

Appendix B Format for submissions

Submitter	

Questions	Comments
Q1. Do you agree the issues identified by the Authority are worthy of attention? If not, why not?	
Q2. Which option do you consider best addresses the issues and promotes the Authority's main objective? Are there other options we have not considered?	
Q3. Should we require retailers to offer a price plan with time-varying prices for both consumption and injection? Why or why not?	
Q4. Do you have any feedback on the design requirements?	
Q5. Is there a risk that injection rebates will not be passed through to the consumers targeted? If so, how could we safeguard against this risk?	
Q6. Which retailers should be captured by the proposal and why?	
Q7. What are your views on the proposed timeframe for implementation of 1 January 2026? Would 1 April 2026 be preferable, and if so why?	
Q8. What are your views on Part 2 of our proposal that would require retailers to promote the time-varying price plans?	
Q9. What should the Authority consider when establishing the approach to and format of the reporting regime?	
Q10. Should the Authority include a sunset provision in the Code, or a review provision? Why?	
Q11. What are your overall views on Part 3 of the proposal?	
Q12. What are your views on Part 4 of our proposal to amend the Code to require that consumers are assigned to time-varying distribution charges, that retailers provide half-hourly data to distributors for settlement	

Questions	Comments
Q13. Do you agree with the objective of the proposed amendment? If not, why not?	
Q14. Do you agree the benefits of the proposed amendment outweigh its costs?	
Q15. Do you agree the proposed amendment is preferable to the other options? If you disagree, please explain your preferred option in terms consistent with the Authority's statutory objectives in section 15 of the Electricity Industry Act 2010.	
Q14. Do you agree the benefits of the proposed amendment outweigh its costs?	

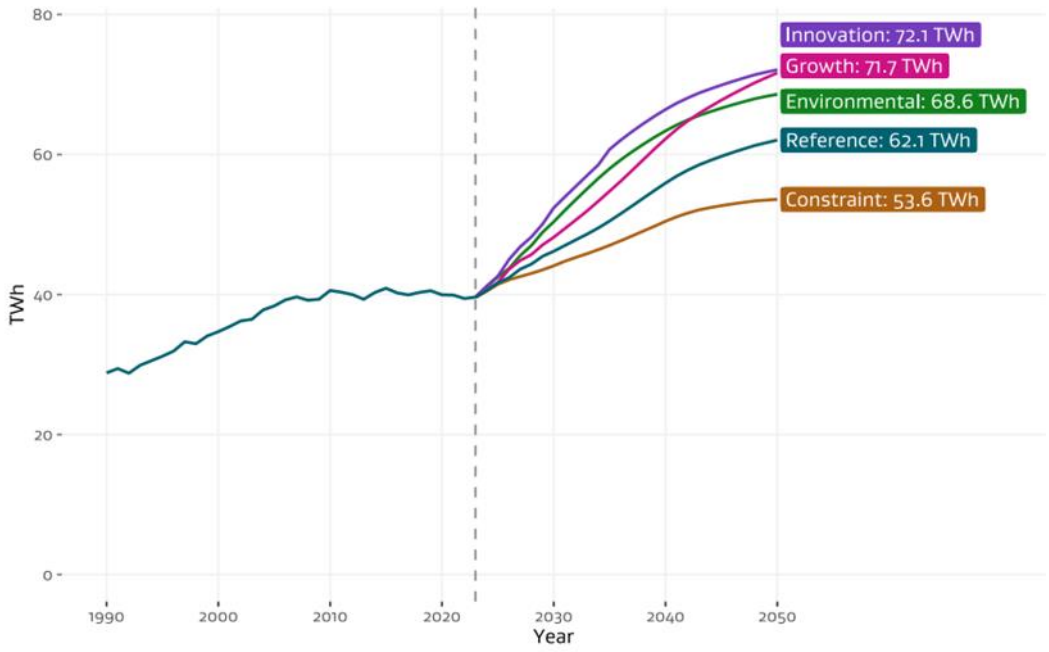
Appendix C Key challenges as New Zealand's electricity system transforms

C.1. New Zealand's electricity system is transforming at rapid scale and pace. In this appendix, for further context and background, we set out electricity demand and supply are changing.

New Zealand's electricity demand is growing

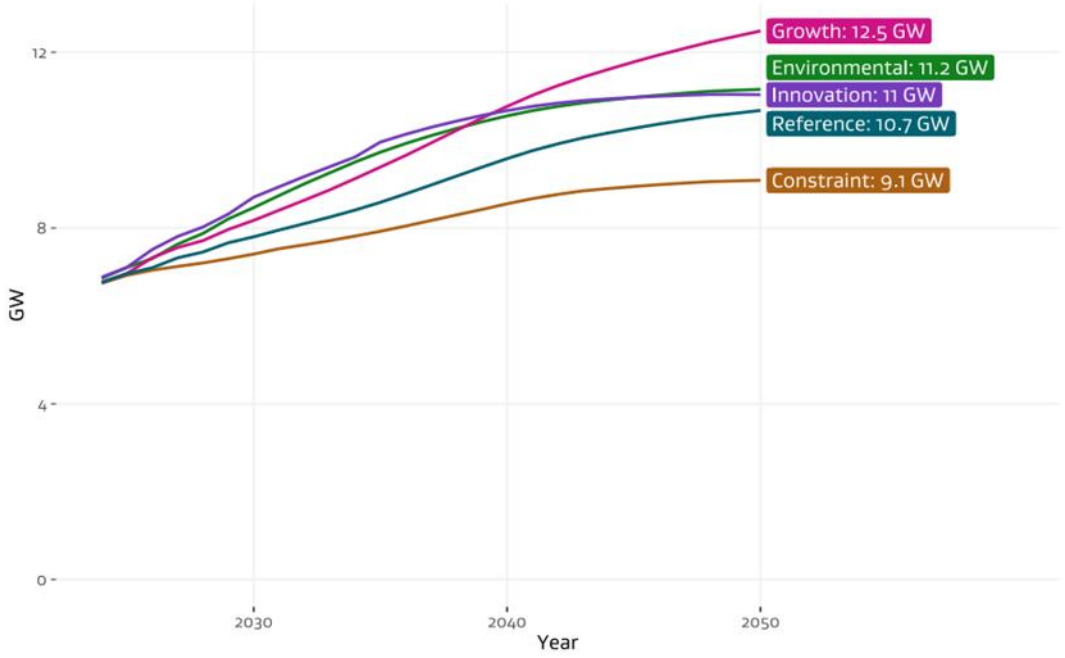
C.2. Gross electricity demand is projected to grow rapidly in the next couple of decades. The Ministry of Business, Innovation and Employment (MBIE) recently released its Electricity Demand and Generation Scenarios (EDGS) report that examines potential future electricity demand scenarios and the necessary generation capacity to meet it. Figure C1 illustrates that while demand has been reasonably stable over the past two decades, it is projected to increase significantly from 2025. By 2050, New Zealand's electricity demand is projected to be between 34% and 80% higher than it was in 2024.

Figure C1: Total electricity demand (EDGS projections)



C.3. Peak demand is also growing. As shown in Figure C2 below, these scenarios project an increase in peak load from around 6.7GW in 2023 to between 9.1GW and 12.5GW by 2050.

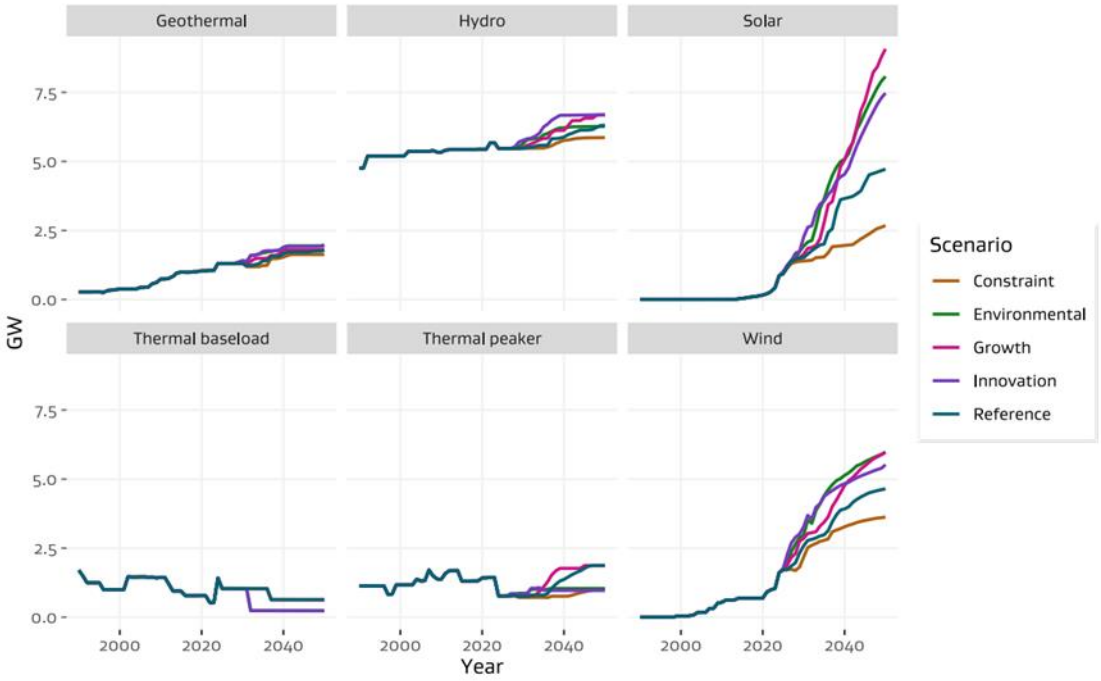
Figure C2: New Zealand annual peak load (EDGS projections)



The way we meet this demand is changing

C.4. The country's generation mix is changing, with an increasing penetration of variable renewable generation – particularly wind and solar – as shown in the EDGS projections in Figure C3 below.

Figure C3: Total capacity by technology (EDGS projections)



C.5. The proportion of firm or dispatchable generation, such as thermal or hydro-based generation, has reduced as thermal assets are retired or repurposed from baseload to peaking generation. This trend is expected to continue.

C.6. More generation is also expected to come from distributed sources. A fall in the cost of rooftop solar and distributed storage such as household batteries and electric

vehicles with vehicle-to-grid capability, means distributed generation is expected to become more common, leading to increased two-way flows on distribution networks.

Appendix D Other relevant Authority work

D.1. The Authority has an active work programme focused on meeting the challenges of the transformation of the electricity system, while maximising opportunities for consumers. The work is designed to support the ability of the system to meet projected demand growth while the generation mix is changing and promote security of supply, while keeping electricity system costs down.

D.2. A key priority for the Authority is enabling more flexibility. We're focused on enabling flexibility across the system – from supply to demand – by promoting market mechanisms and reducing regulatory barriers to investment and innovation.

D.3. Flexibility in the power system is critical to ensuring an affordable, electrified New Zealand.

D.4. The consumer of the future will realise the full benefits of flexibility through having more control over their energy use and reducing costs.

D.5. Enabling and rewarding demand-side flexibility is part of this transformation, while we're also focused on improving distribution pricing and regulatory settings of distribution networks.

D.6. This work is creating the building blocks the market needs to deliver the future electricity system – one that supports New Zealand's efficient electrification, and is delivered at lowest cost to consumers.

D.7. Our work includes:

(a) Targeted reform of distribution pricing

We are improving connection pricing methodologies so they are more efficient and have greater consistency across distributors. Our first phase proposes changes to make it easier to get electrified businesses and infrastructure up and running.

(b) Updating regulatory settings for distribution networks

We are improving settings for distribution networks to promote consumers' use of new technologies and choices on how to participate in electricity markets. Our first step is focused on improving the application process to connect large users and distributed generation.

(c) Reviewing common quality requirements

Technical changes are needed as the electricity system transforms to accommodate new technologies and an increase of distributed energy resources. We are undertaking a review of common quality requirements in the Code to ensure issues are addressed that have an impact on consumers, businesses and the electricity system.

(d) Other work underway

We are developing a standby ancillary service product to cover a sudden supply reduction from intermittent sources.

D.8. We are promoting flexibility and competition in the wholesale and ancillary service markets by working to enhance participation by battery energy storage systems and dispatchable demand and remove barriers to entry.

Appendix E How price signals flow through to consumers

E.1. In this appendix, for further context and background, we discuss the ways in which price signals flow through to consumers.

E.2. Residential consumers' electricity bills cover a range of costs, including:

a. the wholesale market value of the energy consumed

b. the cost of transporting the energy (at the transmission and distribution levels)

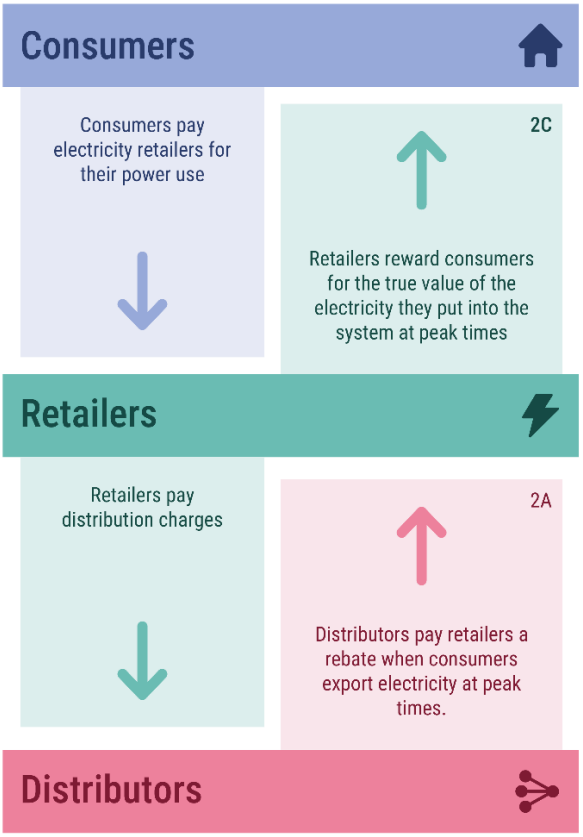
c. retailer cost of service, including metering

d. fees and levies.

E.3. The measures proposed in this consultation paper focuses primarily on energy and distribution costs, and how these costs translate into appropriate price signals for end-consumers.

E.4. Figure E1 below shows a simplified version of key financial flows between parties. It illustrates how the energy and distribution costs that consumers ultimately pay are first incurred by a retailer, and then passed through (likely in a repackaged way) to consumers' electricity bills.

Figure E1: Key financial flows for consumers that supply electricity back into the system



E.5. Cost-reflective prices, often called efficient prices, reflect the cost of supplying the next unit of electricity. Such prices signal the wholesale and distribution costs of consumption to consumers, and so lead to an efficient level of consumption.

Wholesale market price signals

E.6. The wholesale electricity market provides important cost-reflective prices that reflect the costs of generation and transmission (losses and constraints). Nodal prices reflect the incremental cost and value to wholesale market participants of changing electricity consumption or generation at each nodal location.

E.7. During times of peak demand, wholesale prices tend to be higher as more expensive generation (eg, gas peakers, which incur fuel and carbon charges) need to be dispatched, and the price is set by the most expensive generation every half hour. Participants – including retailers or directly connected customers – who buy electricity during these peak times will pay more than those who buy the same amount of electricity during off-peak times when prices tend to be lower. Likewise, those who can generate at peak times will likely earn more than those who generate at other times.

E.8. Retailers tend to pass through a smoothed version of this volatile spot price, both in terms of import and injection prices (although over time, these smoothed rates are likely to be influenced by longer-term wholesale market trends). This smoothing can insulate end-users from temporary spikes in prices but also means they may not have as strong incentives to use their demand side flexibility to respond to price signals.

E.9. However, because retailers still face these volatile costs, there is a wholesale pricing incentive for them to encourage their customers to consume energy when prices are lower, such as off-peak periods, and inject any stored electricity when prices are higher, such as during peak periods.

E.10. If there is a sufficient demand-side flexibility response at peak times, it could mean higher-cost generation would not be required, leading to lower wholesale prices, which would likely reduce costs for end-consumers in the long run (including by reducing the need to invest in further peaking generation). Due to the steepness of the supply curve when the system is tight,[63] a relatively small response could cause a disproportionately large reduction in wholesale prices.

Distribution price signals

E.11. Wholesale price signals may not reflect distribution-level constraints or the network costs that may be caused by use of the distribution network.[64] If participants face only wholesale price signals, they may be incentivised to consume electricity even when the distribution network is constrained due to high local demand, as this may occur during periods of low wholesale prices (for example, if wind and solar generation is high). This results in distributors making additional investments that could have been delayed or avoided by efficient pricing – and ultimately higher prices for consumers.

E.12. Cost-reflective distribution pricing therefore involves charging participants more for consuming energy at times that the network is most likely to experience congestion – typically during morning and evening peaks. This sends a price signal that rewards participants for shifting consumption to non-peak times. For example, a peak network tariff signals the additional network investment required to accommodate peak demand. This allows consumers to move consumption to off-peak periods and avoid charges, and subsequently the distributor can defer a network upgrade. This flows through to lower charges for consumers over the long term. Conversely, lower prices

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63 To achieve a small increase in supply, substantially high cost generation may be required.

64 Though high wholesale price and distribution price signals will often coincide.

during off-peak periods mean consumers are not discouraged from using electricity when there is sufficient capacity – for example, a consumer may be encouraged to charge their EV during the middle of the night instead of at peak times.

How price signals flow around the system

E.13. At the end of each month retailers provide data to:

a) The Reconciliation Manager – who determines how much each retailer owes for the electricity it purchased from the wholesale market in each half hour to supply its customers. It determines the shares of total demand that each retailer is attributable for, based on metered data that retailers must provide. Retailers can provide the metered data for each half hour. They can alternatively provide it in an aggregated form, as a sum for the whole month – as was necessary before smart meters were in place. Where this is done, the Reconciliation Manager estimates how the consumption would have been spread across each half-hour using default profiles. Wash-ups over several months eventually result in a close fit to what half-hourly data would have achieved had it been provided.

b) Distributors – who determine what each retailer owes for use of the network during the month. Distributors assign each consumer to a price category, which determines the structure of their charges (ie, a single price, or a time-varying price). In some cases, retailers may change or input into the decision as to what price category should apply to a consumer. The distributor then bills retailers based on the charges assigned to their customers, using meter data that retailers provide. If the charges are time-varying, then ideally, the meter data would be provided in enough detail so that consumption could be billed at the right price given when it occurred. If the data is provided in an aggregated form, the distributor must estimate when the consumption occurred.

How existing price signals are regulated

Wholesale market regulation

E.14. Wholesale prices are set by the System Operator based on the level of demand and the cost of offered generation. This is regulated in Part 13 of the Code.

E.15. However, most parties with small distributed energy resources only interact with the wholesale market through a retailer. For example, a residential consumer with a solar panel on their roof will not need to sell energy on the wholesale market directly, but rather will sell it to their retailer, who will either on-sell it or use it to supply the retailer's other customers.

E.16. Some parties with distributed generation may still sell electricity on the wholesale market directly – for example, generators with utility-scale wind farms that are connected to the distribution network.

E.17. We note that other initiatives being investigated by the Task Force consider wholesale (derivative) market regulation.

Distribution pricing regulation

E.18. Distribution prices are set by individual distributors. Because they are monopolies, the Commerce Commission regulates the Maximum Allowable Revenue (MAR) that some distributors can recover from their customers. The Authority has the power, where consistent with its objectives and necessary or desirable to promote the matters in section 32(1) of the Act, to amend the Code, including to set pricing methodologies for distributors. The Authority is working on distribution pricing reform to encourage distributors to charge more cost-reflective distribution prices.

E.19. Our distribution pricing workstream has focused on pricing for load customers. With cost-reflective distribution pricing, distribution-level constraints are usually signalled through time-of-use tariffs, which charge higher per kWh rates during peak times. If set appropriately, higher peak rates signal to customers the possible cost of additional future investment caused by peak-time consumption.

E.20. Currently, distribution pricing for consumption is regulated differently to distribution pricing for distributed generation.

Distributors have flexibility around setting prices for consumption

E.21. In recent years, the Authority has focused on promoting more efficient distribution pricing for consumers of electricity through:

a. distribution pricing principles – updated in 2019, these principles guide adoption of efficient pricing. Distributors should also disclose a self-assessment of how their pricing aligns with the principles (see Box1).

b. pricing practice notes – periodically updated detailed pricing guidance together with open letters to distributors, mostly on use-of-system charges.

c. pricing scorecards – a regular evaluation of distributors' pricing methodologies against the distribution pricing principles. The Authority publishes scorecards on its website.

d. connection pricing regulation – the Authority is considering whether it should introduce additional oversight of connection pricing. This would apply alongside disclosure requirements on pricing methods set by the Commerce Commission under Part 4 of the Commerce Act 1986.

E.22. As Box E1 illustrates below, the distribution pricing principles provide a flexible framework where distributors can design efficient network pricing that reflects local circumstances.

Box E1: Distribution pricing principles

- Prices are to signal the economic costs of service provision, including by:
  - being subsidy free (equal to or greater than avoidable costs, and less than or equal to standalone costs);
  - reflecting the impacts of network use on economic costs;
  - reflecting differences in network service provided to (or by) consumers; and
  - encouraging efficient network alternatives.
- Where prices that signal economic costs would under-recover target revenues, the shortfall should be made up by prices that least distort network use.

- Prices should be responsive to the requirements and circumstances of end users by allowing negotiation to:
    - reflect the economic value of services; and
    - enable price/quality trade-offs.
- Development of prices should be transparent and have regard to transaction costs, consumer impacts and uptake incentives.

Price signals for distributed generation could be improved

E.23. The main regulatory mechanism affecting distribution cost price signals for distributed generation is the distributed generation pricing principles (DGPPs) in Part 6 of the Code. The DGPPs (see Box E2 below) have a narrower scope than the distribution pricing principles, and because they are mandated in the Code, are more prescriptive of what distributors must or must not do or consider.

Box E2: Excerpt from distributed generation pricing principles (clauses 2 of Schedule 6.4 of the Code, and clause 1.1(1) of the Code, definition of incremental costs)

Charges to be based on recovery of reasonable costs incurred by distributor as a result of connecting the distributed generator and to comply with connection and operation standards within the distribution network, and must include consideration of any identifiable avoided or avoidable costs.

… connection charges in respect of **distributed generation** must not exceed the **incremental costs** of providing connection services to the **distributed generation** …

incremental costs, for the purpose of Part 6, means:

(a) the reasonable additional costs (which include any reasonable additional transmission costs) that an efficient **distributor** would incur in providing **electricity** distribution services to **distributed generation**; minus

(b) the distribution costs (which do not include any transmission costs) that an efficient **distributor** would be able to avoid as a result of the **electrical connection** of the **distributed generation**.

E.24. The Authority is reviewing the regulatory settings that affect pricing incentives for investment in and operation of DG, to determine whether the current settings could be improved.[65]

[65] See the 'Distributed Generation Pricing Principles' Issues paper that has been released at the same time as this consultation.