Network Tasman's future pricing strategy

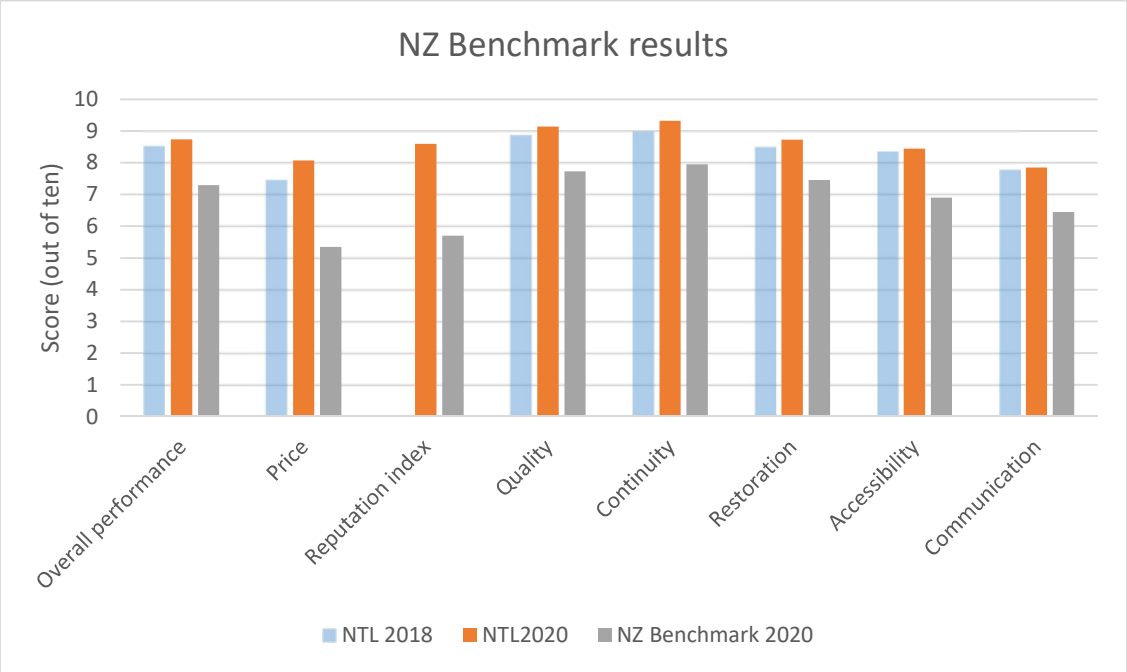
The way electricity is used and generated is continuing to evolve. In this context, Network Tasman considers it important to assess whether there are improvements that can be made to price structures to enable and support consumer choice, while at the same time continuing to provide a sustainable electricity network.

In the context of developing a forward strategy for pricing, Network Tasman has conducted initial consumer research on price structures and their interest in using emerging technologies such as solar panels, battery storage and electric vehicles. The results of that research as well as an overview of Network Tasman's next steps towards assessing possible price structure enhancements or alternatives are set out below.

1.1 Consumer perspectives on pricing

Network Tasman conducted a consumer survey in December 2020 which examined a range of issues including overall satisfaction with our service, willingness to pay for quality improvements and views on price structures. The survey results showed a high awareness of Network Tasman and a high level of satisfaction with the company's performance with regard to quality of service, continuity and restoration, with overall performance satisfaction being rated at 8.74/10.

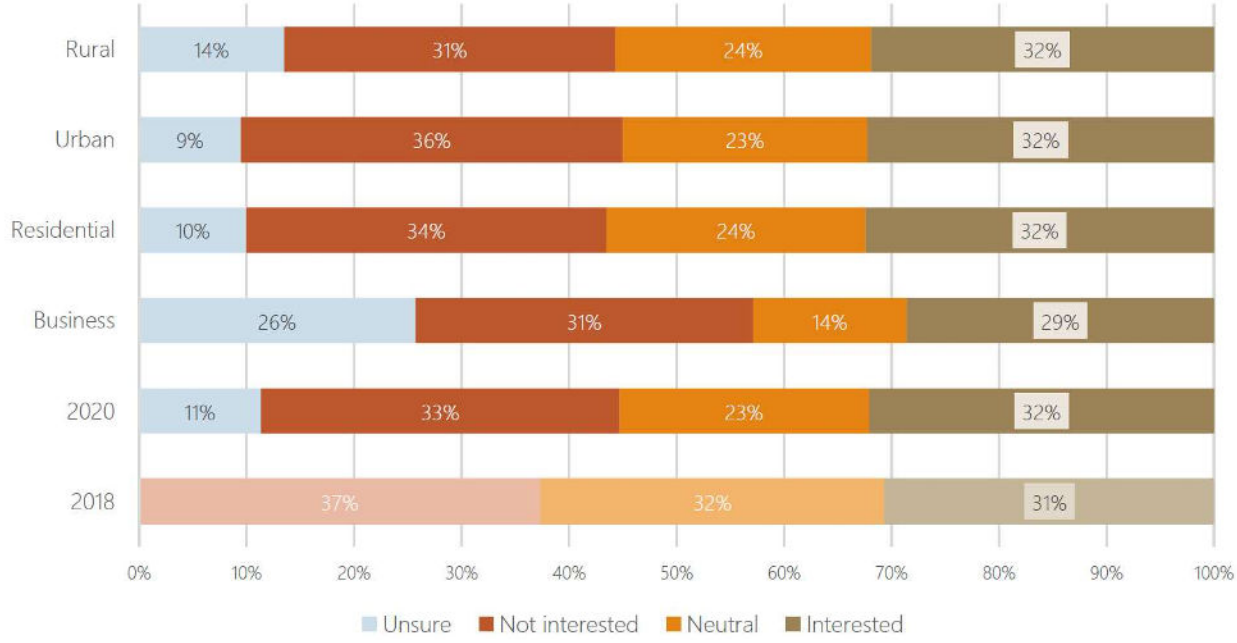
The survey report compares Network Tasman's results against a national benchmark across a range of categories. Network Tasman not only exceeded the national benchmark across all eight categories, it also improved its performance against all of the categories measured in the 2018 survey.[1]



[1] The 2018 survey only provided results against seven of the eight categories included in the 2020 report.

Customers were surveyed on the structure of prices. Almost one third of consumers indicated that they would be interested in a peak/off-peak plan where prices are higher during network peak periods such as morning and evening and less during off-peak periods. Network Tasman currently offers a day/night price option. There is currently little demand for this tariff, with approximately 2% of mass market connections using the day/night price option with a further 10% using the night only rate.

Figure 1: Interest in peak vs off-peak plan (December 2020)



Network Tasman has previously surveyed consumer perspectives on price/quality trade-offs. That is whether they are willing to pay more (or less) in return for higher (or lower) quality lines services, be it faster restoration times or fewer outages. In practice, Network Tasman is unable to realistically offer services of this nature to the vast majority of its consumers because we are unable to meaningfully differentiate the quality of the service we provide to consumers on an ICP-by-ICP basis. This is because the majority of our assets are shared across multiple ICPs and we are unable to provide differentiated service levels across those assets. We continue to discuss price/quality trade-offs with ICPs that use a large proportion of dedicated assets on our network.

The deployment of advanced meters for Group 1 and 2 consumers could facilitate further uptake of time differentiated price options. Network Tasman has conducted analysis of TOU options previously, but concluded that further analysis of retail impacts and the inter-play with load control is required. Network Tasman will continue to review its day/night price signals over the next 12 months and engage in further analysis as to whether other time-of-use price options should be introduced.

More generally, Network Tasman considers that it is important to continue improving our engagement with consumers about prices.

1.2 Future pricing strategy

Existing prices for Group 1 customers have a large consumption-based component. This does not accurately reflect the service provided to customers nor does it reflect Network Tasman's underlying cost structure. Looking to the future, technological change indicates that the way consumers use

electricity may change significantly. Solar panels, battery storage and electric vehicles are forecast become commonplace over time, as technological improvements and scale economies result in reduced costs. Simplistic consumption-based prices are unlikely to promote efficient investment in and use of emerging technologies.

Although there is significant uncertainty over how popular these technologies will be and how quickly adoption would occur, only a small number of consumers have taken an interest in the options becoming available to them.

Adoption of solar panels and electric vehicles on our network has been subdued. Despite this, Network Tasman is preparing for greater penetration of these technologies and has investigated the network and commercial implications of growth in electric vehicles and domestic solar panels.

The commercial implications of electric vehicles and solar panels are, to a degree, countervailing under current price structures. As more consumers on our network purchase electric vehicles, their use of the network will increase along with their lines charges. Similarly, as more consumers install solar panels, their electricity consumption and lines charges are expected to fall.

Network Tasman has the second highest rooftop solar PV penetration of all distributors in New Zealand. Approximately 3% of connections on Network Tasman's network have solar generation and about 1.4% of connections in the combined Network Tasman and Nelson Electricity network areas have an electric vehicle.[2] The economics of investing in an electric vehicle appears to be more favourable than for investing in a solar system and as such Network Tasman considers there to be greater short/medium-term growth potential in electric vehicles than solar systems. This limits the short to medium term commercial risk Network Tasman may face from the adoption of these technologies.

To inform our future asset management plans, Network Tasman commissioned a detailed study into the network's ability to host a range of electric vehicle penetration levels. Our ability to host EVs depends on a range of factors including network age, network design/configuration and where electric vehicles cluster. This research is necessarily confidential, but the broad conclusions of the study are that Network Tasman is well placed to manage expected electric vehicle growth over the short to medium term without requiring significant changes to our existing asset management plans.

Finally, the Electricity Authority has launched an Open Networks work programme that includes the issue of hosting capacity. The outcome of this work programme is expected to have a significant influence on the terms under which emerging technologies, such as electric vehicles and solar panels, connect to and operate on distribution networks. These terms will undoubtedly influence how distributors manage their networks and therefore efficiently structure their prices.

Although the Authority is pushing for urgent distribution price reform, Network Tasman has not yet observed changes of sufficient magnitude to justify deviating from its current considered approach to price reform. For example, solar PV penetration increased from 2.6% in February 2020 to 3% in February 2021. Similarly, EV penetration[3] has increased from 1.1% in February 2020 to 1.4% in February 2021.

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[2] It is not possible to accurately disaggregate the two networks from the reported EV registration data.

[3] Across the combined area of Network Tasman and Nelson Electricity.

There is also uncertainty about a number of significant factors that influence the costs distributors incur and how distributors can set their prices. These include:

- how emerging technologies will connect to and operate on distribution networks in the future;
- the continuation of the low fixed charge regulations and how the proposed removal of the regulations would be implemented; and
- the TPM and how transmission charges will be structured in the future – the TPM guidelines have been published, but Transpower is still to finalise how the guidelines will be implemented in practice.

The relatively small commercial and network management implications of evolving technologies in the short/medium-term and the regulatory uncertainty outlined above does not detract from the fact that it is becoming increasingly important that Network Tasman's prices better reflect the underlying cost of providing distribution services, but it does influence the speed at which reform is needed.

Under existing prices for Group 1 (and to a lesser extent Group 2 prices) consumers without solar panels will disproportionately bear the burden of funding network costs, once penetration levels become sufficient to necessitate specific network investments. In addition, in the current scenario where most customers do not face a time-of-use price, there is little incentive for consumers to shift peak consumption to off-peak periods (for example, through the use of storage batteries or shifting EV charging from peak to off-peak periods) which would ultimately result in a lower total cost of service in the longer term.

At its simplest, improved price signals can be conveyed by setting lower prices during off-peak periods where there is substantial excess capacity on the network and higher prices during periods when the network is busy. Consumers are able to make choices according to the value they place on consumption at different times of day. For example, a consumer may choose to take advantage of a low off-peak rate and plug-in their electric vehicle primarily during off-peak times. Network Tasman's existing day/night prices are one example of these types of price signals. However, the use of advanced meters allow more sophisticated time-of-use prices, should they be more appropriate. Notwithstanding this, Network Tasman's post-discount night price of $0.0053/kWh for the 1RS price category already offer EV owners very compelling reasons to charge their EV overnight. Anecdotal evidence suggests that the majority of EV owners on our network are on our Day/night tariff.

Other options include prices that are based on the amount of capacity that a consumer requires, either reflecting their total capacity requirement or their capacity requirements during peak network times. These types of prices better reflect that the cost of providing distribution network services is driven by capacity requirements and demand at peak times rather than consumption volumes.

Network Tasman has tasked its pricing committee, consisting of relevant senior managers and a subset of directors, to develop a medium to long term pricing strategy. This work is ongoing and will be published/refined as developments occur.

Ultimately the choice of price structure will need to take into account a range of factors and there will be trade-offs to be considered between economically efficient prices, what is practicable and what retailers and consumers want.

Network Tasman has developed the follow roadmap for the pricing reform process it is undertaking. Much of the roadmap provides indicative steps and milestones as many of the later milestones are influenced by the outcomes and conclusions of earlier stages of the roadmap. The roadmap will be updated as milestones are achieved and more clarity can be provided about milestones that are currently identified as being indicative.

Future Pricing Roadmap Checklist Network Tasman

Roadmap Stages	Activities	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 H1	2022 H2	2023	2024	2025	2026	2027	2028	Resource requirements
1. Initiate pricing reform														
Problem Identification & Discovery	Justification and early modelling	→	→	→	X									Network Tasman
Define overall objectives for reform	Set overall goals including target dates or date ranges	→	→	→	X									Network Tasman
Develop strategy to deliver reform	Develop ideas on how to go ahead (including long list of future pricing options)		→	→	X									Network Tasman
Communicate	Prepare and publish future pricing roadmap		→	→	X									Network Tasman
Identify challenges	eg, resourcing implications, billing systems, EIEP1 file formats, AMI penetration and technology, accessing data			→	X									Network Tasman
Consult retailers	Socialise ideas & plans with retailers				→	X								Network Tasman/Retailers
Establish high level plan	Gain commitment to reform, agree plan, allocate resources				→	X								Network Tasman
Gather basic data for analytics	What do we need to know to progress reform? (eg. AMI penetration? Survey customers?)				→	X								Network Tasman/Retailers
Define pathway	Prepare final strategic pricing plan (including target dates)				→	X								Network Tasman
2. Plan changes in more detail (timeframes are indicative as they are contingent on outcomes of earlier steps outlined above)														
Develop detailed plans, including:	Identify issues/prepare detailed pricing reform plans					→	X							Network Tasman
- customer interactions	Establish research program (retailer + end-user)													Network Tasman
- pricing trials to test ideas	Conduct in-market testing, examine impact on customer groups													Network Tasman
- data analysis to assess customer impacts	Narrow down preferred options and test market impacts													Network Tasman
- implementation and transition arrangements	Identify what will drive success													Network Tasman
- feedback loops and issues resolution	Develop processes to account for stakeholder views and review against target dates. Participate in ENA processes to provide stakeholders with single point of													Network Tasman
- communication	Educate customers and retailers about change													Network Tasman
- risk management	Identify and manage risks to markets, customers, EDBs (eg political and financial													Network Tasman
- regulatory compliance	Check plan meets regulatory expectations													Network Tasman
3. Manage roll out of new pricing options (timeframes are indicative as they are contingent on outcomes of earlier steps outlined above)														
Implement transition strategies	Incentivise and manage take-up over time for retailers and customers							→	→	→				Network Tasman
Implement New Pricing	Introduce the new pricing options							→	→	→				Network Tasman
Review progress and make adjustments	Actively consider progress towards outcomes over time							→	→	→				Network Tasman
Ongoing customer interactions	Monitor customer responses and manage as required							→	→	→				Network Tasman