Evaluation of Horizon Energy 2013 Pricing Methodology

What we have been asked to do

The Electricity Authority engaged Castalia to carry out an independent evaluation of the pricing methodologies published by the 29 electricity distributors in New Zealand. This document provides our evaluation of Horizon Energy's 2013 pricing methodology[1] against:

- The **Information Disclosure Guidelines** (Table 1). The guidelines set out the information that should be provided in distributor pricing methodologies.
- The **Pricing Principles** (Table 2). The principles contain economic benchmarks that should be reflected in pricing methodologies to the extent practicable.

The purpose of this review is to understand how distributors interpret the guidelines and principles, and to provide suggestions on how to improve distributor pricing methodologies. This review does not focus on ensuring compliance with the guidelines and principles.

Our understanding of Horizon Energy's methodology

The table below summarises our understanding of the methodology that Horizon Energy uses to determine prices for its domestic load group. The purpose of this example is to explain our understanding of Horizon Energy's pricing methodology using the example of one consumer group (this is not a comprehensive description of the pricing methodology that applies to all customers).

	Approach	Rationale
Customer categories	Domestic consumers are grouped together because they share similar network usage profiles, where peak consumption typically falls between 7.30am – 9.30am and 5.30pm – 9.00pm	The rationale is to recognize domestic consumer's network capacity utilisation, which is a key driver of network costs
Cost allocation	Costs are allocated based on ICP count, AMD, replacement cost of system fixed assets, and depreciated replacement cost of system fixed assets	The rationale for this approach is to best reflect the usage of assets and demand for capacity of domestic customers
Charging basis	Transmission charges are passed through as fully fixed charges, while distribution charges are composed of a unit charge (c/kWh) and a fixed charge ($/day/ICP). Low user fixed charges also apply	The rationale is that consumers must contribute to the required cost recovery through the fixed charge component regardless of energy consumption. This recognizes that the majority of network investments are sunk and fixed, while allowing for pricing signals to be used through variable charges

[1] Horizon Energy's 2013 pricing methodology is available online at: http://www.horizonenergy.net.nz/sites/default/files/documents/Horizon%20Energy%20Pricing%20Methodology%20for%20Line%20Charges%20introduced%201%20April%202013.pdf

Overview of our evaluation of Horizon Energy's methodology

Horizon Energy's methodology is well written and easy to understand. The document follows a logical structure. In our view, section 3 on regulatory considerations is not necessary and somewhat breaks the otherwise strong narrative running through the document.

Our evaluation of the methodology against the information disclosure guidelines does not identify any major areas of concern. One way the methodology could be strengthened is by explaining how the fixed and variable components of charges are calculated. If a fixed to variable ratio for the tariff design is followed, the methodology should describe this ratio and provide a rationale for its choice. Given that most costs are fixed in a distribution business, the thinking behind offering variable tariffs and their proportion of total charges should also be explained in more depth.

We did identify more substantive room for improvement in our evaluation of the methodology against the pricing principles. The methodology claims that non-standard contracts help to have regard to the level of available service capacity and signalling the impact of additional usage on future investment costs. However, we would expect to see a description of the link between prices and the physical aspects of the network for all customers in order to appropriately reflect network wide available service capacity and future investment needs.

Table 1: Evaluation of the Pricing Methodology against the Information Disclosure Guidelines

Guideline	What is done well?	What is missing?
(a) Prices should be based on a well-defined, clearly explained and published methodology, with any material revisions to the methodology notified and clearly marked	▪ Horizon Energy's pricing methodology has not changed since the previous year ▪ The methodology can be found on Horizon Energy's website ▪ The document follows a logical structure and is easy to understand	▪ Section 3 on regulatory considerations does not appear necessary
(b) The pricing methodology disclosed should demonstrate: **(i)** How the methodology links to the pricing principles and any non-compliance	▪ Section 11 explicitly links to the pricing principles by showing how the methodology complies with the principles. References to the pricing principles are also found throughout the document	▪ The methodology is contradictory in that it states having subsidy free tariffs, yet recognizes cross subsidisation between low and high users within each standard load group ▪ We have found further instances of non-alignment with the pricing principles and note them in our pricing principles review
(ii) The rationale for consumer groupings and the method for determining the allocation of consumers to the consumer groupings	▪ The factors for consumer groupings are provided ▪ A rationale is given for grouping consumers together ▪ Consumers are clearly categorized	▪ It would be helpful to have a clearer description of how overlap is avoided between consumers belonging to N4U or N5U and NMD
(iii) Quantification of key components of costs and revenues	▪ The major cost/revenue components are identified in table 1	
(iv) An explanation of the cost allocation methodology and the rationale for the allocation to each consumer grouping	▪ The relevant cost allocators are listed ▪ The rationale behind choosing these cost allocators is provided ▪ The allocators take into account the relationship between costs and consumer groups	▪ It is not clear why Anytime Maximum Demand (AMD) is used to pass through transmission charges when Transpower calculates its prices using Regional Coincident Peak Demand (RCPD)

Guideline	What is done well?	What is missing?
(v) An explanation of the derivation of the tariffs to be charged to each consumer group and the rationale for the tariff design	▪ The rationale for the tariff design is presented on page 24 ▪ NMD consumers have a fixed charge tariff for every unit of assessed peak demand, recognizing the link between costs allocated to each group and the way tariffs recover those costs	▪ The methodology should describe clearly how tariffs are derived ▪ It would be helpful to explain whether peak demand is assessed using AMD ▪ Given the name 'Network Maximum Demand', the demand charge for this group should be calculated using CPD rather than customer peak
(vi) Pricing arrangements that will be used to share the value of any deferral of investment in distribution and transmission assets, with the investors in alternatives such as distributed generation or load management, where alternatives are practicable and where network economics warrant.	▪ Section 8 describes the pricing arrangements that Horizon Energy has with distributed generators	
(c) The pricing methodology should: **(i)** Employ industry standard terminology, where possible	▪ The methodology uses industry standard terminology	▪ The symbol Ø used in page 13 is not defined and is not found in other distributor's methodologies
(ii) Where a change to the previous pricing methodology is implemented, describe the impact on consumer classes and the transition arrangements implemented to introduce the new methodology.	▪ No changes have taken place to the methodology ▪ Transitional arrangements are in place for tariff structure changes introduced in 2011/12	

Key to evaluation	Does not follow guidelines	Partially follows guidelines	Follows guidelines

Table 2: Evaluation of the Pricing Methodology against the Pricing Principles

Pricing principles	What is done well	What is missing
(a) Prices are to signal the economic costs of service provision by: **(i)** being subsidy free (equal to or greater than incremental costs, and less than or equal to standalone costs), except where subsidies arise from compliance with legislation and/or other regulation	▪ The methodology recognizes cross subsidisation between low and high users within each standard load group	▪ The methodology should provide an approach to calculating incremental and standalone costs ▪ The methodology should present clearer definitions of incremental and standalone costs ▪ The methodology is contradictory in that it states its tariffs are subsidy free yet recognizes instances of cross subsidy. It appears that these could be cases of price discrimination where customers are making different contributions to recovering costs yet they may all still be paying above incremental cost, i.e. are subsidy free
(ii) having regard, to the extent practicable, to the level of available service capacity	▪ Horizon Energy's prices reflect the capacity requirements of major customers through non-standard arrangements	▪ We would expect to see a description of the level of service capacity and how much of that capacity is currently used to meet the demand of standard customers (the bulk of the network's demand)
(iii) signalling, to the extent practicable, the impact of additional usage on future investment costs	▪ Through non-standard contracts, any requirement for additional capacity or service capability above that provided for in contract needs to be recovered in renegotiated prices	▪ The methodology should present forecasts of network investment needs to meet future demand and a description of the relationship between prices and future investment. Standard customers should be able to see from the methodology what investments are likely to be required over the coming years, and how prices encourage any efficient response
(b) Where prices based on 'efficient' incremental costs would under-recover allowed revenues, the shortfall should be made up by setting prices in a manner that has regard to consumers' demand responsiveness, to the extent practicable	▪ A good definition of Ramsey pricing is provided ▪ The methodology identifies that large customers have a variety of price elasticities	▪ It is not clear from the methodology whether this principle applies ▪ The methodology should attempt to gauge the demand responsiveness of different load groups ▪ Variable charges are not a form of Ramsey pricing if the same variable charges are offered to all customers regardless of their price responsiveness

Pricing principles	What is done well	What is missing
(c) Provided that prices satisfy (a) above, prices should be responsive to the requirements and circumstances of stakeholders in order to: **(i)** discourage uneconomic bypass	▪ The methodology describes where it expects uneconomic bypass to occur and presents its approach to mitigating it, i.e. through non-standard contracts and individual pricing for major industrial customers	
(ii) allow for negotiation to better reflect the economic value of services and enable stakeholders to make price/quality trade-offs or non-standard arrangements for services	▪ Section 7 presents the methodology's approach to non-standard contracts ▪ Price/quality trade-offs are offered to non-standard customers	
(iii) where network economics warrant, and to the extent practicable, encourage investment in transmission and distribution alternatives and technology innovation	▪ Horizon Energy makes avoided transmission payments to its distributed generators when scale and consistency of supply justify it	▪ The methodology could show how its charging structure encourages distributed generators, for example, whether or not distributed generators are charged for injection into the grid
(d) Development of prices should be transparent, promote price stability and certainty for stakeholders, and changes to prices should have regard to the impact to stakeholders	▪ Consultation was carried out in 2010 when redefining load groups ▪ The methodology describes transition arrangements used to smoothen changes to cost allocation and tariffs	▪ The methodology should present the ways in which Horizon Energy communicates with stakeholders, i.e. through surveys, retailer notifications, etc ▪ The methodology should present a timeframe for its transitional arrangements and the annual impact to consumers over the full transition
(e) Development of prices should have regard to the impact of transaction costs on retailers, consumers and other stakeholders and should be economically equivalent across retailers	▪ Economical equivalence across retailers is maintained ▪ Horizon Energy has a simple tariff structure ▪ Rural-urban boundaries have not been modified to avoid disruption to consumers and minimize transaction costs	▪ The methodology should provide assurance that the characteristics of urban and rural areas have remained the same given that rural-urban boundaries have not been modified

Key to Assessment	Does not align with principles	Partially aligns with principles	Aligns with principles