

## Pricing Directions: A Stakeholder Perspective

### Objective of tariffs and related instruments

The objective is to develop a pricing strategy comprising tariffs and other supporting incentives and measures that:

- Promote more efficient, lower cost means of meeting consumers' demand for energy services
- Reflect consumers' preferences, such as enhancing customers' control over their bills and encourage tariff transparency and consumer agency/empowerment.

Many utilities have the aim of 'putting the customer at the centre', as successful competitive businesses do. These objectives support, and provide a test, for that objective.

Note: by supporting 'incentives and measures' we mean programs such as:

- locationally specific tariffs and payments to consumers and purchases of demand reduction from intermediaries, such as retailers or other energy service providers, that encourage reduction in peak loads at critical parts of the network
- alliances with retailers and other energy service providers to roll-out innovative end-user technologies that promote more flexible and efficient provision of energy services
- information programs and other 'nudges' designed to inform consumers and encourage consumers to manage loads in their and the network's interest.

### Key features of the pricing strategy and TSS

Key features of a successful pricing strategy are that:

- it uses customer-facing language
- is adaptable to new information and changing technologies and demand patterns
- is adaptable to the different circumstances of each network
- is integrated with Demand Management strategy, programs, and incentives
- engages with the retailers and other energy service providers

Central to this is the understanding that consumers do not want electricity per se; they want the services that can be provided by using electricity: power (to produce things and for communication and entertainment), heating, and comfort.

#### Customer-facing language

The primary audiences for the TSS may well be the AER, retailers and energy service providers, and some large consumers. It may only be read by a small number of other consumers, but the objective should still be to express it in terms that the final consumer can understand. However even more important will be the clarity of the accompanying consumer information package (paper and electronic) that should communicate the tariffs, what the tariffs hope to achieve, and the opportunities for customers to reduce their cost of using the network in simple terms. For example, 'costs you can control' may be a better way of expressing 'variable charges'.

#### Adaptability

Circumstances can change significantly, quickly, and in directions not anticipated. For example, in the lead-up to the review of the pricing principles by the AEMC, peak demand had been rising quickly putting pressure on existing networks and investment requirements. By the end of the

AEMC review the problem was one of stagnant or declining demand and the implications of this for the fixed component of network bills. This is a practical example of changes occurring in a short term that can lead to significant differences in pricing strategies. It is expected that the pace of change in the technology for supply and use of energy to provide the services consumers need will accelerate. Our knowledge of how we can best provide the right signals to consumers is also expanding and changing. It is increasingly understood that it is not all about the price, but understanding what signal (price and non-price or informational) and how consumers respond to different signals. This is leading to innovations in customer-facing signals in various fields that are moving beyond traditional pricing models. While NSPs may innovate in pricing the responses of customers and retailers and other intermediaries may be uncertain. Hence, there may be a need to adapt strategies to their responses.

The key implications are that:

- the 'end-point' for pricing should not be seen as fixed. It is important to have a vision of where prices are headed, but this end-point cannot be fixed. IT will need to adapt to changing circumstances, new information, and responses of others.
- mid-point reviews of the TSS are desirable to build in adaptability in pricing strategies
- changing end-points may well mean that prices are in 'constant transition'.

#### Network Specific

Different networks may face different problems that will result in different transition paths and end-points, especially in regard to the balance between fixed and controllable costs, the nature of the demand charge, and the choices between demand and capacity charges. There may be differences in the metering/technology infrastructure, particularly the roll-out of smart meters, that affect the feasible tariff options. Another key factor will be customer composition and demand growth. A network which has broadly-based growth in customers and demand may well move towards a broadly based tariff with a strong demand/capacity signal. Other networks may face stagnant or falling demand on average with only a few pockets of growth. This will lead to different choices and perhaps greater reliance on specific options (tariff and non-tariff) in those locations where growth is driving expected costs. Networks with a larger proportion of remote or difficult to serve customers may face greater risk of 'customer exit' from the grid. The key question here is whether the marginal costs of supplying those customers from the grid is greater than or less than the cost of self-supply. If it is, the network may try to design tariffs to discourage inefficient exit that would leave other customers having to pay more.

#### Role of Retailers

Except for some very large customers, the tariffs the customers see are the tariffs charged by the retailer which recover generation costs and the retailers own-costs as well as the network charges. At present customers mostly do not see the network charges directly and retail charges do not necessarily simply pass-on the network charges in the form and structure that they see them. The signals sent by networks may not only be 'washed out'; they may be substantially changed by the retailer. This is not necessarily a problem as long as the retailers see the cost reflective charges, bear the associated risks, and work with customers in whatever manner in response to the signals provided by the network charges. However, it is important that networks work with retailers and other service providers to ensure that:

1. there is a good understanding of the cost drivers the network is facing and points of current or potential congestion; and

2. opportunities to work together to maximise efficient use of distributed resources in areas of constraint are explored.

This may raise questions of the nature of the relationship between networks and retailers and other energy service providers and what forms of strategic alliances are acceptable where the network has no direct interest in retailing.

One option may be to require retailers to offer at least one pricing option that passes through the network tariffs as set by the DNSP.

### Expectation for 'end point' of network pricing strategy and tariff design<sup>1</sup>

1. As peak demand is a more prominent cost driver for networks than energy consumption the objective is to signal these costs to retailers and customers in a way that customers can respond to and reduce future costs. Just and equitable demand or capacity-based tariffs are the most direct way of signalling these costs but a highly targeted volumetric rates may also achieve this objective. These tariffs would be the standard tariff. The demand or capacity component is equal to or greater than the LRMC averaged across the network.
  - Demand /capacity better signals cost drivers than volumetric charges
  - Consumers need to be aware of and be able to respond to peak demand signals

The design and implementation of the tariff would have regard to the impacts on consumers.

2. Priority should be on the transition to demand/capacity tariffs. TOU tariffs today are highly averaged and hence poorly targeted on the key periods of high demand, and often have too little difference between the peak and off-peak rates to achieve the objectives. However, there may be a role for a volumetric tariff that is much more closely targeted on the key periods of high demand..
3. Under demand tariffs a key issue is what demand, what peak? Should it be the local or a broader, a coincident peak or the customer's peak demand? How often should peak demand be measured – a few nominated peak days or monthly or annual? There may not be a single 'correct' answer. It requires a balance between a relatively stable, easier to understand measure of demand and other measures of demand that can better measure the impact on future investment needs. Hence the choices made may depend on the importance of the demand signal in terms of the opportunities to defer investment, the nature of the customers and their capacity to respond, and whether it is the standard tariff or a more dynamic, locationally-specific tariff. Decisions on the measurement of demand used should be supported by analysis at the sub-station level and may vary between DNSPs due to the differences in composition and location of customers. There may be areas with significantly different requirements – such as areas with high levels of tourism or specific activities like skiing. Optional locational tariffs may be the best means of responding to these circumstances, based on the outcome of research to reveal use profiles for each area.
4. Residual costs recovered by charges that are 'less distorting'<sup>2</sup> such as fixed charges but increases in fixed charges should be tempered by:

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<sup>1</sup> As we understand it at this stage. New technologies, information and new thinking will see a continual evolution in ways we perhaps may not be able to envisage at present.

<sup>2</sup> It is likely that usage charges based on LRMC will not yield sufficient revenue to cover all the allowed costs of the NSP. If so, economic efficiency is enhanced if the remaining revenues are raised through charges that have as little impact on behaviour as possible.

- Recognition consumers prefer variable to fixed charges<sup>3</sup> – consumers want to do the right thing and be rewarded for it
  - Consideration of consumer impacts
  - Consideration of environmental costs in setting variable charges (i.e. in an energy charge or the demand or capacity charge)<sup>4</sup>. This supports the achievement of policy objectives of reducing carbon emissions; is consistent with NEO, which is an economic objective, and the economically efficient utilisation of network assets; and reduces the long term costs to consumers given the carbon reduction objectives. It also helps a) reconcile efficient tariffs with consumer preferences for greater control over the bill and to be rewarded for ‘doing the right thing’ as they see it and reducing usage b) reduce the impacts – and the often perceived inequity - of high fixed charges. Ongoing research provides the opportunity to test this perception.
5. The standard tariff is unlikely to be location specific (see point 3 above). It will be highly averaged but is aimed at encouraging some demand response consistent with overall objective
  6. Application of the standard tariffs should be mandatory for new customers or connections where a new meter with different capabilities has been installed initially then expanding to all customers, recognising that this may impact on transitional arrangements and support. If mandatory application is not achievable in the short term, opt-out approaches should be adopted, but preferably not to a tariff with a single energy rate. Tariffs be set to tilt people towards not opting out, and supported by information programs and other incentives.
  7. Innovative, dynamic local tariffs (eg critical peak rebates but all options should be ‘on the table’) aimed at reducing demand at/when it will make the biggest difference to capex requirements by promoting efficient distributed resources. These innovative tariffs are most likely to be optional and will require partnerships with retailers and energy service providers.
    - Where dynamic pricing is offered consumers may prefer rebate programs (with high ‘normal’ charges) than very large peak charges
  8. Tariffs should not look beyond the meter
    - What customers pay in network charges should reflect their load profile not what energy-related equipment (e.g. Electric Vehicles or PV panels) they have
    - But the networks/retailers/ESCOs may want to know what equipment consumers have so they can work with consumers to optimise my energy services.
  9. As the economics of renewable energy continues to improve and renewable energy capacity increases, two-way flows will become a more important feature of the energy system and will introduce new challenges in pricing. To the extent that two-way flows have a different impact on network costs, this should be reflected in the pricing (including network support payments) for those flows. The objective should be to price access to the distribution networks in a manner that:
    - Provides signals for renewable capacity to locate in areas and be operated in a manner that benefits the network where possible
    - Fairly reflects the costs imposed on the distribution network as well as the benefits that it may provide.

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<sup>3</sup> Fixed charges refer to per customer charges that do not vary with past or current demand or consumption. A capacity charge set based on demand in previous periods is not, under this definition, a fixed charge even though within the year it may not vary from month-to-month.

<sup>4</sup>

10. At the retail level, or in partnership with retailers and ESCOs, innovative incentives and nudges – information programs, rebates rather than prices, special ‘bonuses’ etc may be more effective than standard incremental price changes. The learnings from behavioural economics on how people respond to signals can be important in developing tariff strategies.

Note: (1)-(5) sets up the standard tariff which will probably help a bit but the action/benefits are really in the locational specific pricing and incentives at (7).

## Framing the Pricing Strategy

### Scope of the pricing strategy

In considering the scope of the pricing strategy it is important to remember:

1. It is not just about traditional tariffs and structures
2. There must be an integration between pricing and incentives for demand management and distributed resources.
3. The strategy should reflect customer preferences.

The tariff structures in the TSS should not be a mechanical application of the LRM pricing rule. Behavioural responses are not all about prices. Innovation in pricing and other instruments may well come from extensions of the learnings from behavioural economics into tariffs rather than econometric studies.

Demand management incentives that are likely to be location specific should be seen as an integral part of the tariff strategy. Locational signals that best reflect ex-ante costs may be provided by demand management incentives as well as, or instead of, standard tariffs. This may have implications for how networks approach and structure the development of tariffs and demand management incentives so that they are not developed in isolation. In assessing whether the tariff strategy meets the requirements of the network pricing principles the AER should assess the total tariff package including the demand management incentives.

Consultation by networks with their customers have highlighted that:

- Many customers have proactively sought to improve their energy efficiency
- They have done this not just to reduce their own bill but because they see it as doing the ‘right thing’ to benefit the environment
- Even though there is an element of ‘green altruism’ that consider that they should be able to benefit from reducing their consumption.

These preferences should be considered in determining the balance between fixed and variable costs and how sunk costs should be recovered.

### What are the relevant costs?

Two issues in estimating the relevant costs are:

1. What is the cost basis - market costs (i.e. what the utilities pay) or economic costs (i.e. resource costs including environmental costs)? Principles of economic efficiency support inclusion of estimates of environmental costs where these are not priced into the market costs. To not do so will encourage overuse of resources with adverse consequences for the community.
2. What should be the basis of the estimation of LRM. The principles allow for the use of either the Average Incremental Cost or Turvey (Perturbation) methods. The AIC approach is

simpler, is more widely used in the DNSPs, but is less time or location specific than the Turvey method. In contrast, the Turvey method can provide a stronger locational signal and is more sensitive to the timing of new investment requirements. Hence, while the AIC may be preferred in estimating variable rates for the standard tariffs, the Turvey method may be more appropriate for locational price signals.

#### Customer impacts

Where significant tariff changes are proposed the DNSP should provide well-founded, comprehensive modelling of the impact of the changes on various users (classified by tariff class, usage patterns, and socio-demographic characteristics). Best practice impact modelling would link consumption data to household socio-demographic data and undertake microsimulation modelling that examines impacts pre- and post- expected behavioural responses.