

# Essential Energy Pricing Consultation

Pricing working group engagement report

15 November 2017

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# Contents

<b>1.</b>	<b>INTRODUCTION</b>	<b>1</b>
1.1	Context	1
1.2	Scope	1
1.3	Structure of this report	1
<b>2.</b>	<b>ENGAGEMENT DESIGN AND DELIVERY</b>	<b>1</b>
2.1	Engagement timing	2
2.2	Customer selection	2
2.3	Topic coverage	3
2.4	Content delivery	4
<b>3.</b>	<b>ENGAGEMENT FINDINGS</b>	<b>4</b>
3.1	Workshop 1   Pricing plans for 2019-24	4
3.1.1	Feedback and lessons from the 2017-19 TSS	4
3.1.2	Discussion of pricing design principles	5
3.1.3	Tariff classes	6
3.1.4	Tariff assignment	6
3.1.5	Pricing design   Fixed versus variable charges	8
3.1.6	Pricing design   Demand and TOU time windows	9
3.2	Workshop 2   Further pricing plan matters and economic cost concepts	10
3.2.1	Evolving prices for new energy technologies	11
3.2.2	Price design plans	12
3.2.3	Economic cost concepts	14
Appendix A	Workshop agendas	16

## LIST OF TABLES

Table 3.1: Option feedback and preferences	7
Table 3.2: Option feedback and preferences	9
Table 3.3: Price structure preferences   What Essential Energy had heard	13

# 1. Introduction

## 1.1 CONTEXT

The National Electricity Rules (NER) require networks to submit a Tariff Structure Statement (TSS) that sets out the proposed price structures, assignment arrangements, basis of price development and compliance with the NER. Throughout 2017 Essential Energy has been engaging with its customers and developing prices to support the NER network pricing objective and comply with the NER pricing principles.

The 2019-24 TSS will be Essential Energy's second TSS, and the first one to cover a full five-year regulatory control period (being the 2019–24 period).

Essential Energy is seeking to ensure that the 2019-24 TSS reflects the views and preferences of its customers as identified through its customer engagement activities.

## 1.2 SCOPE

Essential Energy engaged farrierswier to facilitate and report the outcomes of the Pricing Working Group aspect of its customer and stakeholder engagement program. This report presents the outcomes of that engagement as we have observed them.

In addition to this work, farrierswier has also provided advice to Essential Energy on estimating long run marginal cost.

## 1.3 STRUCTURE OF THIS REPORT

This report is structured as follows:

- Section 2 explains how the Price Working Group engagement was designed and delivered
- Section 3 describes the engagement findings by workshop and topic
- Appendix A provide the workshop agendas
- Appendix B provides the workshop presentations.

# 2. Engagement design and delivery

Essential Energy worked with farrierswier to design a series of engagement workshops for its informed industry participant cohort of customers, customer representatives and stakeholders. This engagement channel was designed to explore pricing issues in greater technical detail than the level employed in its other customer research and engagement activities.

Essential Energy designed this engagement as outlined below, in relation to:

- Engagement timing
- Customer selection
- Topic coverage, and
- Content delivery.

## 2.1 ENGAGEMENT TIMING

The Pricing Working Group workshops were timed to allow this informed cohort to influence and stress-test options mid-way through Essential Energy's engagement program and price planning process. This timing allowed:

- findings from the phase one deliberative customer forums to inform the issues and options presented to the Pricing Working Group for more in-depth testing
- preliminary work on updating its long-run marginal cost modelling to reflect the AER's feedback to be completed for presentation and consultation
- publication of Essential Energy's Engagement Focus Plan in August 2017, so that Pricing Working Group attendees could review this, and consider the pricing issues within the broader context of Essential Energy's draft plans for the 2019–24 regulatory control period.

## 2.2 CUSTOMER SELECTION

Essential Energy sought representatives from a broad range of customer groups to ensure that the diverse range of customer interests were represented during the workshops. It identified and invited the following stakeholders to engage in its Pricing Working Group:

### *Invitees who accepted and attended*

- The Public Interest Advocacy Centre (PIAC)
- Energy Consumers Australia (ECA)
- The Energy and Water Ombudsman of New South Wales (EWON)
- The NSW Farmers' Federation
- The NSW Irrigators Council
- Energy retailers: Origin, Red Energy and AGL
- The Total Environment Centre
- The Alternative Technologies Association
- St Vincent De Paul.

### *Invitees who declined to participate*

- Solar Citizens
- Energy Users Association of Australia
- National Electricians and Communications Association (NECA)
- Australian Council of Social Services (ACOSS)
- Ethnic Communities' Council of NSW
- NSW Business Chamber
- Uniting Care NSW/ACT
- Consumer Utilities Advocacy Centre

Essential Energy also invited observers from the AER and the AER's customer challenge panel (CCP) who both accepted and attended.

## 2.3 TOPIC COVERAGE

Essential Energy and farrierswier developed the workshop content to cover a breadth of issues suitable to this cohort and the subjects where input was needed to support the TSS development.

### *AER feedback on first TSS*

A first area of coverage arose from topics where the AER noted its position on the future direction of price reforms in its decision on Essential Energy's first TSS. These included that the AER thought networks should consider:

- expanding the application of opt-out approaches to more types of residential and small business customers in their next tariff structure statement proposal, including assigning customers at new premises to opt-out cost reflective tariffs by default<sup>1</sup>
- refining the methods for estimating long run marginal cost, including those that accommodate declining demand and replacement expenditure<sup>2</sup>
- refining charging windows to more closely reflect the times of congestion on their networks.<sup>3</sup>

### *Pricing design principles*

Essential Energy sought to cover – for discussion and feedback – its principles for pricing design and the customer outcomes it was seeking to achieve through these.

### *Findings from earlier engagement*

Essential Energy sought to include what it had heard from customers about pricing impacts and options through its early phase of research and performed preliminary testing with the working group on topics including:

- Draft pricing plans and options
- Price options to support new energy technologies.

### *Matters raised by the Pricing Working Group*

The agenda for the second workshop was developed to incorporate issues members raised at the first meeting as warranting further engagement. The second workshop was also expanded by several hours relative to the original schedule to accommodate these issues. These topics included:

- network transformation research findings from the CSIRO and Energy Networks Australia's Network Transformation Roadmap project
- demand measurement options.

The agendas for the two workshops are provided at **Attachment A**. These agendas identify for each item the form of engagement undertaken using the IAP2 spectrum.

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<sup>1</sup> AER, Final decision – Tariff structure statements – Ausgrid, Endeavour and Essential Energy, February 2017, pp. 60–64.

<sup>2</sup> AER, Final decision – Tariff structure statements – Ausgrid, Endeavour and Essential Energy, February 2017, pp. 111–113.

<sup>3</sup> AER, Final decision – Tariff structure statements – Ausgrid, Endeavour and Essential Energy, February 2017, pp. 134–141.

## 2.4 CONTENT DELIVERY

The Pricing Working Group was convened for two workshops:

1. Workshop 1 on pricing plans for the 2019–24 regulatory control period was held in Sydney on 28 August 2017 for 3 hours and attended by 9 participants, 2 observers, 8 staff and the farrierswier facilitator.
2. Workshop 2 on further pricing options and economic cost concepts was held in Sydney on 6 September 2017 for 5 hours and attended by 14 participants, 2 observers, 6 staff and two farrierswier facilitators.

The workshops involved a combination of presentations, facilitated discussion and survey questions.

# 3. Engagement findings

Findings for the two workshops are described below.

## 3.1 WORKSHOP 1 | PRICING PLANS FOR 2019-24

The first workshop opened with an overview of Essential Energy’s network, its strategic objectives, and its customer engagement program from its CEO John Cleland. The session then covered:

- *Pricing decisions and engagement* | What pricing decisions Essential Energy need to make and how the group’s feedback will inform these
- *Price reforms so far* | What Essential Energy achieved and learned with its 2017-19 price strategy, and any experiences and lessons from the first TSS period that the group wanted to share with Essential Energy to inform its next TSS planning
- *Customer feedback from the early phase of engagement* | What Essential Energy were asking in, and hearing from its customers and stakeholders in the deliberative forums, online surveys and interviews held during the year
- *Essential Energy’s draft design principles* | What Essential Energy is trying to achieve by the end of price reform
- *Tariff classes* | What customer groups Essential Energy is designing different prices for
- *Tariff assignment* | The draft proposal for opt out pricing for new customers
- *Future tariffs* | The draft proposal for 2019-24 tariff structures

The workshop presented the information set out in the slides at **Attachment B**, and facilitated discussion on each item and voting on options presented. The feedback received is summarised below.

### 3.1.1 Feedback and lessons from the 2017-19 TSS

One retailer shared the view that demand prices are not currently understood, and some customers see these as a fixed charge which they do not support. Another observed customers’ preference for simplicity.

When asked by customer representatives whether retailers have any demand price offerings (for mass market residential and small business customers), the responses were that:

- Origin has a demand price, but it is not being taken up

- Red Energy have them, but low take-up
- AGL have one in Victoria but only their pricing manager has opted in.

A key issue in Essential Energy's 2017-19 TSS was the transition price for business customers affected by the one-off reassignment for incorrect legacy prices. Both NSW Irrigators and Cotton Australia were concerned about the reassignments for wrongful prices. Essential Energy noted that the affected customers in this group are already on a transition price for the next 5 years. Lessons from this experience were that:

- there is widespread customer confusion regarding the roles of various market participants, particularly around metering
- consistent information to customers from distributors and retailers is important
- transition is important, and
- the question of who explains Power of Choice (PoC) to retail customers is unclear.

A theme from discussions about experience to date with both price reform and PoC was the outstanding question of whose job it is to educate customers. It was discussed that:

- customers may not want to have an itemised bill (e.g. telecommunications experiences) but to support sustainable usage in the future people need to be informed about how their behaviour can drive or save costs
- retailers and networks need to work together to manage breadth of offerings, and manage customers understanding and education
- when considering how networks 'do education', given their role in the supply chain, it is arguably the case that for Essential Energy engagement will be more important than education, which is also Essential Energy's view.

### 3.1.2 Discussion of pricing design principles

Essential Energy explained that it sees pricing design as successful when:

1. Customers want to use the network and are willing to pay for how they use it
2. Its prices support the long-term commercial sustainability of its business
3. Transition is sensitive to understanding impacts and implications for its customers
4. It delivers customer education and engagement to both design and implement its price changes.

Essential Energy will see its service provision as successful when:

5. It understands which customers, feeders, and locations it can efficiently support, and which may have alternative (cheaper or more reliable) solutions
6. It supports alternative connections and usage of the network through clear pricing, policies, and processes.

Together these formed the draft pricing design principles for consultation and feedback. Feedback included that:

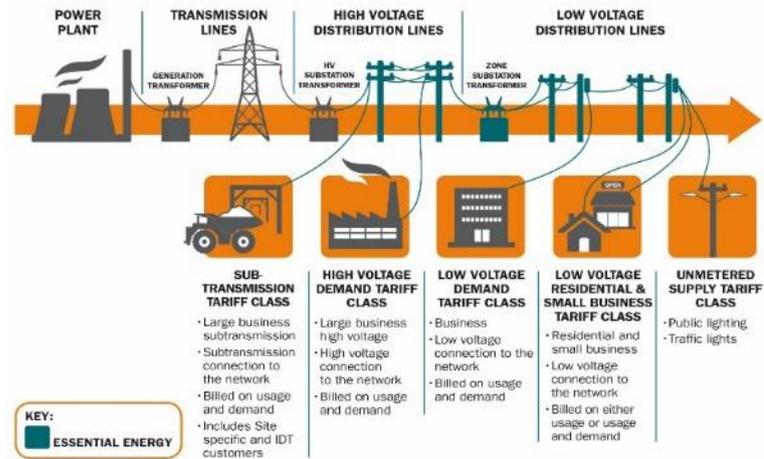
- the long-term interests of consumers need to be foremost, and while it is implied in these draft principles, it is a 'bit buried' in points 1 and 2

- for points 3 and 4, ‘Manage transition’ should involve giving customers choice
- for point 4, Essential Energy should insert: we deliver customer ‘and stakeholder’ education and engagement because retailers need to be informed too.

The CCP observer also raised the question of what if customer preference is different to the efficiency side implied in the NER (e.g. environmental and energy efficiency versus network use and capacity efficiency). He acknowledged that this is not in the NER, but increasingly engagement results and reviews like Finkel show it has importance.

### 3.1.3 Tariff classes

Essential Energy’s draft plan to retain its existing tariff classes was support by the group. It was discussed that because Essential Energy can still target dedicated customer prices within these tariff classes, retaining the existing tariff classes makes sense.



### 3.1.4 Tariff assignment

Essential Energy noted the AER’s feedback that future TSSs should adopt stronger assignment policies towards cost reflective prices.

Staff presented three broad tariff assignment options flagged in the AER’s final decision:

1. *All customers with opt out* | assigning customers to a cost reflective price (subject to metering) by default but allowing opt–out provisions
2. *New customers with opt out* | leaving existing customers on current prices but assigning new customers to cost reflective prices (subject to metering) and allowing opt–out provisions
3. *All customers with no choice* | mandatorily assigning customers to cost reflective prices wherever appropriate metering is available (with no opt-out provisions).

Customer Type	Default Tariff from 1 July 2018 (current TSS)	Default Tariff from 1 July 2019 (next TSS)
Residential and small business – with basic meters	Anytime - Opt in to time of use	Anytime - Opt in to time of use
Residential and small business– with interval metering	Time of use - Opt in to demand - Opt out to Anytime	Time of use - Opt in demand - No Opt out
Customers with solar or other Embedded Generation (EG)	None	Time of use - Opt in demand - No Opt out
Customers with battery storage	None	Demand - No Opt out
Customers with Electric Vehicles (EVs)	None	Demand - No Opt out
Business customers >100MWh and <160MWh	Time of use	Demand - No Opt out
Large Business	Demand	Demand

Staff presented the draft plans (the table above) which included:

- no change for existing customers (status quo)
- making greater use of ‘opt out’ for new customers (option 2)
- having ‘no choice’ for particular technologies (option 3).

The group discussed their option preferences and what communications they thought Essential Energy would need to adopt to accompany its assignment policy.

Early discussion concluded that batteries should not be singled out from other new technologies, and these prices should express their behavioural intent in the positive not negative (i.e. it is an opportunity not a risk or penalty). Essential Energy would be supporting positive outcomes if it got on the front foot with the right incentives.

When the group was asked about whether – in principle – Essential Energy should get on the front foot and act now to best ensure battery investment and use is efficient, group members observed that there will need to be measures in place to support network notification of why these prices are mandatory.

Essential Energy undertook to include further elaboration on new technologies, possible network impact and desired behaviours at the second workshop.

When asked whether there is an education role for Essential Energy, some stakeholders observed:

- this is a role for Essential Energy, but it is with the retailers and working through the retailer
- retailers have the critical role in getting explicit consent, but customers get confused
- networks need to look at, and inform about, the impact of network charges only, and it is important to distinguish between > and < 160MWh customers.

The group were then asked to each share their individual feedback and option preference. These are outlined in the table below by stakeholder type. The observers did not give preferences.

**Table 3.1: Option feedback and preferences**

Attendee	Comments	Preference
<b>Consumer representatives</b>		
PIAC	Transition is desirable, and we support no change for existing customers Agree demand prices should be the end goal, and PIAC see TOU energy prices as transitional reform not end state	In general – Essential Energy’s draft proposal looks good (not commenting on new technologies)
ECA	ECA support supports moves to cost reflective pricing generally	Ok with Essential Energy’s draft proposal
EWON	Support moving to cost reflective pricing Explaining to customers how to opt-out is important Retailers need data to be able to tell customers the outcome/impact Getting ahead of the curve on new tech is good – critical thing is customers being able to understand when they are incurring costs and be able to calculate the impacts	

Attendee	Comments	Preference
Farmers	Price reform should not be getting ahead of the technologies – it should be informed by knowing the behaviours and data Need transparency in assignment arrangements and process	
Irrigators	Need data to explain impacts and manage transition Need a better understanding of where there can be mutually common issues/benefits between the network and the customer – ‘need to understand what we’re dealing with before locking customers in’	Concerns remain about no opt out
<b>Retailers</b>		
AGL	AGL policy is prices should be cost reflective More of an education issue Demand price is the fairest	
Origin	We are in a period of transition Batteries – send signals, not no opt out – for now	Would prefer not to see no opt out provisions
Red Energy	Most customers will benefit from demand price broadly, so may not need mandatory assignment. Residential customers need ability to opt out if it becomes a force for them to opt out of interval prices	We support option 2 – new customers only with opt out Prefer current period provision to opt out to anytime continue for households

### 3.1.5 Pricing design | Fixed versus variable charges

Essential Energy presented the information and options used to test this question in its deliberative research forums. No vote was taken on these options among the Pricing Working Group, as this was seen as an end customer research question, so is better put to deliberative forums. Tensions were acknowledged between simplicity and customers being able to control costs.

Feedback on the options included that:

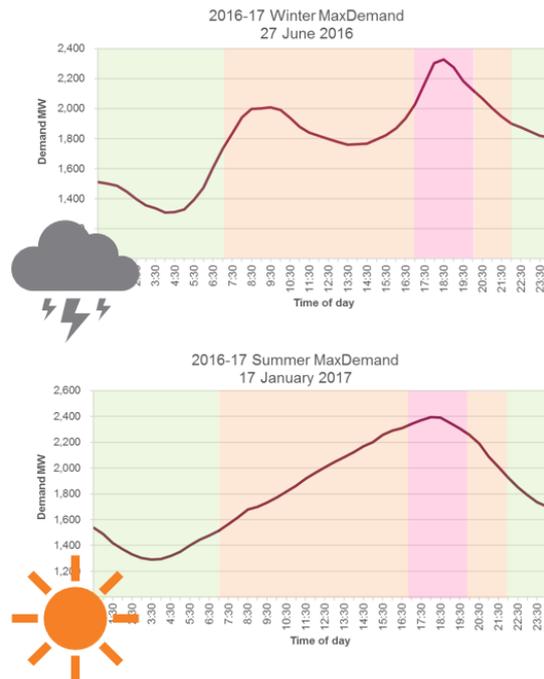
- PIAC thinks moving to cost reflective pricing does not mean higher fixed charges.
- ECA generally considers a longer transition to cost reflective prices is better – it should be done “slowly and carefully”
- It is important to understand what customers think, and important to have good data – for example, on the question of ‘where are the hardship customers?’, stakeholders identified that IPART used to match data on household incomes to energy data and an equivalent exercise may be helpful, and that the AEMC also look at hardship and have helpful data.
- Customers want simplicity but would get no signal or a signal that how much they use does not matter which is not right either.

### 3.1.6 Pricing design | Demand and TOU time windows

Essential Energy presented details of its operating circumstances and patterns of peak use across the grid.

Noting the AER’s 2017-19 feedback to consider seasonal charges and what windows to use for time based use and demand charges, Essential Energy showed the following load profile charts, explaining that Essential Energy:

- currently have three time periods (peak, shoulder and off-peak), with no seasonality
- has both summer and winter peaks in coastal and inland areas respectively, which means seasonal charging would need to be location-based, and
- has found that customer engagement so far does not support locational charging, and as a result Essential Energy don’t see a case to change time of use energy windows, but wanted to test this with the working group.



Essential Energy then presented options for demand charging and charging windows, electric vehicle prices and seasonality in charges.

Group discussion considered and collectively agreed the following points:

- given the nature of Essential Energy’s network having both summer and winter peaking elements, the group supported not having seasonality in prices
- maintaining current time of use charging windows made sense, given Essential Energy’s circumstances
- in principle, the group supported Essential Energy acting now to encourage batteries and electric vehicles to charge at times that don’t increase costs for all users.

On the question of demand charging approach, the group were then asked to each share their individual feedback and option preference on:

- Which demand charging approach do you prefer and why?
- Do you think an anytime peak in future could be simpler and overcome locational differences in peak timing and seasonality?

The responses are outlined in the table below by stakeholder type. The observers did not give preferences.

Table 3.2: Option feedback and preferences

Attendee	Comments
<b>Consumer representatives</b>	
PIAC	PIAC would like to explore critical peak pricing Test average of 3 peaks in the research forums

Attendee	Comments
ECA	Talk to customers General support for demand charging and anytime peak
EWON	Critical peak pricing is effective
Irrigators	Critical peak pricing – seems sensible because irrigators may have some flexibility when notified Averaging – want to see the differences in cost impact (on customer) of this vs anytime single peak charging
<b>Retailers</b>	
AGL	Data is needed on impacts Critical peak pricing studies show efficacy
Origin	Want a thorough understanding of customer data before committing
Red Energy	Would prefer a nationalised approach to demand charging, at least amongst NSW networks if not more broadly

Given the diversity of views, and the unlikelihood of it proposing critical peak pricing in the next period through anything other than a trial due to the current level of smart meter penetration and data maturity, Essential Energy undertook to consider this feedback and come back to the next workshop with a refined options set.

### 3.2 WORKSHOP 2 | FURTHER PRICING PLAN MATTERS AND ECONOMIC COST CONCEPTS

The second workshop was originally planned to cover economic cost concepts used in price design and compliance, and seek feedback on how Essential Energy had estimated and used these. This agenda was extended by two hours to allow for further consultation on:

- the impact of and approach to new energy technologies, and
- the overall draft price plans following feedback from workshop one and the phase two deliberative forums that had been run concurrently with the Pricing Working Group workshops.

The discussion insights and option preference responses are explained in this section.

The workshop was structured to commence with a summary of what was heard at 28 August 2017 workshop, deliberative forums, Customer Advocacy Group feedback, and further work Essential Energy had done to prepare for this workshop.

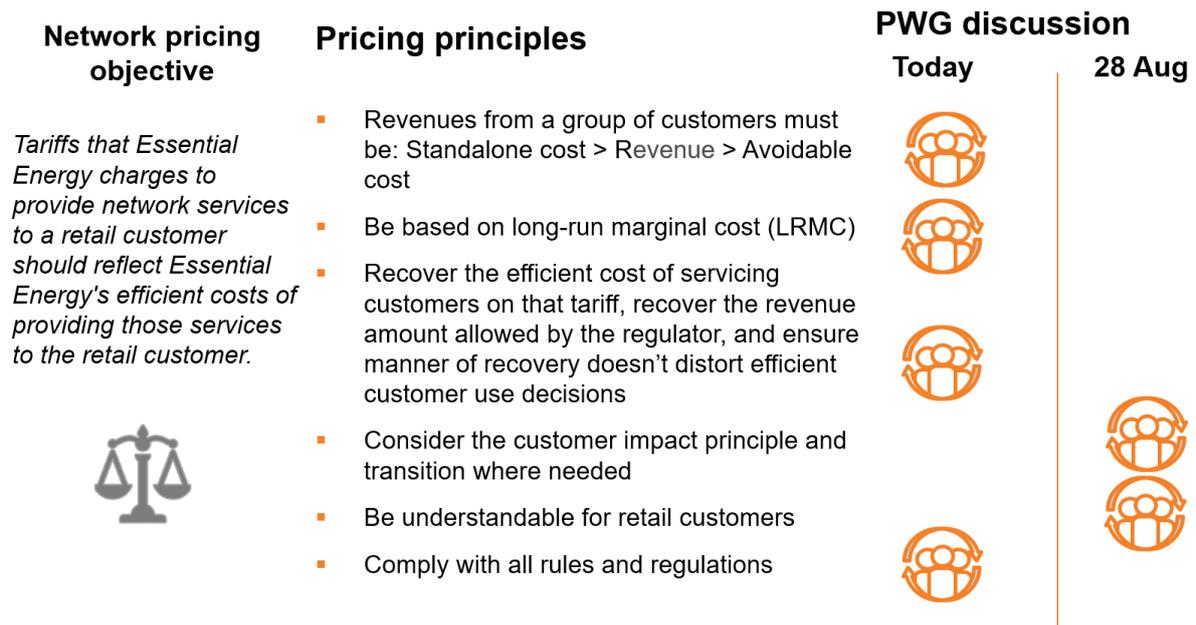
The presentations and discussion then worked through:

- *Pricing rules* | Recap on decisions, rules, and requirements for Essential Energy and how the group's feedback will inform future directions
- *Price design for new technologies* | What Essential Energy is seeking to achieve for efficient uptake and use of new technology and the resulting 2019-24 price structures that are needed for new technologies
- *Price design plans* | What Essential Energy has heard on price structures and how it has built this into its draft plans
- *Drivers of network costs* | Essential Energy's new and existing costs

- *Economic cost concepts* | What are these concepts and why they are used to set and test prices
- *Determining and using long-run marginal cost* | How Essential Energy has derived these estimates, the values and how they are used.

The facilitator explained the rules within which Essential Energy must design and apply its prices and discussed how the engagement across the two Pricing Working Group workshops has engaged on each of these, as illustrated in this figure.

Figure 3.1: Engagement on rule requirements



### 3.2.1 Evolving prices for new energy technologies

Essential Energy staff and the participants discussed how prices might need to evolve to deal with new technologies and changing energy use and how Essential Energy is approaching this.



- ✓ Share excess energy over the grid
- ✓ Charge in off-peak
- ✗ Waste excess energy
- ✗ Charge in peak and drive costs

It was agreed that the objective is to recover the same revenues but in a way that supports efficient use and grid support where relevant and valuable with the aim of lowering total grid costs over time.

There was general support that customers making new investments in new load types should factor into those investment

decisions the grid cost of the way those loads behave. In this way, a default demand price without opt out for new connections of such loads was seen as more equitable and efficient than trying to introduce these signals after customers had made up-front investments in these technologies.

The group agreed that this should be reflected in default assignment, and should be technology agnostic, covering new solar, battery, EV and other new load types that have the potential to either support or exacerbate network utilisation depending on whether they face demand signals.

In the discussions, stakeholders' other observations were that:

- networks could consider also using zonal or nodal pricing to get better community incentives and outcomes in the future
- Essential Energy should consider prices that could encourage usage during periods when there is excess solar generation (e.g. SAPN are considering a 'solar sponge' price, or ripple control)
- net metering and demand prices may provide the same outcome by encouraging consumers to shift usage to the times when they generate solar
- if the focus is on load, then does it really matter whether that load is from an old technology (e.g. pool pump) or new technology (e.g. electric vehicles) – pricing design should focus on being technology neutral while seeking to influence new behaviours dealing with new technologies (i.e. get ahead of the curve) – for instance, by providing controlled load prices for the same technology, perhaps with different transitions
- there was general support for controlled load prices from consumer groups and retailers, noting customer support for new technology (e.g. EVs) – although there is some resistance to controlled load prices for existing technology
- Essential Energy could brand the controlled load price differently (a reward price) as part of the education piece
- Essential Energy could consider whether a social price could be used to apply to electricity vehicle charging points (e.g. public or working environments), similar to street lighting
- networks can already offer incentive payments outside of prices.

### ***Energy export pricing***

The group also discussed the role of export pricing in price design (noting, of course, that networks currently cannot charge for exports under the NER). This was a discussion about long-term customer interests and possible framework reforms to best facilitate these.

The discussion identified that:

- there is clear logic linking export price to costs caused by exporting
- Essential Energy needs to consider how to use prices to help with reliability management (e.g. load control), more than just efficient revenue recovery – there will be difficulty in getting end user buy-in to the value proposition and sharing of that value through grid support when it is helpful
- Essential Energy could broaden up from just price design options, to physical coordination solutions to constrain prosumers from exporting to the grid when there are network constraints (i.e. there is no distribution dispatch) so there is opportunity to be creative to deal with injections
- further consideration is needed on the question of whether Essential Energy should focus on costs caused by customers versus the value those customers derive from energy export and what this means for pricing energy use versus energy export.

### **3.2.2 Price design plans**

What Essential Energy presented what they had heard on price structures and how they have sought to build this into their draft plans. The facilitator then went through each item to test this with the group and confirm their final preference views on each design decision.

There was a separate vote on demand measurement method given this was a more involved discussion and areas of focus for participants carried over from the prior workshop.

Table 3.3: Price structure preferences | What Essential Energy had heard

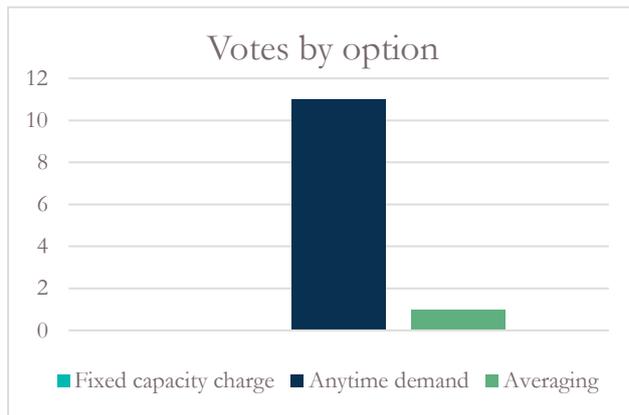
Topic	What Essential Energy had heard	Preference and feedback
Tariff classes	Ok to keep current classes, as Essential Energy still has flexibility at the price level	<ul style="list-style-type: none"> <li>Keep current tariff classes</li> </ul>
Assignment – existing customers	<ul style="list-style-type: none"> <li>No mass mandatory reassignment</li> <li>Have opt-in options available</li> <li>Transition should be ‘slow &amp; careful’</li> </ul>	<ul style="list-style-type: none"> <li>No change from current practice</li> <li>Don't transfer existing customers to new prices yet</li> <li>Collect data in 2019-24 to consider options, explain benefits and educate better in future</li> </ul>
Assignment – new customers traditional	Mandatory assignment to cost reflective prices desirable, but must have: <ul style="list-style-type: none"> <li>Opt-out</li> <li>Good education/engagement</li> <li>Understanding of new meters</li> </ul>	<ul style="list-style-type: none"> <li>Default to TOU price</li> <li>Include optional opt-out to either a demand price or an anytime price</li> </ul>
Assignment – new non-traditional customers (batteries, solar, electric vehicles,) and large industrial customers	<ul style="list-style-type: none"> <li>Consider prices to encourage off peak usage</li> <li>Make approach tech neutral (i.e. include all new load types and technologies)</li> </ul>	<ul style="list-style-type: none"> <li>Default price is demand price</li> <li>No opt out</li> <li>Education and explanation will be important</li> </ul>
Location pricing	<ul style="list-style-type: none"> <li>Not supported in customer research or Pricing Working Group outside of a trial context or for microgrids</li> </ul>	<ul style="list-style-type: none"> <li>No locational pricing (other than in customer-specific charges)</li> </ul>
Seasonal pricing	<ul style="list-style-type: none"> <li>Not supported given Essential Energy's combination of summer and winter peaking areas</li> </ul>	<ul style="list-style-type: none"> <li>No seasonal pricing</li> </ul>
Charging windows	<ul style="list-style-type: none"> <li>No reason for these to change from current times</li> </ul>	<ul style="list-style-type: none"> <li>No change to charging windows</li> </ul>
Capacity pricing	<ul style="list-style-type: none"> <li>Interest from some stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>Consider in future with better data or a trial within period.</li> </ul>
Assignment policy, including for opt in and out	<ul style="list-style-type: none"> <li>Current policy is fine</li> <li>Be clear what are the processes and limits on this.</li> </ul>	<ul style="list-style-type: none"> <li>Retain current policy – policy of once every 12 months, unless mitigating circumstances.</li> </ul>

### *Demand charging options*

The group discussed three options for demand charging, which had been narrowed down from the initial feedback provided in workshop 1. The options presented were:

- *Fixed capacity charge* | Customer pays single quarterly or monthly fixed capacity charge based on highest use in last 12 months (flat predictable bill all year regardless of use). Bill for next 12 months reset the same way.
- *Anytime demand* | Customer pays monthly demand charge based on highest demand any time in that month. Charge resets each month, so customer can change behaviour within the year to save.
- *Averaging* | Customer pays monthly demand based on average of 3 highest demand

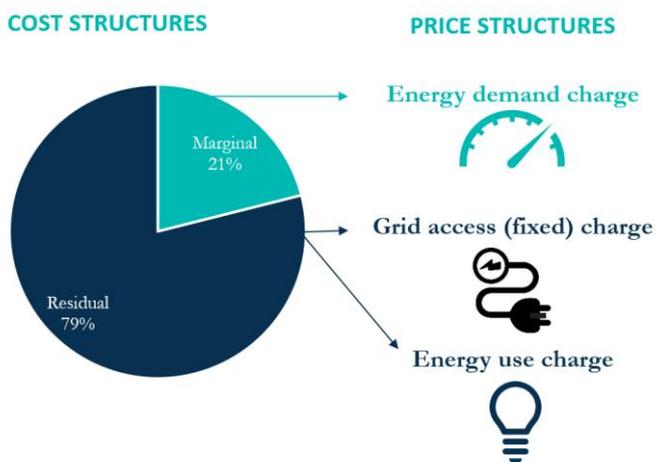
The participants each voted and discussed their choice. Overwhelmingly, anytime demand was supported, with only one respondent favouring the averaging option.



There was also support for considering having peak demand time of use that is aligned to the current energy time of use windows. Aligning the charging windows was seen to support customer understanding, and simplicity for retailers and customers. Essential Energy observed that this was its current pricing design, so retaining its demand measurement approach and charging windows aligned to this feedback.

### 3.2.3 Economic cost concepts

Essential Energy staff explained the nature of and drivers of their network costs. This covered both Essential Energy's new and existing costs that create fixed, variable, and growth-related costs relevant to pricing design decisions. Staff explained how Essential Energy's costs are affected by customers' usage and by the geographic characteristics of the network



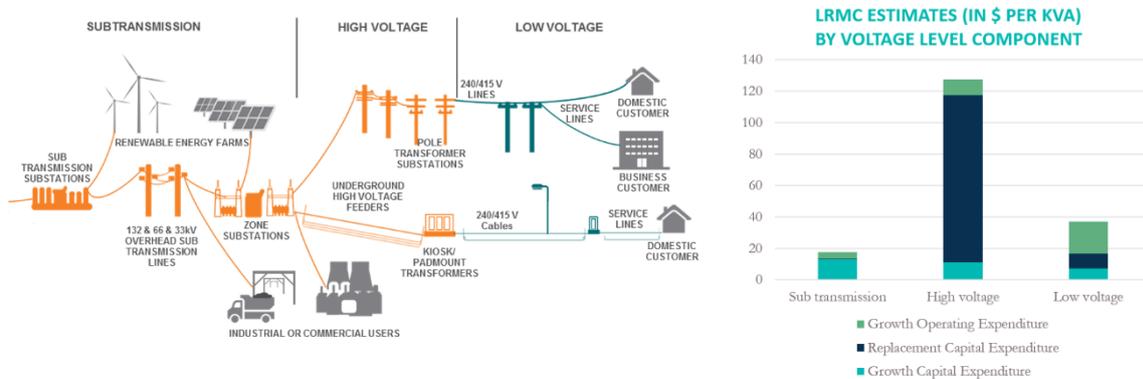
Farrierswier then presented the economic cost concepts in the NER, including what these concepts are and why (and how) they are used to set prices and by the AER to test pricing compliance and efficiency.

The workshop then had a presentation from farrierswier on determining and using long-run marginal cost (LRMC). This explained how Essential Energy has used the average incremental cost approach to derive its estimates by voltage level and then customer type, the values and how they are used.

Farrierswier explained that in applying the average incremental cost approach for this coming TSS, Essential Energy has sought to address the AER's prior feedback. The AER's final decision on the prior TSS suggested that Essential Energy extend the time horizon used to project its costs and demand to at least 10 years, and include replacement expenditure in the cost forecasts. In response, Essential Energy extended the forecasting period to 15 years and added the elements of replacement expenditure that are

affected by demand or result in changes in capacity. The group noted these refinements and did not have any concerns with the updated LRMC estimation approach.

The workshop was presented the LRMC results by network component (voltage level) and the resulting estimate for customers connected at each voltage level, as shown in the figure below.



Farrierswier then explained how Essential Energy has sought to recover its residual costs from across its tariffs in a manner that least distorts efficient network use decisions. This includes by assigning a greater share of residual costs to more inefficient tariffs. The workshop was presented the results of this residual cost allocation by tariff. Stakeholders supported this approach which makes the up take of more efficient tariffs more attractive to customers and to retailers when designing their tariff offerings.

Overall stakeholders understood the cost concepts and generally considered Essential Energy's estimation approach and use of the resulting estimate to be reasonable.

When discussing these concepts and estimates, some stakeholders observed:

- that these cost structures mean Essential Energy needs to consider the relativity between fixed and variable charges and should consider having a methodology for choosing how and when to allocate the residual in to the fixed and variable components and use data to drive this
- Essential Energy needs to consider the impact on vulnerable customers from having high fixed charges
- some thought that it may be appropriate to put residuals in to energy usage charge as:
  - customers prefer it that way
  - it helps with transition of customer impacts, and
  - it picks up externalities from end use decisions (e.g. environmental / economic impact)
- Essential Energy should explain what costs are included in the marginal cost bucket.

# Appendix A Workshop agendas

## Agenda | Pricing working group 1

### Essential Energy – Pricing plans for 2019-24

<b>Date</b>	Monday, 28 August 2017
<b>Time</b>	10:00am – 1:00pm (3 hours)
<b>Location</b>	Sydney Masonic Centre, 66 Goulburn Street, Sydney, Remington Room (Level 5)
<b>Invitees</b>	<p>Tim Harrison (PIAC), Oliver Derum (ECA), Rory Campbell (EWON), Claire Martyn (EWON), Felicity Muller (Cotton Australia), Stefanie Schulte (NSW Irrigators Council), Sean Greenup (Origin), Ben Barnes (Red Energy), Eric Groom (CCP), Israel del Mundo (AER)</p> <p>Essential Energy: John Cleland, Roger Marshall, Natalie Lindsay, Catherine Waddell, Belinda Kallmier, Karyn Looby.</p> <p>Farrierswier: Robert McMillan.</p>
<b>Purpose of meeting</b>	To obtain input and feedback on our draft plans for 2019-24 pricing design.
<b>Specific objectives</b>	<p>This session focusses on the next steps in tariff reform needed to continue Essential Energy’s journey to cost reflective network tariffs. The focus topics are:</p> <ul style="list-style-type: none"> <li>• How suitable are the end state tariff designs?</li> <li>• How should we manage transition through assignment of new customers?</li> <li>• How should we manage transition through gradual adjustment of legacy tariffs for existing customers?</li> </ul>
<b>Note</b>	This is a <u>draft agenda</u> . Essential Energy are concurrently running deliberative forum customer research on pricing issues. The outcomes of this will help shape the final agenda.
<b>Background reading</b>	<p>Essential Energy is midway through our ‘Your network - Your say’ engagement program that is shaping our 2019-24 plans and regulatory proposal. Details of this program and additional ways you can participate are available on our <a href="#">website</a>.</p> <p>Essential Energy recently published our Engagement Focus <a href="#">paper</a>   Essential Energy Regulatory Proposal Customer Consultation &amp; Discussion Paper. Pages 23-36 of that paper provide helpful background on pricing issues we have engaged on so far, and what we have heard from customers on these.</p>

Agenda item	Purpose
1. Introduction	<p>Discuss meeting objectives and agenda</p> <p>Explain:</p> <ul style="list-style-type: none"> <li>• About Essential Energy</li> <li>• Engagement program so far</li> <li>• Pricing decisions and engagement</li> <li>• Today's agenda in this context</li> </ul>
2. What Essential Energy has achieved so far	<p><b>Inform</b>   Outline what progress Essential Energy has made so far with its first tariff structures statement and actual experiences.</p> <p><b>Consult</b>   Ask the group how familiar they are with steps to date, and any feedback they have on this, any feedback from what they've seen other networks do.</p>
3. What we are hearing from engagement	<p><b>Involve</b>   Outline what phase 1 engagement found, and what is now being further tested through the upcoming deliberative forums, and why we are engaging with different people?</p>
4. Where next	<p><b>Consult</b>   Discuss where Essential Energy want to be, and what should Essential Energy try to achieve from tariff reform. Seek feedback on draft pricing design principles.</p>
5. Draft proposal for customer pricing groups	<p><b>Consult</b>   Describe tariffs classes Essential Energy are using to design tariffs.</p>
6. Draft proposal for default and opt out pricing options	<p><b>Involve</b>   Explain the:</p> <ul style="list-style-type: none"> <li>• AER's stated expectations from first TSS</li> <li>• ENA network transformation roadmap pricing commitments</li> <li>• pros and cons of different assignment models</li> <li>• draft plans for tariff assignment and eligibility.</li> </ul> <p>Seek feedback on:</p> <ul style="list-style-type: none"> <li>• Opt out approach</li> <li>• Options available to opt out to</li> <li>• Communication plans to accompany the mandatory approach</li> </ul>
7. Draft proposal for tariff structures	<p><b>Involve</b>   Outline the tariff structure options being considered and how today's and the deliberative forum's feedback will help settle these.</p> <p>Tariff structures for:</p> <ul style="list-style-type: none"> <li>• Legacy tariffs – closed to new customers</li> <li>• New tariff introduced in 2017-19</li> <li>• Tariff refinements being considered for 2019-24</li> </ul> <p>Tariff options for feedback:</p> <ul style="list-style-type: none"> <li>• Fixed versus variable tariff charges</li> <li>• Demand tariffs and how we design the demand charge</li> <li>• Seasonal demand pricing</li> <li>• Locational and customer specific pricing</li> <li>• New technologies</li> </ul>

Agenda item	Purpose
8. Questions and wrap-up	Recap outcomes of today's discussions, and any questions taken on notice or actions created. Outline the draft agenda for the 6 September meeting.

## Agenda | Pricing working group 2

### Essential Energy – Economic cost concepts

<b>Date</b>	Wednesday, 6 September 2017
<b>Time</b>	11:00am – 4:00pm (5 hours)
<b>Location</b>	Sydney Masonic Centre, 66 Goulburn Street, Sydney, Remington Room (Level 5)
<b>Invitees</b>	<p>Tim Harrison (PIAC), Oliver Derum (ECA), Rory Campbell (EWON), Claire Martyn (EWON), Mark Byrne (Total Environment Centre), Dean Lombard (Alternate Technology Association), Gavin Dufty (St Vincent De Paul Society), Sean Greenup (Origin), Ben Barnes (Red Energy), Meng Goh (AGL), Aki Yoshida (AGL), Alex Pavich (AGL), Dale Johansen (AER), Shaughn Morgan (Dairy Connect).</p> <p>Essential Energy: John Cleland, Gary Humphreys, Natalie Lindsay, Catherine Waddell, Belinda Kallmier, Karyn Looby.</p> <p>Farrierswier: Robert McMillan, Eli Grace-Webb.</p>
<b>Purpose of meeting</b>	<p>To explain the rule requirements and cost concepts relevant to pricing design, how Essential Energy has applied these and to obtain feedback on our approach.</p> <p>To recap what we have heard and our draft pricing plan following recent engagement.</p>
<b>Specific objectives</b>	This session focusses on the requirements and economic cost concepts.
<b>Note</b>	This is a draft agenda. Essential Energy are concurrently running deliberative forum customer research on pricing issues. The outcomes of this will help shape the final agenda.

Agenda item	Purpose
1. Introduction	<p>Discuss meeting objectives and agenda</p> <ul style="list-style-type: none"> <li>• Today's agenda in this context</li> <li>• Recap pricing decisions and 28 August workshop</li> <li>• Feedback from the deliberative forums on pricing issues</li> </ul>
2. Pricing rules	<b>Inform</b>   Discuss what the rules require and the pricing principles Essential Energy must comply with.
3. Draft proposal for tariff structures   new technologies	<b>Involve</b>   Outline for feedback the tariff structure options being considered for new technologies (batteries, EV and energy exports), and customer specific sites (micro-grids).

Agenda item	Purpose
4. Recap draft proposal	<b>Consult</b>   Outline what Essential Energy's tariff design and assignment plans are now following the feedback received.
5. Drivers of network costs	<b>Inform</b>   What are Essential Energy's costs, both new and existing.
6. Economic cost concepts	<b>Consult</b>   How should Essential Energy use the following economic cost concepts to set tariffs <ul style="list-style-type: none"> <li>• Long run marginal cost (LRMC)</li> <li>• Residual costs</li> </ul> Discuss and seek feedback on the mapping of cost structures to tariff structures.
7. LRMC	<b>Consult</b>   How should Essential Energy estimate LRMC.
8. Questions and wrap-up	Recap outcomes of today's discussions, and any questions taken on notice or actions created.  Outline next steps for tariff structures statement.