A journey of a thousand miles starts with a single rule change

PIAC submission to the AEMC's Draft Determination, National Electricity Amendment (Distribution Network Pricing Arrangements) Rule 2014

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1. Introduction

1.1 The Public Interest Advocacy Centre

The Public Interest Advocacy Centre (PIAC) is an independent, non-profit law and policy organisation that works for a fair, just and democratic society, empowering citizens, consumers and communities by taking strategic action on public interest issues.

PIAC identifies public interest issues and, where possible and appropriate, works co-operatively with other organisations to advocate for individuals and groups affected. PIAC seeks to:

- expose and redress unjust or unsafe practices, deficient laws or policies;
- promote accountable, transparent and responsive government;
- encourage, influence and inform public debate on issues affecting legal and democratic rights;
- promote the development of law that reflects the public interest;
- develop and assist community organisations with a public interest focus to pursue the interests of the communities they represent;
- develop models to respond to unmet legal need; and
- maintain an effective and sustainable organisation.

Established in July 1982 as an initiative of the (then) Law Foundation of New South Wales, with support from the NSW Legal Aid Commission, PIAC was the first, and remains the only broadly based public interest legal centre in Australia. Financial support for PIAC comes primarily from the NSW Public Purpose Fund and the Commonwealth and State Community Legal Services Program. PIAC also receives funding from NSW Trade & Investment for its work on energy and water, and from Allens for its Indigenous Justice Program. PIAC also generates income from project and case grants, seminars, consultancy fees, donations and recovery of costs in legal actions.

1.2 Energy + Water Consumers' Advocacy Program

This program was established at PIAC as the Utilities Consumers' Advocacy Program in 1998 with NSW Government funding. The aim of the program is to develop policy and advocate in the interests of low-income and other residential consumers in the NSW energy and water markets. PIAC receives policy input to the program from a community-based reference group whose members include:

- Council of Social Service of NSW (NCOSS);
- Combined Pensioners and Superannuants Association of NSW;
- St Vincent de Paul (NSW);
- Ethnic Communities Council NSW;
- Physical Disability Council NSW;
- Tenants Union of NSW; and
- Salvation Army.

2. The current review

PIAC thanks the Australian Energy Market Commission for the opportunity to provide comment on its draft rule determination, *National Electricity Amendment (Distribution Network Pricing Arrangements) Rule 2014* (the Draft Determination). The Draft Determination is the AEMC's response to changes to the National Electricity Rules (NER) proposed by the Standing Council on Energy and Resources (SCER) (now COAG Energy Council) and the NSW Independent Pricing and Regulatory Tribunal (IPART). The proposals cover aspects of electricity network tariff setting. Amongst other things, the Draft Determination seeks to make the prices paid by customers for electricity network services more cost reflective.

PIAC welcomes efforts to made electricity network tariffs more cost reflective. Such a change will reduce levels of cross subsidy that currently exist between electricity customers. When effectively sent to—and understood by—consumers, price signals about avoidable future cost are also likely to reduce future network costs in the medium to long term. The Draft Determination, as well as the reports prepared for the AEMC by the Brattle Group and NERA Economic Consulting (NERA) suggest that such cost signals are best sent through the use of long-run marginal cost (LRMC).[1]

However, the introduction of more cost reflective pricing would represent a significant change from the current methods of charging customers for network services. While the impact of such a change will be significant, PIAC believes that parallel reform to the concession framework would lessen the impact on low-income and vulnerable consumers. PIAC has concerns about the proposed freedom for distribution network service providers (DNSPs) to use their own LRMC methodlogy. PIAC welcomes the AEMC's decision to include a consumer impact principle, but believes that this should be expanded to include consideration of the fairness or tariffs. Finally, PIAC takes the view that significant hurdles exist to the effective implementation of cost-reflective tariffs, including metering infrastructure and the role of retailers in setting final prices for consumers.

3. Significance of the proposed change

Making DNSP tariffs more cost-reflective represents a significant change to the National Energy Market (NEM). While such a change stands to benefit many customers, there will also be some customers adversely affected. An examination of possible methods for cost recovery under cost-reflective pricing, undertaken by the Brattle Group for the AEMC, shows that two of the three key principles underlying the recovery of residential costs through cost-reflective pricing relate to mitigating the potential negative effects on consumers. Given the significance of the transition, PIAC strongly endorses the AEMC's recommendation that a review of energy concessions regimes across the NEM should be undertaken as part of the transition.

3.1 Cost reflective pricing and the removal of cross-subsidies

In preparing its Draft Determination, the AEMC engaged NERA to examine cross subsidies under current arrangements. NERA's case studies suggest that, for example, a customer in SP Ausnet's network area of Victoria with a 5kW air conditioning system imposes extra costs on the network of $979 a year by using their air conditioner at peak times. However, under current

1 Brown, T & Faruqui, A, 2014, *Structure of electricity distribution network tariffs: Recovery of residual costs – Prepared for the AEMC*, the Brattle Group,1.

pricing structures, only an additional $296 per year is recovered from that customer, meaning other customers subsidise the air conditioning user by $683 per year.[2]

Similarly, according to NERA's modelling, a customer in South Australia with a 2.5 kW solar system facing north will save $202 a year on network charges, but the total cost of the network will only be reduced by $85 per year.[3] The difference is recovered from other users.

As previously stated, PIAC supports measures to remove such cross-subsidies. The low-income and vulnerable consumers, who are of particular concern to PIAC, are less able to install appliances such as air conditioners or solar systems, due to both the high initial investment and the fact they are more likely to be renters. PIAC, therefore, believes that many low-income and vulnerable consumers stand to benefit from the removal (or winding back) or cross subsidies.

3.2 Principles of cost-reflective prices

As noted in the Brattle Group report, DNSP tariffs based on LRMC would not recover the full cost of providing network services.[4] This is because the cost of one additional unit of transmission capacity is likely to be lower than the cost of earlier units, especially if significant infrastructure, with spare capacity, already exists. (In this instance, marginal cost may be close to zero.) Those costs that are not recovered through LRMC pricing are known as residual costs. According to the Brattle Group, three principles govern the recovery of residual costs around the world: Inverse elasticity; fairness; and gradualism.[5]

Residual costs are fixed – they do not increase or decrease in response to changes in demand. As a result, truly cost-reflective pricing would allocate such costs as a fixed charge. However, in order to minimise the distortions to the LRMC pricing signal, academic literature on the subject of LRMC advocates allocating residual costs according to inverse elasticity. This approach, also known as Ramsey pricing, suggests that residual costs should be allocated to the charging parameter (for example, daily fixed charge, volumetric charge) for which demand is least responsive to a change in price.[6]

The other two principles – fairness and gradualism are, in PIAC's view, primarily designed to make moves to cost reflective pricing more acceptable to consumers. The fairness principle seeks to ensure that there are not significant changes in the percentage of overall revenue recovered from a particular tariff class, or significant changes to price level (the fairness of tariffs is discussed further below). The principle of gradualism suggests that tariffs should 'change gradually to reflect the long-term nature of investment in end-use electrical equipment'.[7]

While noting that all three of these principles are important, PIAC would be less concerned about the pace of transition and winners and losers from changes to tariff structures if the implementation of such changes was accompanied by a review of energy concessions.

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2 AEMC, 2014, *National Electricity Amendment (Distribution Network Pricing Arrangements) Rule 2014*, 28.
3 Ibid 29.
4 Brown & Faruqui, above n 1, iii.
5 Ibid.
6 Ibid.
7 Ibid iv.

3.3 Review of energy concessions

The Draft Determination notes that 'some consumers will face higher charges under cost-reflective network prices, and some of those consumers may be vulnerable consumers'.[8] PIAC welcomes this consideration of the impact of the Draft Determination on low-income and vulnerable consumers. PIAC also agrees with the AEMC that 'the design of network pricing structures is too blunt a tool to use in response to concerns about the potential impact of electricity prices on vulnerable consumers'.[9]

Accordingly, PIAC endorses the AEMC's call for a review of the structure of energy concessions and hardship regimes, so that 'they deliver on their purpose in an efficient and targeted way'.[10] PIAC submits that a percentage-based low-income electricity concession would reduce the impact of any changes to tariff structures on eligible consumers. The presence of such a safety net would mean any changes to tariff structures could be implemented more quickly, with less of a danger of negative outcomes on low-income and vulnerable consumers. Like the AEMC, PIAC believes that such a review should occur over the next 12 months.

Further, PIAC believes that the AEMC is the best-placed organisation to carry out such a review of concessions. The AEMC could carry out such a review with a full understanding of changes in the energy market, such as those that are the subject of this rule change process. A number of residential consumer organisations, including PIAC, have written to the AEMC to propose such a review.

Recommendation 1

PIAC recommends that the AEMC, within the next twelve months, undertake a review of energy concessions to ensure they are delivering on their intended purpose in an efficient manner.

4. Calculating electricity network tariffs using LRMC

The Draft Determination proposes a number of distribution network pricing principles, which build on the current pricing principles set out in the NER. The first principle is that network tariffs 'must be based on the long run marginal cost of providing the service'.[11] This represents a change from the current principle, which only requires networks to 'take into account LRMC when developing their prices'.[12]

4.1 Benefits of LRMC

The rationale behind using LRMC as a basis for network tariffs is that it includes 'future costs that are incurred by using more energy, or the cost that could be saved by using less energy'.[13] This means that consumers can 'compare the value they place on using the network with the cost of doing so'.[14] If consumers wish to use electricity at peak times, thereby contributing to peak demand, they will receive a price signal about the cost this use imposes on the network. Conversely, this price signal may incentivise consumers to minimise their peak demand or use of

8 AEMC, above n 2, 40.
9 Ibid.
10 Ibid 41.
11 Ibid iv.
12 Ibid 14.
13 Ibid iv.
14 Ibid iv.

the network at peak times. Because this behaviour reduces the need to augment the network, consumers are rewarded with lower prices.

PIAC supports structuring network tariffs in a way that is both more equitable and more cost reflective. Where consumers are able to respond to price signals about their peak demand or demand at times of critical peak demand across the network, these changes in behaviour should lead to lower prices in the medium to long term. However, PIAC notes that there are potential difficulties in calculating LRMC, as well as potential hurdles to the implementation of more cost reflective network tariffs (both discussed below).

4.2 Measuring marginal cost

According to NERA, 'in practice, measuring marginal cost is difficult'.[15] As a result, NERA states that 'avoidable or incremental costs are commonly used to approximate the marginal cost'.[16] The incremental cost is the cost caused by an increase in demand, while avoidable costs are those that are not imposed on the system due to a reduction in demand. NERA notes that 'incremental costs are typically applied in the long run, while avoidable costs are typically applied in the short run', because expenditure on existing assets (sunk costs) are not avoidable.[17]

Further, NERA notes that the New Zealand Electricity Authority decided that while network prices in that country should be set with reference to LRMC, a 'theoretically pure LRMC is not easy to calculate and would fluctuate due to the lumpy nature of investment'.[18] The Electricity Authority argued that a long run average incremental cost approach is an appropriate approximation of the LRMC.

Given that measuring LRMC is widely seen as extremely difficult, PIAC is concerned about the AEMC's proposal to give networks 'flexibility about how they measure long run marginal cost'.[19] This concern stems from the fact that networks have, to date, appeared reluctant to use LRMC as a basis for calculating tariffs. As noted by the Draft Determination, the current network pricing principles contained in the NER stipulate that 'prices should take into account the [LRMC] for providing network services'.[20] However, the 'lack of a firm obligation' in the pricing principles has meant that 'DNSPs have not developed network prices in accordance with the policy intent of the current pricing principles'.[21]

PIAC also notes the statement from NERA that DNSPs have not been actively assessing the value 'that might result from either improving price signals in a targeted manner…or more actively undertaking demand management activities'.[22]

PIAC, therefore, believes that if DNSPs are given too much freedom about how they calculate LRMC, there is a danger that the networks will adopt an approach that dilutes price signals to consumers about avoidable costs. Such price signals will theoretically lead to changed consumer behaviour that results in reduced network use and expenditure. DNSPs may not consider lower

15 NERA Economic Consulting, 2014, *Economic concepts for pricing electricity network services: A report for the Australian Energy Market Commission*, 7.
16 Ibid.
17 Ibid.
18 Ibid 20.
19 AEMC, above n 2, iv.
20 Ibid 14.
21 Ibid.
22 NERA, above n 15, ii.

use of the network, and a reduced need for future expenditure, to be in their own interests. PIAC, therefore, recommends that the AEMC require DNSPs to calculate LRMC using a methodology outlined in a Guideline that is developed and reviewed by the AER.

Recommendation 2

PIAC recommends that the AEMC require DNSPs to use a methodology outlined by the AER when calculating LRMC.

5. Consumer impact principle

PIAC welcomes the proposal in the Draft Determination for a consumer impact principle to be included in the NER. However, PIAC believes that as part of this principle, DNSPs should be required to develop prices that are 'fair', or have a 'fair impact' on consumers. PIAC believes that under such an arrangement, consumers should not be faced with high fixed charges that leave them with little scope to reduce their bills through lowering consumption.

5.1 Consumer engagement principle

PIAC takes the view that all businesses, regulators and other energy market participants should carefully consider the impact of all their decisions on consumers. As previously stated, reform of network tariff structures represents a significant change to the energy market. PIAC, therefore, strongly endorses the presence of a principle that:

> places and obligation on DNSPs to set network prices that consumers can understand and to minimise the impact of network prices changes on consumers.[23]

DNSPs are required to demonstrate how they have consulted with consumers about their tariff structures, including whether these are able to be easily understood. The AER will then accept or reject this consultation as part of its approval of annual DNSP prices through the Tariff Structures Statement (TSS) process.[24]

PIAC sees merit in requiring the AER to examine network consultation with consumers. However, PIAC notes that such a provision would place further regulatory requirements on the AER. While the AER is the appropriate body to carry out such functions, it is vital that the AER be properly resourced to carry out all its functions. PIAC, therefore, submits that where increased requirements are imposed (including those recommended by PIAC in this submission), AER resources must be increased accordingly. While this a matter for Australian governments, PIAC recommends that the AEMC note this imperative as part of its final determination.

Recommendation 3

PIAC recommends that the AEMC note the increased responsibilities that the proposed rule change will place on the AER and recommend that the AER be sufficiently resourced to carry out this function.

5.2 Fair impact on consumers

The Brattle Group examined different methods of network cost recovery around the world. In its report to the AEMC, the Brattle Group notes that countries including Italy and the United States,

[23] Ibid 18.
[24] Ibid 19.

which are multiple state jurisdictions, include principles of fairness in their rules governing DNSP tariff development. In the US, for example, specific judicial language calls for tariffs to be 'fair, just and reasonable'.[25]

The Brattle report notes that 'it is often difficult to translate the concept of fairness in rate design, since there are multiple interpretations of fairness'.[26] However, PIAC submits that this requirement could be overcome by requiring DNSPs to consult with consumers about whether their tariffs are fair, just and reasonable. The AER would then be required to assess the outcomes of this consultation as part of its approval of DNSP pricing structures through the TSS.

A key aspect of such a discussion with consumers would relate to the proportion of DNSPs costs that are recovered through fixed charges. PIAC believes that, wherever possible, consumers should be empowered to reduce their electricity bills through lowering consumption. If DNSPs are required to consult with consumers about the fairness of their tariffs, this would be a key aspect of such consultation.

Recommendation 4

PIAC recommends that, as part of the consumer impact principle, the AEMC require DNSPs to consult with consumers on whether proposed tariffs are fair, just and reasonable.

6. Hurdles to implementation

As discussed above, the Draft Determination seeks to facilitate a fundamental change in the way electricity network tariffs are designed. As with all such changes, significant potential hurdles exist to a smooth transition and the realisation of the intended outcome. In this instance, PIAC believes there are two key hurdles that warrant grater consideration by the AEMC: the metering technology needed to facilitate new tariff structures; and the role of retailers in shaping the final tariffs that are paid by consumers.

6.1 The need for smart meters

PIAC takes the view that it will be difficult to roll out more cost reflective pricing to customers with accumulation meters. For example, it would be impossible to charge such customers a capacity tariff. As highlighted by the AEMC in the Draft Determination, interval and smart meters 'can offer much better ways to capture and send signals about the network costs caused by a consumer's usage'.[27]

As part of the consideration of the Draft Determination, the AEMC asked the Brattle Group to examine alternative approaches to more cost-reflective prices 'given the current constraints on implementation of more sophisticated price structures due to the widespread existence of accumulation meters'.[28] While such models exist, PIAC takes the view that implementing such arrangements is less-preferable than the suite of options that are provided to consumers who have interval or smart meters.

25 Brown, T & Faruqui, A, above n 1, 44.
26 Ibid.
27 AEMC, above n 2, 23.
28 Ibid 3.

PIAC acknowledges that a number of process are currently being run by the AEMC and AER related to electricity meters. These include rule changes related to competition in metering services and the price determination process for NSW DNSPs, that will set metering exit fees for consumers wishing to upgrade their accumulation meter.

PIAC is hopeful that the AEMC will give due consideration to the impact of these processes on the rule change process that is being addressed in this submission. While the AEMC seeks to make rules that are 'technologically neutral', in this instance PIAC submits that there is a strong case for planning for a future in which more advanced metering infrastructure is widespread.

6.2 The role of retailers

As previously stated, PIAC understands and endorses the logic of designing more cost-reflective network tariffs. However, consumers only have a chance to respond to those price signals that they receive through the bill they receive from their retailer. In PIAC's experience, most residential consumers are not aware that their bill includes cost from across a value chain, which are distributed amongst the providers of the respective services (wholesale, transmission, distribution and retail).

Because consumers pay network costs through their retailer, retailers have the option of redesigning the tariffs that consumers receive. PIAC takes the view that retailers will redesign tariffs if they believe it is in their interest to do so. Retailers will be less concerned about preserving price signals to consumers about network expenditure. Such action by retailers has the potential to severely compromise the intended outcomes of the AEMC's Draft Determination.

Given the potential for retailers to distort network tariff price signals through their own prices, PIAC submits that the issue is not given sufficient consideration as part of the Draft Determination. Accordingly, PIAC recommends that the AEMC undertake a greater investigation of this issue as part of the preparation of its Final Determination. While PIAC understands from discussions with the AEMC that they have consulted retailers as part of their review process, PIAC takes the view that this in an important aspect of the implementation of any rule change which must be discussed at greater length in the Final Determination.

Recommendation 5

PIAC recommends that the AEMC undertake a greater analysis of the likelihood and impact of retailers distorting network tariff price signals through retail price structures and include this analysis as part of the Final Determination for this rule change process.

7. Conclusion

Once again, PIAC thanks the AEMC for the opportunity to provide comment on the Draft Determination. In principle, PIAC supports attempts to reduce cross subsidies in DNSP prices. However, as such a move represents a significant change to the NEM, PIAC takes the view that in order to reduce the possibility of any negative impacts on low income and vulnerable consumers, the AEMC should review energy concessions across the NEM and recommend improvements such as a rebate that is calculated as percentage of consumption.

PIAC has some concerns about the use of LRMC as the basis for tariff calculation because it appears difficult to calculate in practice. If DNSPs are given the freedom in how they apply

LRMC, as proposed by the AEMC, PIAC believes there is a risk DNSPs introducing tariffs that serve their own interests ahead of the long-term interests of consumers.

While PIAC welcomes the proposed consumer impact principle for DNSP pricing, PIAC recommends that this requirement be strengthened to require DNSPs to consult with consumers about whether their tariffs are fair, just and reasonable. Such a requirement would give Australian consumers protections similar to those available to consumers in Italy and the US.

Finally, PIAC notes that there are other potential hurdles to the effective implementation of more cost-reflective prices. In particular, PIAC is concerned that retailers may distort the price signals that the AEMC is seeking to send to consumers that are designed to reduce network expenditure in the medium term.