Network of Illawarra Consumers of Energy

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Submission to the AEMC's Draft Access, Pricing and Incentive Arrangements for Distributed Energy Resources Draft Determination

June 2021

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Summary

This submission is made by the Network of Illawarra Consumers of Energy (NICE), a recently formed entity advocating for the energy transition to a net-zero carbon future to be managed with the interests of consumers at the heart.

The removal of the restriction on networks charging for export services is an important element to the reforms necessary to optimise the value of Distributed Energy Resources. In this (late) submission we outline an approach to incentive regimes and the charging regimes that we think significantly increase the value of this rule change to further progress the reform objective.

We acknowledge that this submission is very late in the process and indicate that if the proposals cannot be accommodated we will pursue them through a separate rule change at the earliest opportunity (which probably means twelve months after the current rule change is made).

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Glossary

ACCC	Australian Competition and Consumer Commission
AEMA	Australian Energy Market Agreement
AEMC	Australian Energy Market Commission
ARM	Attrition Relief Mechanism – a component of PBR
DER	Distributed Energy Resources which includes generation, storage and loads that can respond to price or non-price signals.
DNSP	Distribution Network Service Provider
DSO	Distribution Service Operator
DUOS	Distribution Use of System – the aggregate of charges billed for use of the distribution system
ESB	Energy Security Board
ESM	Efficiency Sharing Mechanism – a component of PBR
Hilmer Trilogy	The break up of economic efficiency into three components of allocative efficiency, productive (or technical efficiency) and dynamic efficiency.
LTIC	Long-term interests of consumers
MSGA	Market Small Generator Aggregator
MRP	Multi-Year Rate Plan – used in the description of Performance Based Regulation
NGO	National Gas Objective
NGR	National Gas Rules
NEM	The (misnamed) National Electricity Market. The term is used both to refer to the bulk power market operated by AEMO and to the integrated electricity system including regulated networks and competitive retail markets.
NEO	National Electricity Objective
NER	National Electricity Rules
NERO	National Energy Retail Objective
NERR	National Energy Retail Rules
NICE	Network of Illawarra Consumers of Energy
PBR	Performance Based Regulation
PIM	Performance Incentive Mechanism – a component of PBR
PV	Photovoltaic – a shorthand for solar panels located on consumer premises
REPI	*Retail Electricity Price Inquiry* conducted by the ACCC which reported to the Australian Treasurer in 2018
RIT-D	Regulatory Investment Test - Distribution
TEC	Total Environment Centre

Introduction

NICE

The Network of Illawarra Consumers of Energy (NICE) is a recently formed informal network advocating for the energy transition to a net-zero carbon future to be managed with the interests of consumers at the heart.[1] This necessary transition needs to occur at least cost to consumers while maintaining reliability and security of energy services, appropriate consumer protections for essential services and a just transition for affected workforces.

We believe there is a role for regionally based advocacy within the context of nationally consistent energy policy. The choice and options for energy supply do differ by geographic region having regard to different climatic conditions affecting demand and supply options, and different risk factors impacting on resilience planning. This submission has been prepared by David Havyatt who is the sole author.[2]

We appreciate the opportunity to comment on the Australian Energy Market Commission's (AEMC) *Access, Pricing and Incentive Arrangements for Distributed Energy Resources Draft Rule Determination* of March 2021 (the Draft Determination). We apologise for making this submission late and acknowledge that it may not be able to be fully considered in this rule change process. As the submission proposes additional changes to the rules beyond those in the draft there may be an opportunity for them to be the basis of a future rule change request.

Background

Australian households have adopted at record rates self-generation by installing photo-voltaic (PV) panels on their roof tops to use solar power to generate electricity. There are three reasons why Australia leads the way. The first is the quality of the solar resource in a relatively dry continent that is largely located closer to the equator than the population centres in Europe and the USA. The second has been a range of incentives including ludicrously high premium feed-in-tariffs as State Governments were keen to be seen to be doing something on emissions reduction. The third has been a relatively accommodating regulatory environment including 'pre-approval' schemes for installations below 5kW, and the prohibition on networks charging for the export of electricity (NER 6.1.4) and the prohibition in assigning tariff classes of connection points with micro-generation facilities being treated less favourably than connection points without (NER 6.18.4(3)). It is our understanding these clauses date from the origin of the network rules in 2006 and were included by Ministers because they were heavily subsidising PV installation.

A consequence of these rules is, however, that the best rooftops aren't necessarily fully utilised, hence reducing the generation efficiency available from this investment. Secondly, distribution networks are struggling to manage the voltage impacts of the installations. Thirdly the combined

[1] The network has not yet started actively recruiting participants.
[2] Mr Havyatt was employed as Senior Economist at Energy Consumers Australia from October 2015 to August 2020. For the avoidance of doubt, nothing in this submission is the position of Energy Consumers Australia.

generation is resulting in the minimum net load on parts of the distribution system causing challenges for the bulk power system.

There is an additional concern by some consumers that households without solar are subsidising the grid connections of those who do. This apparent cross-subsidy arises because the daily supply charge is not sufficient to cover the average cost of a connection. We do not regard this as a basis for removing NER 6.1.4. We do, however, believe that the economically efficient way to charge for distribution network services is to recover most of the sunk cost through land taxes (i.e, rates). A radical proposal for DUOS recovery is included in Appendix 1, however we do not expect the elements of this proposal to be realised.

The AEMC received rule change requests from St Vincent de Paul (SVP), the Total Environment Centre (TEC) and SA PowerNetworks (SAPN) to address these issues. The various options had been considered by the AEMC and a more preferable rule proposed. We have not contributed to this rule change process previously as we were interested to see how the AEMC would incorporate the different proposals into a draft rule.

Context

The proposed rule changes are an important sub-component of the wider program identified in the Energy Security Board's (ESB) Post 2025 Market Design project as 'DER Integration and Demand Side Participation.' As explained in our submission to the ESB's Options Paper we believe this part of the project is better described as 'DER Optimisation.'

Without the ability to charge a connection point for the export services provided at that connection point, DNSPs (or more generally Distribution Service Operators) will be unable to provide financial incentives to encourage consumer export decision making to have regard to network costs. Similarly, without the ability to charge for export, DNSPs will have no ability to invest in upgrading the capability to host DER that (generation or storage) that exports to the grid and will instead continue to rely on simple limitation of export. While dynamic export limits are an improvement on static export limits, a price on export provides greater opportunity to optimise the use of DER.

NICE has proposed the move to a 'system of systems' approach where we have identified two customer facing roles of retailer and smart energy services providers. We note that under the existing proposals the charge for export will be billed to the retailer for the connection point. Under our proposals the smart energy services provider can become the party responsible for appointing the metering coordinator and selecting a retailer. In these circumstances it may be more appropriate for the smart energy services provider may need to be the party that is billed by the DNSP.

The AEMC's Task

We note the AEMC's description of the rule making tests in section 3.2 of the Draft Determination. We note that equity and emissions reduction are not an explicit criterion in rule-making, however we note that in another context the AEMC has inferred a consideration of

emissions reduction.[3] Just as the AEMC needs to consider the climate change impacts of decisions in the long-term interests of consumers, so we consider equity issues do as well. Rules that result in inequitable outcomes will not endure just as rules that ignore emissions reduction objectives won't endure.

It is disappointing to see the AEMC back-sliding in its overall considerations to say 'In all rule changes and reviews, our analysis is centered (sic) on the concept of efficiency.' We note in the Draft Determination that the AEMC states:

> *Efficiency is the fundamental objective of the energy market objectives. Although the notion of the 'long term interests of consumers' is somewhat ambiguous, the second reading speech for the Bill containing the NEO clarifies:*
>
> *The market objective is an economic concept and should be interpreted as such.*

As Energy Consumers Australia has previously demonstrated the concept of efficiency can be fundamentally equated to the long-term interests of consumers – that is providing energy services to current and future consumers at least cost at the quality level consumers are prepared to pay for.[4] Protracted discussion about whether it is the LTIC or efficiency that is paramount is a distraction at best, and at worst feeling the need to accord primacy to efficiency really only reveals a lack of understanding of the concept of efficiency.

Without wishing to extend this point further than it needs to be, the **energy market objectives** are specified in the Australian Energy Market Agreement (AEMA) which is produced in Box 1 below.

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[3] AEMC 2019. *Appltying the Energy Market Objectives* https://www.aemc.gov.au/sites/default/files/2019-07/Applying%20the%20energy%20market%20objectives_4.pdf

[4] See https://energyconsumersaustralia.com.au/publications/interpreting-the-long-term-interests-of-consumers-2 and https://energyconsumersaustralia.com.au/publications/operationalising-long-term-interests-consumers

Box 1: Objectives of the Australian Energy Market Agreement 2004

> *2.1 The objectives of this agreement are:*
>
> *(a) the promotion of the long term interests of consumers with regard to the price, quality and reliability of electricity and gas services; and*
>
> *(b) the establishment of a framework for further reform to:*
>
> *(i) strengthen the quality, timeliness and national character of governance of the energy markets, to improve the climate of investment;*
>
> *(ii) streamline and improve the quality of economic regulation across energy markets to lower the cost and complexity of regulation facing investors, enhance regulatory certainty, and lower barriers to competition;*
>
> *(iii) improve the planning and development of electricity transmission networks, to create a stable framework for efficient investment in new (including distributed) generation and transmission capacity;*
>
> *(iv)* ***enhance the participation of energy users in the markets including through demand side management*** *and the further introduction of retail competition, to increase the value of energy services to households and businesses;*
>
> *(v) further increase the penetration of natural gas, to lower energy costs and improve energy services, particularly to regional Australia, and reduce greenhouse emissions; and*
>
> *(vi)* ***address greenhouse emissions from the energy sector, in light of the concerns about climate change and the need for a stable long-term framework for investment in energy supplies.***

The first and primary limb of this objectives is the promotion of the long-term interests of consumers. We have highlighted two of the elements of the second limb because of their relevance to the current rule change proposal. Demand side participation in the market is facilitated by demand side (or distribution) energy resources. The second is a simple reminder it has always been an objective of the AEMA to address greenhouse emissions.

The NEO, NGO and NERO are not energy market objectives – they are the objectives of the **energy laws**. As such, they are indeed the objectives that the AEMC **must** have regard to. Each states that efficiency is 'for the long-term interests of consumers.'

Of particular relevance to the current issue the is distinction between static and dynamic efficiency that is inherent in what has been irreverently called 'the Hilmer Trilogy' (allocative, productive and dynamic efficiency) . As Havyatt notes in review *The Components of Efficiency*[5]*:*

> *When it is necessary to 'unpack' the components of efficiency the common resort to the Hilmer trilogy is an inadequate response. The first distinction should be that between the static and dynamic elements; each*

[5] Havyatt, D 2017, 'The Components of Efficiency', Network: A publication of the ACCC for the Utility Regulator's Forum, no. 62. See https://www.accc.gov.au/system/files/Network%20March%202017.pdf

> *has allocative and productive dimensions. After that distinction, discussion should focus on the role of innovation as the source of dynamic efficiency.*
>
> *However, in practical application, despite the variety of ways to dissect the concept of efficiency, the outcome of efficiency in all cases is the same – consumers, collectively now and in the future, pay no more than they need to.*

This is why the inherently long-term focus of the LTIC is important, and in the current case a specific question has to be how will the rules aid the innovation necessary in the market.

Efficient Prices and Efficient Costs

In its discussion of its tasks, the AEMC states:

> *However, when making rules, the Commission takes wider policy objectives into account to the extent they impact on NEO and NERO matters such as safety, security, reliability, quality and price. For example, under 'Efficient pricing', the Commission will consider the promotion of market outcomes where prices reflect the efficient costs of providing energy services. In loose terms, this means that energy consumers should pay no more than necessary for the safe and reliable delivery of electricity services.*

While we generally laud the last part of this statement, because it lacks the reference to 'current and future consumers' it misses the point about innovation and dynamic efficiency.

This confusion is reflected in the AEMC's confusion of conflating 'efficient prices' to ones that reflect 'efficient costs.' In economic theory, prices are efficient when they reflect the actual costs of producing firms. This is the concept of allocative efficiency. Costs are efficient when the output could not be produced any more cheaply. This is the concept of productive or technical efficiency.

In real world competitive markets where there is a variation between the costs of actual firms and firms face a short run output constraint, if each firm prices at its actual cost, prices would cover a range up to the cost of the firm whose output 'clears the market.' In reality all firms don't price at cost – those other than the marginal firm price higher and get a return on fixed capital and some economic profit. The marginal firm then has an incentive to make improvements in its processes to reduce its costs. Once reduced they don't price to cost, they price to whatever firm has now taken the mantle of being the marginal producer.

Unlike the lectures in first year economics, in a competitive market there is always a net economic profit in an industry.

In the case of regulation, an *ex post* rate of return regulation would deliver efficient prices, (they would always equal costs) while a strict revenue cap where the producer is the residual claimant of all savings would result in efficient costs (but consumers would never benefit).

The extensive theory of incentive regulation is almost never drawn upon by regulators, but is worth studying if only to understand this point – the regulator has to allow the regulated firms the opportunity to earn economic profit as the price for encouraging the firm to exert economically efficient amounts of effort in improving efficiency.

The Economic Regulation Framework

The rule change requests are primarily directed at rules that form part of the economic regulation of distribution services (Chapter 6 of the NER). The current form of this economic regulation is referred to as the 'building block approach.'

This description is inadequate. Without here going into the full history of economic regulation, there have been three kinds of regulatory approach used in the USA, UK and Australia. These start with US style cost of service regulation. This was followed by pure CPI-X (also known as incentive regulation) in the UK. This was followed by the RAB model in the UK which was ultimately adopted by the Victorian Regulator-General and IPART on the way to becoming our building block model.

The building block model and the RAB model are both little more than cost of service regulation based on forward looking costs with a lag. That cost of service plus a lag could provide incentives for network businesses to become more efficient had been known since 1967.[6] The elements of the building block – revenue = return for capital + return of capital + operating costs + tax – are exactly the same elements as used to calculate the total revenue requirement.

The Australian regime is more correctly labelled as Performance Based Regulation (PBR), a term we use following the definition offered by Lowry and Woolf[7]. There are four elements to PBR:

- Multi-year Rate Plan (MRP) – the determination sets revenue for a pre-determined number of years (in the US context this is a rate case moratorium)
- Attrition Relief Mechanism (ARMs) – between rate cases the ARM automatically adjusts revenue requirements that compensate for changing input costs (the function of CPI-X in our context, if applied to regulation of integrated utilities it can compensate for fuel price changes)
- Efficiency Sharing Mechanisms (ESM) – the scheme that determines how efficiency savings by the firm are treated (in the US some efficiency savings are subject to collar provisions, everything inside the collar goes to or is borne by the firm, outside to consumers; in our case this is the CESS and EBSS which are more efficiency carry-over mechanisms but they are technically still efficiency sharing mechanisms beyond the simple effect of the MRP).
- Performance Incentive Mechanisms (PIMs) – schemes that reward (or reward/penalise) the network business for achieving certain output measures (in our case the STPIS and DMIS are PIMs – as is the Customer Service Incentive Scheme introduced by AusNet at the request of its Consumer Council).

[6] Baumol, WJ 1967, 'Reasonable Rules for Rate Regulation: Plausible Policies for an Imperfect World.', in A Phillips & OE Williamson (eds), Prices: Issues and Theory, Practice, and Public Policy, University of Pennsylvania Press, Philadelphia pp. 108-23.
[7] Lowry, MN & Woolf, T 2016, Performance-Based Regulation In A High Distributed Energy Resources Future.

We emphasise this point because our submission will be exploring these concepts further. In particular, we favour reform of the economic regulation framework that puts more emphasis on incentives and less on the role of the AER as an expert on costs. In addition, following the experience with the NewReg trial, we favour greater flexibility for networks to negotiate the form of their Performance Incentive Mechanisms directly with their consumers.

As a final comment we wish to address some references to the question of whether export services are 'essential' services.

The AEMC in its summary states:

> *Given the emerging nature of export services, and the fact that they are not essential services in the same way as consumption services, the Commission also considers there should be some further guidance in the NER to support transparency and efficiency with regard to planning and investment decisions around export services.*

The AEMC elsewhere suggests that, since export services are not essential, they should not be afforded the same level of consumer protection.

The concept of 'essential service' has two distinct meanings. The social concept is of a service necessary for life for which there is no substitute, that is it is essential to consume. The concept as used in economics is an input to production that is not substitutable, otherwise referred to as a 'bottleneck service.' In the latter case if I am a fencing contractor and there is only one provider of fencing wire, then fencing wire is an essential service.

The distribution component of an export service is an essential service in the economic sense. As such it needs to be treated equivalently with the import service in terms of general treatment in economic regulation. The idea that export services aren't 'essential' services is used in Table D.1 to suggest that export services could have a less price responsive demand than import services and hence bear a greater share of fixed costs. This is an incorrect interpretation of Ramsey-Boiteux pricing which states that common fixed costs should be allocated to services in proportion to the inverse of their own price elasticity of demand.

In the long-run export services may also have elements of the social concept of essential service, either because the household is relying on the ability to export to community storage for later import, or because the Distribution System Operator relies upon export to meet local demand.

Finally, the question of regulation for reliability and quality of supply needs to apply to all aspects of the operation of DER as the consumer is relying on them for the provision of electricity, which is the essential economic service.

Updating the Framework to Recognise Export Services

There is little in this section that we disagree with. However, we have two observations.

Retail Customers

The first is that the AEMC has tied itself in knots a little over the definitions. Under the rules two contracts are established with electricity customers, one contract is with the retailer and is for the supply of electric power, while the other is with the DNSP and is for the provision of connectivity. With the change to contestable metering the responsibility for providing a meter has transferred to become part of the first of these contracts from the second.

The appellation 'retail customer' as opposed to 'customer' needs to be read in the context of the overall market rules wherein a customer can be a direct participant in the wholesale market. A connection point to the distribution network that is established so that a retail customer can purchase electricity from a retailer in no way constrains the connection service so provided to be a one-way service.

The Market Small Generation Aggregator (MSGA) is a related concept but applies exclusively (as we understand it) to generation without consumption. In our view it is preferable that this group continues to be defined outside the scope of 'retail customer', and if necessary is included explicitly in the various definitions of 'distribution'.

Indeed, the existing rules make it clear that no change is required. Rule 6.1.4 is already a rule that covers the charging for an export service, it just specifies that the price is zero.

So in reference to the proposed amendments in Chapter 10, we believe 'retail customer' should remain unchanged, and after the signpost definition to MSGA customer is added, the definition of 'network' should be changed only to the extent of adding after 'customer' the parenthetic phrase '(whether wholesale, retail or MSGA customer)'.

Incentive Framework (Section 5)

The purpose of characterising the existing approach as Performance Based Regulation was to make the delineation between the two Efficiency Sharing Schemes (CESS and EBSS) and the three (or four) Performance Management Incentives (STPIS, DMIS, CSIS and any other small scale incentive scheme).

Nothing in the proposals require any change to the operation of the Efficiency Sharing Schemes, just as there is no need to change the building block model itself (even the clarification of the Expenditure Guidelines is unnecessary). The question to be addressed is how to incentivise networks to increase hosting capacity when to do so is in the long-term interests of consumers.

We note this isn't just a cost issue, nor an issue of quality of supply (voltage). The prospect of increased levels of DER to make parts of networks islandable (at reduced power availability) we believe is an important part of resilience planning by DNSPs.

The Draft Determination considers two options for how changes to the STPIS could be determined, being through the rules themselves (the NER) or by the AER. This ignores a third option which has recently been used to develop the Customer Service Incentive Scheme which is by agreement between the DNSP and its consumers.

The process of optimising the use of DER will vary by geography. This is in part driven by differences in resource availability in different locations (different insolation levels), the variability of insolation at a location, and the potential for islandable operation for part of the grid.

In a past role the author of this submission was responsible for writing instructions for the accounting procedures in the district offices of Telecom Australia. In that process he observed that district offices often had the capability to improve on the centrally drafted instructions. Accordingly he recognised that the instructions needed to clearly distinguish between the **must do** components (e.g. document retention to meet requirements of law) from the **should do** components (e.g. the process to follow in completing a reconciliation). District offices could vary the latter if they could justify why they made the change (for example – as this was the early 1980s – by using a spreadsheet to do the arithmetic).

Some district offices were at the other end of the scale and had absolutely no idea how to do things at all. For these the instructions included a **could do** section that stepped through absolutely everything.

We believe the entire field of PMIs should be rewritten so that the rules contain the must dos. That would, in our opinion, include an envelope specifying how much any PMI reward could be (as a percentage of revenue) and that when two or more PMIs operate together the total value of the PMI is calculated as a geometric average of the individual components.

The AER would be responsible for the should do – that is specifying a STPIS and DMIS guideline. However, the DNSP and its consumers should be able to replace those with their own set of incentives that better meet the requirements of the distribution area.

We note our proposal directly addresses SAPN's concern that 'regulation does not provide means for distribution networks to directly consider the service performance that customers desire, and there are no standards nor service targets and incentives in regulation.' Our view is that ascertaining the customer service levels that their customers require is SAPN's job, not the regulators.

As an example of distinct alternatives that would be better at incentivising efficiency in capital, we propose a ratio of electricity consumed to within the distribution area to the replacement cost value of the network assets. Improvement in this ratio would be very well targeted at optimising DER (there is, I think, a challenge here in that DNSPs don't see self-consumption but that can be estimated).

We further note that under this proposal a network should be able to be compensated for increasing its investment in ensuring reliability through the incentive payments it will receive for increased performance rather than through an increased expenditure allowance.

We note that as NICE we do not understand the comment made by Ausgrid that 'interactions between the AER and jurisdictional incentive schemes need to be considered (for example, average performance and worst served customers).' We are not familiar with jurisdictional incentive schemes, and believe they should not exist. Equally an important reform is moving to a national network reliability standard (that may vary according to geographic features in a nationally consistent way.)

Where there are variations between DNSPs this should be because the DNSP and consumers have agreed on them, not because jurisdictional governments have made political decisions to be seen to improve services while actually increasing prices to consumers.[8]

Pricing Arrangements (Section 6)

The core thrust of this section is the removal of the prohibition on charging for export, and then some lengthy discussion on what else needs to change.

The Draft Determination details the provisions of NER 6.18.5 – the pricing principles and objective. Attention is drawn to sub-rules (h) and (i) that refer to consideration of the impact on retail customers and the need for the tariffs to be reasonably capable of being understood.

These have always been unnecessary provisions and were, in part, a consequence of the desire by DNSPs to see benefit in tariff reform by having retailers 'pass on' the cost reflective tariffs in prices. (At NICE, we try to use the term 'tariff' to refer to the charges retailers pay to networks, and 'prices' to refer to the charges customers pay to retailers.) Indeed, the provisions have perpetuated an idea that just because the network places a connection point on a time of use tariff that the retailer necessarily should also place the customer at that connection point on a time of use price.

The Draft Determination proposes amendments to sub-rule (i) to make the requirement only apply to charges that are "retail customers who are or may be assigned to them, or are reasonably capable of being incorporated by retailers or MSGAs in contract terms offered to those customers."

We disagree with this proposal and suggest instead that the whole of both sub-rules should be deleted and instead an alternative be inserted that specifies:

1. That the assignment of a tariff class to a connection point by a network must not be used to determine the retail price structure offered to the customer. This needs to operate in a one-way fashion – where the tariff incorporates differential network pricing for different metering elements (i.e. controlled loads) then the retailer must offer differential prices for consumption on the different metering elements.
2. That the charging of retailers by a DNSP for the connection points in a tariff class may be done individually or in aggregate for all the connection points.

[8] As noted by the ACCC's REPI report this was a major contributing factor to price increases after 2006.

Charging all connection points cost reflective tariffs

We also propose an additional rule to reflect the fact that it is possible for networks to charge retailers something akin to a nodal price by stating that all connection points will be charged a cost reflective price. Where the connection point is served by an accumulation meter the DNSP will determine the charges to apply for that connection point by applying the 'residual load profile' of the zone sub-station to which the connection point is connected to the consumption recorded on the accumulation meter. The 'residual load profile' is the half hourly load for the zone sub-station less all the half-hourly metered load for connection points connected to the zone sub-station.

This rule would be accompanied by a NERR rule that prohibits the retailer from charging anything other than a flat rate or block tariff to customers with accumulation meters, and that the retailer must charge all consumers in a DNSPs distribution area using the same price structure.

The effect of this rule is not to change the amount billed to the retailer by the network, but it does create an incentive for the retailer to identify customers for whom they are paying an above average network charge. Specifically it should provide an incentive for retailers to market pricing plans that require replacement of the meter to customers in places that will have the biggest impact on their network charges, and by extension be more useful in having face time or load varying retail prices.

Conclusion

The prohibition on charging for export of energy has never been appropriate. We believe it only existed because jurisdictions were at the time arranging to pay inappropriate premium feed-in tariffs for household generation.

In changing the rules to rectify this error, the AEMC has wisely determined that the rules should be changed in general to increase flexibility. We welcome this and believe the AEMC could go further.

We think the AEMC should take the opportunity to move the focus of the design of incentive schemes from the AER to the engagement between the network and the consumers they serve. This reflects the reality that the regulatory regime is already a version of Performance Based Regulation and gives primacy to consumer rather than regulator concerns.

We also think the AEMC should use the opportunity to rectify the errors of the original rule changes that introduced the idea of cost reflective tariffs. The perceived essential link between the tariff structure for a connection point and the price structure a retailer offers for a connection point needs to be broken to create incentives for retailers to innovate. As part of this networks should be required to charge retailers a cost reflective tariff for all connection points, using a derived profile for connection points where there is only an accumulation meter.

Appendices

Appendix 1 – Efficiently recovering sunk DNSP costs

As Hotelling demonstrated, the theory of pricing in competitive markets being equal to short run marginal cost breaks down in industries typified by high fixed capital costs.[9] Hence there is an inherent limitation on the ability of the economic regulation of DNSPs to 'mimic' competitive processes.

Coase explained that a two-part tariff of fixed access charge together with a volume variable component resolved this issue.[10] Others revived Ramsey's theory of efficient taxation to determine that the fixed charges should be recovered in inverse proportion to the demand elasticity of different products.[11]

Our argument is that Hotelling was right in arguing that the fixed cost should be recovered through taxation because of the perverse consequence of self-generation. As Hotelling notes land tax is one of the least distortionary taxes. No matter how the two-part tariff schedule is structured either the connection point with micro-generation facilities is under-charged for its connection, or network pricing gets heavily skewed to supply charges and hence accelerates consumers deciding to do without a connection.

Our proposal is that the cost of providing just enough network for the 'public good' services of public lighting, traffic lights etc be recovered from Councils who would then recover thm through land rates.

This process would begin by calculating the Total Service Long Run Incremental Cost (TSLRIC) of providing a network to deliver all the services not used by households and businesses (i.e. what is the cheapest network to deliver street lighting, power for traffic lights, NBN nodes etc). This amount is then recovered from local councils who would then recover it in land rates. Only the residual revenue requirement (Cost -TSLRIC of public good services) would be recovered from consumers.

While there are notionally sunk costs not recovered in the charge on local councils, under this scheme the networks would only charge retailers consumption-based charges per connection point. While these could be simple flat rate charges, they would ideally charge based on the use of system made by the consumers – and hence charging for imports would be time of use or peak load.

Charging for export should ideally be a version of congestion charging – i.e. there is no charge at any time where there is no need to constrain export but there is a charge where the constraint is invoked. This is the ideal when the DER (or the smart-system service provider) can respond to

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[9] Hotelling, H 1938, 'The General Welfare in Relation to Problems of Taxation and of Railway and Utility Rates ', Econometrica, vol. 6, no. 3 (Jul), pp. 242-69.
[10] Coase, RH 1946, 'The marginal cost controversy', Economica, vol. 13, no. 51, pp. 169-82.
[11] Baumol, W & Bradford, D 1970, 'Optimal Departures From Marginal Cost Pricing', The American Economic Review, vol. 60 no. 3 (Jun), pp. 265-83.

the price signal that there is a network congestion event. For non-responsive PV a lower price export charge should be applied as a time of use charge across the time periods where it is known that congestion is possible. Ideally the balance of these charges is set to provide an incentive for making DER responsive to signals.

We do not expect that there will be any appetite in any jurisdiction for this approach to recovering the bulk of the sunk network costs. It is, however, both fair and equitable.